

**Gross Activity DCGL in Support
of the Final Status Survey at HBPP**

Revision 1

Approval Date July 9, 2014



***Pacific Gas and
Electric Company®***

**Gross Activity DCGL in Support of
the Final Status Survey at HBPP**

**March, 18, 2014
Martin C. Erickson
Revision 1**

Reviewed By: *Dea Randall* Date: *7-9-14*

Approved By: *WABarley* Date: *7-9-14*

Table of Contents

1.0	INTRODUCTION	4
2.0	METHODOLOGY	4
3.0	HBPP CHARACTERIZATION DATA.....	5
4.0	GROSS ACTIVITY DCGL CALCULATION	6
5.0	CONCLUSION	7
6.0	REFERENCES	8

Tables

Table 3- 1 Radionuclides and Percent Total	5
--	---

Executive Summary

When surveying building surfaces for release it is most appropriate to use the actual site radionuclide mixture gross activity derived concentration guideline level (DCGL). HBPP site characterization data was used to determine the radionuclide fractions and in turn, used to derive the appropriate beta/gamma gross activity DCGL. Alpha fractions are unknown at this time so the most conservative DCGL for the predominant alpha emitters will be used as the alpha gross activity DCGL. As always, when determining the release of a unit where both beta/gamma and alpha emitters are present, the unity rule will be used to determine if the survey unit meets the release criteria.

1.0 INTRODUCTION

Humboldt Bay Power Plant (HBPP) is undergoing a site decommissioning with the ultimate goal of terminating the 10 CFR 50 license. The final state of the site at license termination will consist of mostly open land areas with a few structures remaining. In order for the site to achieve license termination both the soils and structures remaining must meet the release criteria as outlined in the HBPP license termination Plan (LTP).

Residual levels of radioactive material that correspond to the allowable dose standards were derived by analysis of various pathways and scenarios through which exposures to a member of the critical group at HBPP could occur. These derived levels, known as DCGLs, are radionuclide specific and are expressed in units of picocuries per gram (pCi/g) for soils and disintegrations per minute per 100 centimeters squared (dpm/100 cm²) for building surfaces.

Determining if the HBPP soils meet the release criteria is relatively straightforward insofar as the analysis of the soils is a radionuclide specific analysis. Individual nuclides are compared to their respective DCGL using the unity rule. In the case of building surfaces, however, the portable hand held instrumentation utilized at HBPP are not nuclide specific and read out in a gross activity reading. In this instance a gross activity DCGL must be calculated based on a site specific radionuclide mixture.

2.0 METHODOLOGY

Surface contamination DCGLs apply to the total of fixed plus removable surface activity. For surfaces where the radionuclide fractions are unknown the conservative approach would be to compare the measurements to the most conservative DCGL assuming that all activity present was due to the presence of that nuclide. The most realistic approach would be to determine a gross activity DCGL based upon the fractions of nuclides present at the site. The gross activity DCGL is calculated as follows:

1. Determine the relative fraction (f) of the total activity contributed by the radionuclide from previous radionuclide-specific analyses.
2. Obtain the DCGL_w for each significant radionuclide present at the time of the final status survey (FSS).

3. Substitute the values of f and DCGL in the following equation

$$\text{Gross Activity DCGL} = \frac{1}{\left[\frac{f_1}{\text{DCGL}_1} + \frac{f_2}{\text{DCGL}_2} + \dots + \frac{f_n}{\text{DCGL}_n} \right]}$$

Note: The continuing characterization process, described in HBPP LTP Section 2.4, is the planned method for addressing insufficient characterization data.

There are very few, if any, Class 1 building surfaces present at HBPP at license termination. If there is a Class 1 survey unit, then elevated areas will be evaluated using a gross DCGL_{emc} value. The area factor used will be the most conservative value (i.e. the most conservative value for the nuclides used to determine the DCGL_{GA}).

Samples will be taken of building surfaces in areas deemed to have the highest activity present in those media. The samples will be analyzed for all the radionuclides in the site-specific suite. If any of the nuclides in the site-specific suite are deselected from the survey the potential dose from the deselected nuclides will be determined using their MDA values decayed to a license termination date of September 5, 2019, as compared to their respective DCGLs.

3.0 HBPP CHARACTERIZATION DATA

A characterization was performed on the HBPP site in 2008 to include site soils and structures. Contained within this characterization were samples taken in drains and trenches inside buildings and on their roof tops. The samples of the drains and trenches were analyzed using a nuclide-specific gamma spectroscopy. Samples with identifiable amounts of plant-related activity were found on Class 1 and Class 2 structures, presently designated for demolition. While the structures identified as remaining at license termination are classified as Class 3, using the data from the other class structures would be a conservative approach. The sample results for the positively identified nuclides are contained in Table 3.1.

Table 3- 1 Radionuclides and Percent Total

Location	Cs-137 (pCi/g)	% total Cs	Co-60 (pCi/g)	% total Co
U3 Gen/Exciter	25.20	92.5	2.05	7.5

Location	Cs-137 (pCi/g)	% total Cs	Co-60 (pCi/g)	% total Co
Unit 3 Roof	4.27	93	0.32	7.0
	5.40	92	0.45	8.0
	2.11	100	ND	0.0
	17.1	93	1.30	7.0
Unit 1 Second Floor	0.82	91	0.08	9.0
	7.79	95	0.42	5.0
Unit 2 Ground Floor	7.53	96	0.30	4.0
	15.20	97	0.52	3.0
Unit 2 Second Floor	2.12	94	0.14	6.0
	3.79	93	0.27	7.0

As can be seen Cs-137 represents approximately 94% of the total activity with Co-60 contributing approximately 6%. As was stated earlier only significant radionuclides should be considered, Significant radionuclides are typically based on the guidance provided in NUREG-5849 and DG-4006 which states that only radionuclides that contribute greater than 10% of the radiation dose from all contamination, or which are present at concentrations exceeding 10% of their respective guideline values are considered as significant. While Co-60 could be considered as insignificant contributing 6% to the total activity it is appropriately conservative to include the nuclide, with its more restrictive DCGL, in the gross activity DCGL derivation. As further decay occurs the fraction of Co-60 to Cs-137 is reduced, thus the calculated gross activity value will be conservative over the course of the decommissioning project.

4.0 GROSS ACTIVITY DCGL CALCULATION

Based on the analysis of the data presented in Table 3-1, the following calculation for the gross activity DCGL can be determined:

$$\text{Gross Activity DCGL} = \frac{1}{\left[\frac{0.94}{4.66E+04} + \frac{0.06}{1.36E+04} \right]} = 4.06E+04 \text{ dpm}/100\text{cm}^2$$

Where:

0.94 is the fraction for Cs-137

4.66E+04 is the DCGL for Cs-137

0.06 is the fraction for Co-60

1.36E+04 is the DCGL for Co-60

Since there is limited data concerning the fractional composition of alpha emitters at HBPP, when surveying for alpha the DCGL of 3,000 dpm/100 cm² (i.e. the DCGL for Am-241 which is the most limiting prevalent alpha emitter at HBPP) will be used for alpha readings.

5.0 CONCLUSION

Based on the characterization data taken at HBPP, a gross activity DCGL of 4.06E+04 dpm/100 cm² for beta/gamma emitters should be used. A gross activity DCGL of 3E+03 dpm/100 cm² should be used for alpha emitters. When surveying for both beta/gamma and alpha activity the unity rule will be used for determining if the survey unit meets the release criteria.

There are few structures scheduled to remain at the HBPP site at license termination and none of these is expected to yield samples with sufficiently high activity to determine an appropriate nuclide fraction. Characterization samples of trenches and drains of Units 1 and 2 were analyzed for Pu-239/240 and Am-241 with no activity detected above their lower limits of detection. Unless unexpected areas of elevated activity are found, there are no plans to reconfirm the radionuclide relative fractions on standing buildings. There may be cases where laboratory analyses of building construction media may be used to bound the dose contribution from other nuclides, but the most likely approach will be to utilize continuing characterization data to establish an appropriate nuclide fraction.

6.0 REFERENCES

- Abelquist, E. W. (2001). *Decommissioning Health Physics*. New York: Yaylor & Francis Group.
- ENERCON. (2008). *HBPP RPT 001, Revision 1, Radiological Characterization Report Humboldt Bay Power Plant*.
- NRC. (1992). NUREG/CR-5849, Revision 0. *Manual for Conducting Radiological Surveys in Support of License Termination*.
- NRC. (1998). DG-4006. *Demonstrating Compliance With the Radiological Criteria for License Termination*.
- NRC. (2000). NUREG-1575, Revision 1. *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*.

Radionuclide Selection for DCGL Development

Revision 1

Approval Date July 9, 2014



Radionuclide Selection for DCGL

Development

Revision 1

Martin C. Erickson

May 13, 2014

Reviewed By: *Pat Rehall* Date: *7-9-14*
Approved By: *W.A. Barley* Date: *7-9-14*

Table of Contents

Executive Summary	iii
1.0 Introduction.....	1
2.0 Technical Position	1
3.0 Limitations	1
4.0 Technical Bases	2
4.1 Theoretical Suite of Radionuclides	2
4.2 Discounting Insignificant Radionuclides	3
4.2.1 Activation Product Considerations	3
4.2.2 Potential Discounted Dose Considerations	6
4.3 HBPP Historical Site Assessment	10
5.0 Conclusion.....	10
6.0 References	12

Tables

Table 4-1	2
Table 4-2	3
Table 4-3	5
Table 4-4	7
Table 4-5	8
Table 4-6	9
Table 4-7	9
Table 5-1	11

Attachments

Attachment A.....	13
-------------------	----

Executive Summary

An integral part in the development of the site-specific Derived Concentration Guideline Levels (DCGLs) for Humboldt Bay Power Plant (HBPP) is the identification of potential radionuclides present, at the time of Final Status Survey (FSS), which will contribute to the dose based assessment of the radiological status of the site. Radionuclide selection is a systematic approach to the identification of the potential nuclides and a deselecting of those nuclides which would not be present or would be present in insignificant concentrations.

The initial step in this process is to develop a theoretical suite of radionuclides that would be present in a reactor at shutdown. Comparisons of the materials present in HBPP were compared to those in a typical Boiling Water Reactor (BWR) so as to identify possible anomalies in the activation analysis. Additional nuclides were added to the list based on previous analyses and documentation (NUREG-4289 and HBPP HSA). Radionuclides with half-lives of two years or less were omitted from the list since these nuclides would have decayed at least eighteen half-lives since shutdown.

The next step was to determine which individual nuclides on the list would contribute 0.1 percent or less to the total activity present, providing the total activity from all discounted nuclides did not exceed one percent of the total activity. The total activity of all discounted nuclides equaled approximately 0.07 percent. Several nuclides met the criteria of contributing less than 0.1 percent to the total activity but could not be discounted because they have other methods of production in addition to activation of reactor components and/or have been observed in 10 CFR Part 61 waste stream analyses or site characterization samples.

In order to evaluate compliance with the dose criteria for discounted radionuclides, doses for both residential and occupancy scenarios for those nuclides supported by the DandD code were generated. The calculated total dose from discounted NUREG/CR-3474 radionuclides represents only 0.956 percent of the total calculated dose for the residential scenario. The calculated total dose from discounted NUREG/CR-3474 radionuclides represents only 0.0267 percent for the occupancy scenario. The activity represented by the radionuclides not supported by the DandD code resulted in a calculated total dose contribution of 0.026 percent for inhalation exposure-to-dose conversion factors (DCFs) and 0.008 percent for ingestion DCFs.

As a result of the analysis, an HBPP suite of nuclides was developed from the theoretical set of nuclides and the deletion of the remaining nuclides was justified.

1.0 Introduction

HBPP, Unit 3 was a natural circulation boiling water reactor and associated turbine-generator operated by Pacific Gas and Electric Company (PG&E). Unit 3 was granted a construction permit by the Atomic Energy Commission (AEC) on October 17, 1960, and construction began in November 1960. The AEC issued Provisional Operating License No. DPR-7 for Unit 3 in August 1962. Unit 3 achieved initial criticality on February 16, 1963, and began commercial operation in August 1963. On July 2, 1976, Unit 3 was shut down for annual refueling and to conduct seismic modifications. Seismic and geologic studies were in progress. In December 1980 it became apparent that the cost of completing required backfits might have made it uneconomical to restart the unit. Work was suspended at that time awaiting further guidance regarding backfitting requirements. In 1983, updated economic analyses indicated that restarting Unit 3 would probably not be economical, and in June 1983 PG&E announced its intention to decommission the unit.

As a part of the source-term abstraction process at HBPP, a site-specific suite of radionuclides potentially present in the site environs, or present as contamination on structural surfaces, at the time of FSS, must be identified. The purpose of this Technical Based Document is to provide the identification of those radionuclides and methodology behind the selection process.

2.0 Technical Position

The theoretical suite of radionuclides that could potentially still be present at HBPP (based upon the guidance contained in NUREG/CR-3474) is provided in Table 4-1 along with their half-lives and mode of decay. All gamma spectrometry analyses that are performed onsite for characterization or FSS surveys should include the detectable gamma emitters listed in Table 5-1 in the gamma spectrometry libraries for analysis. FSS samples sent to an offsite laboratory for analysis shall be analyzed for the suite of radionuclides listed in Table 5-1.

3.0 Limitations

The suite of radionuclides listed in Table 4-1 is a theoretical list based on NUREG/CR-3474 and should not be used as a site-specific suite for developing DCGLs. The suite of radionuclides listed in Table 5-1 is an HBPP site-specific suite of radionuclides for developing site-specific DCGLs.

4.0 Technical Bases

Potential radionuclides were evaluated from NUREG/CR-3474 "Long-Lived Activation Products in Reactor Materials," NUREG/CR-4289 "Residual Radionuclide Contamination Within and Around Commercial Nuclear Power Plants," and the Humboldt Bay Historical Site Assessment.

4.1 Theoretical Suite of Radionuclides

Development of the suite of radionuclides listed in Table 5-1 began with NUREG/CR-3474. This NUREG assessed the problems posed to reactor decommissioning by long-lived activation products in reactor construction materials. Samples of stainless steel, vessel steel, concrete and concrete ingredients were analyzed for up to 52 elements in order to develop a database of activated major, minor and trace elements. The list of radionuclides was developed by combining those radionuclides listed in Table 5.14, "Activity Inventory of BWR Internals at Shutdown (Total Ci)," and Table 5.15, "Inventories of PWR and BWR Vessel Walls at Shutdown (Total Ci)".

Table 4-1

**NUREG/CR-3474 Identified
Activation Product Radionuclides**

Radionuclide	Half Life (Years)	Decay Mode	Radionuclide	Half Life (Years)	Decay Mode
Ag-108m	4.18E+02	IT	Kr-81	2.29E+05	γ
Ag-110m	6.84E-01	β^- , γ	Kr-85	1.07E+01	β^- , γ
Ar-39	2.69E+02	β^-	Mn-53	3.70E+06	γ
Ba-133	1.05E+01	γ	Mn-54	8.56E-01	β^+ , γ
C-14	5.73E+03	β^-	Mo-93	3.50E+03	γ
Ca-41	1.03E+05	β^+ , γ	Nb-92m	2.78E-02	β^+ , γ
Ce-141	8.90E-02	β^- , γ	Nb-94	2.03E+04	β^- , γ
Cl-36	3.01E+05	β^-	Ni-59	7.50E+04	β^+ , γ
Co-58	1.94E-01	β^+ , γ	Ni-63	1.00E+02	β^-
Co-60	5.27E+00	β^- , γ	Pb-205	1.51E+07	γ
Cr-51	7.58E-02	γ	Pm-145	1.77E+01	γ
Cs-134	2.06E+00	β^- , γ	Pu-239	2.41E+04	α , γ
Cs-135	2.30E+06	β^-	Sb-124	1.65E-01	β^- , γ
Cs-137	3.02E+01	β^-	Sc-46	2.29E-01	β^- , γ
Eu-152	1.36E+01	β^- , γ	Se-79	1.13E+06	β^-
Eu-154	8.59E+00	β^- , γ	Sm-146	1.00E+08	α
Eu-155	4.76E+00	β^- , γ	Sm-151	9.30E+01	β^- , γ
Fe-55	2.70E+00	γ	Sn-121m	5.00E+00	β^-
Fe-59	1.22E-01	β^-	Sr-90	2.86E+01	β^-
H-3	1.23E+01	β^-	Tb-158	1.80E+02	β^-
Hf-178m	3.00E+01	IT	Tc-99	2.13E+05	β^- , γ

**NUREG/CR-3474 Identified
Activation Product Radionuclides**

Radionuclide	Half Life (Years)	Decay Mode	Radionuclide	Half Life (Years)	Decay Mode
Ho-166m	1.20E+03	β^- , γ	U-233	1.59E+05	α , γ
I-129	1.57E+07	β^- , γ	Zn-65	6.69E-01	β^+ , γ
			Zr-93	1.53E+06	β^-

α – Alpha decay
 β^- – Beta decay
 β^+ – Positron decay
 γ – Gamma decay
IT – Isomeric transition

4.2 Discounting Insignificant Radionuclides

4.2.1 Activation Product Considerations

Since Table 4-1 includes trace-elements that would not likely be found at HBPP due to their low abundance, an evaluation of radionuclides that may be discounted as being of potential importance was performed. The total inventory for each radionuclide was determined from activity inventories provided in Table 5.14 and Table 5.15 of NUREG/CR-3474. From this information, the percentage of total inventory for each radionuclide (decayed to 09/01/19) was calculated. The results of this evaluation are provided in Table 4-2.

Table 4-2

Evaluation of NUREG/CR-3474 Total Activity Fractions

Radionuclide	Activity - Ci				Total Fraction	Less than 0.1%?
	Shroud	Vessel Cladding	Vessel Walls	Total Activity		
Ag-108m	1.76E-01	7.26E-06	6.30E-05	1.76E-01	2.74E-06	Yes
Ar-39	2.41E-01	2.71E-05	9.94E-04	2.42E-01	3.77E-06	Yes
Ba-133	7.49E-01	2.62E-05	1.65E-04	7.50E-01	1.17E-05	Yes
C-14	1.03E+02	2.79E-03	1.19E-02	1.03E+02	1.59E-03	No
Ca-41	2.00E-02	5.20E-07	2.00E-06	2.00E-02	3.11E-07	Yes
Cl-36	2.24E+00	5.70E-05	1.43E-04	2.24E+00	3.48E-05	Yes
Co-60	2.58E+03	7.90E-02	5.47E-01	2.58E+03	4.01E-02	No
Cs-134	6.19E-05	1.80E-09	6.43E-09	6.20E-05	9.63E-10	Yes
Cs-135	3.80E-04	3.67E-10	2.46E-09	3.80E-04	5.91E-09	Yes
Cs-137	8.57E-01	8.12E-06	5.61E-05	8.57E-01	1.33E-05	Yes*
Eu-152	4.18E-08	5.21E-04	2.30E-03	2.82E-03	4.39E-08	Yes*
Eu-154	5.82E-01	2.09E-05	2.04E-04	5.82E-01	9.05E-06	Yes*
Eu-155	2.10E-02	7.05E-08	7.80E-07	2.10E-02	3.26E-07	Yes

Evaluation of NUREG/CR-3474 Total Activity Fractions

Radionuclide	Activity - Ci				Total Fraction	Less than 0.1%?
	Shroud	Vessel Cladding	Vessel Walls	Total Activity		
Fe-55	3.91E+01	9.93E-04	4.80E-03	3.91E+01	6.08E-04	Yes
H-3	2.00E+01	1.53E-03	6.68E-03	2.00E+01	3.12E-04	Yes*
Hf-178m	2.10E-01	1.74E-05	2.86E-04	2.10E-01	3.27E-06	Yes
Ho-166m	3.84E-01	1.08E-05	1.55E-04	3.84E-01	5.98E-06	Yes
I-129	5.90E-07	4.40E-12	1.88E-12	5.90E-07	9.18E-12	Yes
Kr-81	2.24E-04	5.40E-12	3.04E-11	2.24E-04	3.48E-09	Yes
Kr-85	6.41E-02	3.93E-07	1.73E-06	6.41E-02	9.97E-07	Yes
Mn-53	6.50E-03	8.00E-07	1.00E-05	6.51E-03	1.01E-07	Yes
Mn-54	1.84E-10	1.79E-14	2.00E-13	1.84E-10	2.87E-15	Yes
Mo-93	4.55E-04	1.85E-08	3.35E-07	4.55E-04	7.07E-09	Yes
Nb-92m	6.33E-07	2.20E-10	2.90E-09	6.36E-07	9.89E-12	Yes
Nb-94	8.85E-01	2.80E-05	7.19E-05	8.85E-01	1.38E-05	Yes*
Ni-59	6.04E+02	1.80E-02	8.00E-02	6.04E+02	9.39E-03	No
Ni-63	6.09E+04	1.75E+00	7.28E+00	6.10E+04	9.48E-01	No
Pb-205	4.00E-06	2.58E-10	3.04E-09	4.00E-06	6.23E-11	Yes
Pm-145	9.46E-04	2.80E-08	2.02E-08	9.46E-04	1.47E-08	Yes
Pu-239	3.80E-02	3.00E-06	6.79E-05	3.80E-02	5.91E-07	Yes*
Se-79	1.40E-03	9.80E-08	1.00E-06	1.40E-03	2.18E-08	Yes
Sm-146	4.07E-10	4.50E-14	6.20E-13	4.08E-10	6.34E-15	Yes
Sm-151	3.96E-02	1.34E-05	1.08E-04	3.97E-02	6.17E-07	Yes
Sn-121m	4.64E-05	4.33E-09	6.07E-08	4.64E-05	7.22E-10	Yes
Sr-90	8.15E-01	5.41E-06	2.36E-05	8.15E-01	1.27E-05	Yes*
Tb-158	4.42E-03	5.26E-07	6.67E-06	4.43E-03	6.89E-08	Yes
Tc-99	2.10E-01	9.00E-06	1.59E-04	2.10E-01	3.27E-06	Yes*
U-233	2.25E-03	1.30E-07	2.00E-06	2.25E-03	3.50E-08	Yes
Zn-65	3.38E-15	8.94E-20	6.33E-20	3.38E-15	5.26E-20	Yes
Zr-93	1.41E-04	6.90E-09	8.10E-08	1.41E-04	2.19E-09	Yes
Total	6.43E+04	1.86E+00	7.93E+00	6.43E+04	1.00E+00	
Total percent of activity discounted					6.73E-04	

* Radionuclides meet the criteria of contributing less than 0.1 percent of the total activity but cannot be discounted because they have other methods of production in addition to activation of reactor components and/or have been observed in 10 CFR Part 61 waste stream analyses or site characterization samples.

Based on the above evaluation, it was determined that individual radionuclides which contributed less than 0.1 percent of the total activity could be discounted providing that dose contributed by the sum of the those radionuclides does not exceed one percent of the total calculated dose. The total percentage of activity attributed to radionuclides that meet these criteria amounts to 0.07 percent.

With the exception of Co-60, radionuclides with half-lives less than 5.4 years identified in NUREG/CR-4289 were discounted and not included in the list provided in Table 4-3. Based on the time period from final shutdown of HBPP to the anticipated completion of

the license termination in 2019, it is highly unlikely that any activity from radionuclides with half-lives less than 5.4 years (7 half-lives) would remain significant. Although Co-60 has a half-life of 5.27 years, the HBPP HSA reported a September 1, 2006, inventory of 672.3 Ci of Co-60. Assuming a September 1, 2019, license termination (estimated date at the TBD development), the Co-60 inventory at that time would still be approximately 121 Ci. Therefore, it is appropriate to retain Co-60 in the list of potential radionuclides

Radionuclides identified in NUREG/CR-4289 along with their half-lives in years and their decay modes, are provided in Table 4-3.

Table 4-3

Radionuclides Identified in NUREG/CR-4289

Radionuclide	Half Life (Years)	Decay Mode
Am-241	4.32E+02	α , γ
C-14	5.73E+03	β -
Cm-244	1.81E+01	α , γ
Co-60	5.27E+00	β -, γ
Cs-137	3.02E+01	β -
Eu-152	1.36E+01	β -, γ
Eu-154	8.80E+00	β -, γ
H-3	1.23E+01	β -
I-129	1.57E+07	β -, γ
Nb-94	2.03E+04	β -, γ
Ni-59	7.50E+04	γ
Ni-63	1.00E+02	β -
Np-237	2.14E+06	α , γ
Pu-238	8.78E+01	α , γ
Pu-239	2.41E+04	α , γ
Pu-240	6.60E+03	α , γ
Sr-90	2.86E+01	β -
Tc-99	2.13E+05	β -, γ

α – Alpha decay

β - – Beta decay

γ – Gamma decay

A comprehensive review of I-129 was performed to determine if it indeed should be included in the list of potential radionuclides. The following conclusions were reached:

1. I-129 contributed less than 0.1 percent of the total activity (i.e., 8.80E-10 percent) as shown in Table 6-3 of the LTP.
2. I-129 was screened using the DandD default parameters and input values were determined as outlined in HBPP TBD "Radionuclide Selection for DCGL

Development.” The dose attributed to I-129 were 1.76E-07 mrem and 1.82E-07 mrem for Residential and Occupancy respectively.

3. I-129 values are entered on certain HBPP radwaste shipment manifests. Certain waste burial sites require that values for all 10 CFR 61 radionuclides be entered on the manifest. Review of values entered determined that the MDC values were used for the I-129 concentrations. I-129 concentrations in 10 CFR 61 analyses have not been observed in the past at HBPP greater than their MDA values.
4. I-129 concentrations have not been observed above the MDA value in characterization sample analyses when analyzed at HBPP.
5. NUREG-4289 lists I-129 residual radionuclide concentrations in HBPP reactor component systems as insignificant (Table C.2.3)

Based upon the above review of I-129 at HBPP, it is appropriate to exclude I-129 from the list of site-specific radionuclides potentially present at the HBPP site.

4.2.2 Potential Discounted Dose Considerations

Based on the above evaluation, it was determined that individual radionuclides which contributed less than 0.1 percent of the total activity in Table 4-2 could be discounted from the list of Table 4-1 identified radionuclides providing that potential dose contributed by the sum of the radionuclides discounted does not exceed one percent of the total calculated dose. The radionuclides that meet the criteria of contributing less than 0.1 percent-of the total activity include:

Eu-155	Hf-178m	Ho-166m	Kr-81	Kr-85	Mn-53	Mn-54
Mo-93	Nb-92m	Pb-205	Pm-145	Se-79	Sm-146	Sm-151
Sn-121m	Tb-158	Zn-65	Zr-93	U-233	Ar-39	Ba-133
Ca-41	Cl-36	Cs-134	Cs-135	Ag-108m	Fe-55	I-129

Although originally included in the list of theoretical radionuclides, the naturally occurring radionuclides K-40, U-234, U-235, U-236 and U-238 have not been detected in characterization/waste stream samples at concentrations distinguishable from naturally occurring concentrations. Therefore, these radionuclides have been discounted from any further consideration. In order to evaluate compliance with the dose criteria for discounted radionuclides, the NRC developed computer code DandD, Version 2.1.0 was used to calculate doses for both residential and occupancy scenarios for those nuclides supported by the DandD code. The DandD code was used with the NRC determined default parameters to represent a conservative screening tool. Input concentrations for each radionuclide used in the residential scenario were their percent of total activity input as concentration in pCi/g. Input concentrations for each radionuclide used in the occupancy scenario were 1,000 times their percent of total

activity input as surface contamination in dpm/100 cm². Calculated doses for the following nuclides were developed using the DandD code:

Cl-36	Ca-41	Mn-54	Zn-65	Se-79	Zr-93	Mo-93
Cs-134	Cs-135	Sm-151	Eu-155	Ho-166m	U-233	Sn-121m
Fe-55	I-129					

The calculated total dose from discounted NUREG radionuclides represents only 0.947 percent of the total calculated dose for the residential scenario. The calculated total dose from discounted NUREG radionuclides represents only 0.026 percent for the occupancy scenario. Therefore, it is appropriate to discount these radionuclides. Summary reports for the DandD calculations are included in Attachment A. Summary Results are depicted in Tables 4-4 and 4-5.

Table 4-4

Building Occupancy			
Nuclide	Not discounted All pathways dose (mrem)	Nuclide	Discounted All pathways dose (mrem)
H-3	6.87E-08	Cl-36	1.97E-06
C-14	1.18E-06	Ca-41	1.46E-09
Ni-59	6.27E-05	Mn-54	2.28E-15
Co-60	1.45E-01	Zn-65	2.76E-20
Ni-63	1.48E-02	Se-79	7.31E-10
Sr-90	4.08E-05	Zr-93	1.68E-09
Nb-94	4.33E-05	Mo-93	5.42E-10
Tc-99	7.07E-08	Cs-134	1.90E-09
Cs-137	1.77E-06	Cs-135	1.13E-10
Eu-152	8.90E-08	Sm-151	4.41E-08
Eu-154	2.04E-05	Eu-155	5.57E-08
Pu-239	6.06E-04	Ho-166m	2.53E-05
		U-233	1.13E-05
		Sn-121m	2.58E-11
		Fe-55	3.80E-06
Total	1.61E-01	I-129	7.06E-12
		Total	4.25E-05
		% Total	0.0267

Table 4-5

Residential			
Nuclide	Not discounted All pathways dose (mrem)	Nuclide	Discounted All pathways dose (mrem)
H-3	1.11E-04	Cl-36	2.59E-03
C-14	1.01E-03	Ca-41	1.48E-07
Ni-59	1.53E-04	Mn-54	5.03E-15
Co-60	2.66E-01	Zn-65	1.34E-19
Ni-63	6.47E-03	Se-79	2.84E-09
Sr-90	2.07E-04	Zr-93	2.27E-11
Nb-94	5.96E-05	Mo-93	9.26E-10
Tc-99	5.54E-06	Cs-134	4.31E-09
Cs-137	1.13E-05	Cs-135	6.98E-10
Eu-152	1.27E-07	Sm-151	8.74E-10
Eu-154	2.82E-05	Eu-155	2.87E-08
Pu-239	6.83E-06	Ho-166m	2.69E-05
		U-233	4.37E-08
		Sn-121m	9.92E-12
Total	2.74E-01	Fe-55	1.47E-06
		I-129	1.18E-10
		Total	2.62E-03
		% Total	0.956%

DandD does not support the following radionuclides and could not calculate their dose contribution:

Ar-39	Mn-53	Kr-81	Kr-85	Ba-133	Ag-108m
Pm-145	Sm-146	Tb-158	Hf-178m	Pb-205	Nb-92m

The activity represented by the radionuclides not supported by the DandD code is calculated to be only 1.10E-05 percent of the total activity presented in NUREG/CR-. Of these radionuclides, Ar-39, Kr-81 and Kr-85 are noble gases and it is highly unlikely that they would still be present in soil and on structural surfaces. Therefore, it is appropriate to discount Ar-39, Kr-81 and Kr-85. Potential dose contribution from the remaining radionuclides not supported by the DandD code was evaluated by comparison of the inhalation and ingestion dose conversion factors (DCFs) contained in Federal Guidance Report No. 11, *Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion*. Weighted DCFs were calculated for each discounted radionuclide and summed for both inhalation and ingestion DCFs. These totals were then compared to the sum of the

weighted DCFs for the two most abundant radionuclides, Co-60 and Ni-63. This resulted in a total of 0.026 percent for inhalation DCFs and 0.008 percent for ingestion DCFs. The calculations to demonstrate these results are provided in Table 4-6.

Table 4-6

Radionuclide	Percent total	Inhalation			Ingestion		
		DCF	Weighted DCF	% total Wt. DCF	DCF	Weighted DCF	% total Wt. DCF
Mn-53	1.01E-07	1.35E-10	1.36E-17	4.30E-07	2.92E-11	2.95E-18	6.70E-07
Ba-133	1.17E-05	2.11E-09	2.47E-14	7.79E-04	9.19E-10	1.08E-14	2.44E-03
Pm-145	1.47E-08	6.85E-09	1.01E-16	3.18E-06	1.28E-10	1.88E-18	4.28E-07
Sm-146	6.34E-15	2.23E-05	1.41E-19	4.46E-09	5.51E-08	3.49E-22	7.94E-11
Tb-158	6.89E-08	6.91E-08	4.76E-15	1.50E-04	1.19E-09	8.20E-17	1.86E-05
Hf-178m	3.27E-06	1.79E-07	5.85E-13	1.85E-02	5.68E-09	1.86E-14	4.22E-03
Pb-205	6.23E-11	1.06E-09	6.60E-20	2.08E-09	4.41E-10	2.75E-20	6.24E-09
Ag-108m	2.74E-06	7.66E-08	2.10E-13	6.62E-03	2.06E-09	5.64E-15	1.28E-03
			Total	2.60E-02		Total	7.97E-03
Co-60	4.01E-02	5.91E-08	2.37E-09		7.28E-09	2.92E-10	
Ni-63	9.48E-01	8.39E-10	7.95E-10		1.56E-10	1.48E-10	
		Total	3.17E-09		Total	4.40E-10	

Additionally the potential external dose contribution from the remaining radionuclides not supported by the DandD code was evaluated by comparing the summed weighted Exposure to Contaminated Ground Surface DCFs contained in Federal Guidance Report No. 12, *External Exposure to Radionuclides in Air, Water, and Soil for the comparison of the external dose component* to the most abundant gamma producing radionuclide Co-60. No external dose component contributed greater than 2.23E-02 percent as shown in Table 4-7.

Table 4-7

Nuclide	% Total				Weighted		DCF		
	Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective	Skin
Mn-53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ba-133	5.10E-03	5.25E-03	4.67E-03	4.45E-03	7.04E-03	4.98E-03	4.61E-03	4.93E-03	5.42E-03
Pm-145	5.93E-07	6.47E-07	3.84E-07	2.67E-07	1.38E-06	4.76E-07	3.91E-07	5.09E-07	7.29E-07

DCF									
Nuclide	Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective	Skin
Sm-146	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tb-158	5.69E-05	5.71E-05	5.55E-05	5.46E-05	6.52E-05	5.78E-05	5.51E-05	5.64E-05	7.28E-05
Hf-178m	8.05E-03	8.15E-03	7.90E-03	7.70E-03	1.01E-02	8.26E-03	7.76E-03	8.02E-03	8.51E-03
Pb-205	1.34E-11	3.05E-11	7.05E-14	1.25E-12	5.64E-12	2.11E-12	4.92E-12	9.92E-12	6.87E-10
Ag-108m	4.69E-03	4.73E-03	4.58E-03	4.52E-03	5.05E-03	4.83E-03	4.50E-03	4.65E-03	4.95E-03
Total	1.79E-02	1.82E-02	1.72E-02	1.67E-02	2.23E-02	1.81E-02	1.69E-02	1.77E-02	1.90E-02

Therefore, it is appropriate to discount all of the radionuclides not supported by the DandD code.

Samples will be taken of soils and building surfaces in areas deemed to have the highest activity present in those media. The samples will be analyzed for all the radionuclides in the site-specific suite. If any of the nuclides are not identified in the analyses then they may be deselected from the survey, however, the potential dose from the deselected nuclides will be determined using their MDC values decayed to a license termination date of September 5, 2019, as compared to their respective DCGLs.

4.3 HBPP Historical Site Assessment

Historical 10 CFR Part 61 analyses have also identified Pu-241 and the combination radionuclides of Cm-243/244 and Cm-245/246 to be present in the waste streams analyzed. Therefore, these radionuclides should be added to the list of radionuclides potentially present.

5.0 Conclusion

Table 5–1 represents a list of radionuclides potentially present at HBPP based on applying the described screening criteria to the combined list of potential radionuclides from regulatory guidance contained in NUREG/CR-3474 and NUREG/CR-4289 and historical 10 CFR Part 61 analyses.

Table 5-1

**HBPP Site-Specific Suite of
Radionuclides**

Radionuclide	Half Life (Years)
*Cm-243/244	1.81E+01
*Cm-245/246	4.75E+03
Am-241	4.32E+02
C-14	5.73E+03
Co-60	5.27E+00
Cs-137	3.02E+01
Eu-152	1.36E+01
Eu-154	8.80E+00
H-3	1.23E+01
Nb-94	2.03E+04
Ni-59	7.50E+04
Ni-63	1.00E+02
Np-237	2.14E+06
Pu-238	8.78E+01
Pu-239	2.41E+04
Pu-240	6.60E+03
Pu-241	1.44E+01
Sr-90	2.86E+01
Tc-99	2.13E+05

*Listed half-life is the shortest
half-life for the radionuclides in the pair

6.0 References

EPA-520/1-88-020, (1988), *Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion*, Federal Guidance Report No.11

EPA-402-R-93-081, (1993), *External Exposure to Radionuclides in Air, Water, and Soil for the comparison of the external dose component*, Federal Guidance Report No. 12

Pacific Northwest National Laboratory, (1984), *Long-lived Activation Products in Reactor Materials*, NUREG/CR-3474, 1984

Sandia National Laboratories, (2001), *Residual Radioactive Contamination From Decommissioning*. NUREG/CR- 5512, Vol. 2 Revision 1, 2006

Humboldt Bay Historical Site Assessment, 2011 Update

NUREG/CR-4289, "Residual Radionuclide Contamination Within and Around Commercial Nuclear Power Plants", 1986

Hacker, C., Radiation Decay, Version 4, September 2005.

Attachment A
DandD Calculation Reports



DandD Residential Scenario

DandD Version: 2.1.0

Run Date/Time: 5/13/2014 10:59:23 AM

Site Name: HBPP

Description: Residential discounted

FileName: C:\Users\MxEo\Desktop\soil.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 202

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Agricultural Pathway is ON

Drinking Water Pathway is ON

Irrigation Pathway is ON

Surface Water Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
36Cl	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 3.48E-05
41Ca	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 3.11E-07
54Mn	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 2.87E-15
65Zn	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 5.26E-20
79Se	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 2.18E-08
93Zr	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 2.19E-09
93Mo	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 7.07E-09
134Cs	UNLIMITED	CONSTANT(pCi/g)
<u>Justification for concentration:</u> Site specific		<u>Value</u> 9.63E-10
135Cs	UNLIMITED	CONSTANT(pCi/g)

									((Sv/d)/(Bq/m ²))	((Sv/d)/(Bq/m ³))
65Zn	1	2.44E+02					3.90E-09	5.51E-09	4.78E-11	1.45E-12

Chain No. 5: **79Se**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
79Se	1	2.37E+07					2.35E-09	2.66E-09	1.79E-15	8.60E-18

Chain No. 6: **93Zr**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
93Zr	1	5.59E+08					4.48E-10	8.67E-08	0.00E+00	0.00E+00
93mNb	2	4.97E+03	1	1	0	0	1.41E-10	7.90E-09	8.11E-14	4.80E-17

Chain No. 7: **93Mo**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
93Mo	1	1.28E+06					3.64E-10	7.68E-09	4.61E-13	2.73E-16
93mNb	2	4.97E+03	1	1	0	0	1.41E-10	7.90E-09	8.11E-14	4.80E-17

Chain No. 8: **121mSn**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
121mSn	1	2.01E+04					4.19E-10	3.11E-09	4.22E-13	9.11E-16
121Sn	2	1.13E+00	1	0.776	0	0	2.44E-10	1.38E-10	9.07E-15	9.02E-17

Chain No. 9: **134Cs**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
134Cs	1	7.53E+02					1.98E-08	1.25E-08	1.31E-10	3.86E-12

Chain No. 10: **135Cs**
Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
135Cs	1	8.40E+08					1.91E-09	1.23E-09	2.87E-15	1.77E-17

Chain No. 11: **151Sm**
Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
151Sm	1	3.29E+04					1.05E-10	8.10E-09	4.34E-16	4.55E-19

Chain No. 12: **155Eu**
Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
155Eu	1	1.81E+03					4.13E-10	1.12E-08	5.10E-12	8.42E-14

Chain No. 13: **166mHo**
Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
166mHo	1	4.38E+05					2.18E-09	2.09E-07	1.47E-10	4.23E-12

Chain No. 14: **233U**
Nuclides in chain: **10**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
233U	1	5.79E+07					7.81E-08	3.66E-05	6.18E-14	6.25E-16
229Th	2	2.68E+06	1	1	0	0	9.54E-07	5.80E-04	7.38E-12	1.47E-13
225Ra	3	1.48E+01	2	1	0	0	1.04E-07	2.10E-06	1.15E-12	5.09E-15
225Ac	4	1.00E+01	3	1	0	0	3.00E-08	2.92E-06	1.37E-12	2.89E-14
221Fr	Implicit		4	1			0.00E+00	0.00E+00	2.57E-12	6.82E-14
217At	Implicit		4	1			0.00E+00	0.00E+00	2.61E-14	7.43E-16
213Bi	Implicit		4	1			1.95E-10	4.63E-09	1.14E-11	3.24E-13
213Po	Implicit		4	0.9784			0.00E+00	0.00E+00	0.00E+00	0.00E+00

209Tl	Implicit		4	0.0216			0.00E+00	0.00E+00	1.64E-10	4.99E-12
209Pb	Implicit		4	1			5.75E-11	2.56E-11	2.60E-14	3.52E-16

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Soil Concentration (pCi/g)
36Cl	3.48E-05
41Ca	3.11E-07
54Mn	2.87E-15
65Zn	5.26E-20
79Se	2.18E-08
93Zr	2.19E-09
93mNb	0.00E+00
93Mo	7.07E-09
134Cs	9.63E-10
135Cs	5.91E-09
151Sm	6.17E-07
155Eu	3.26E-07
166mHo	5.98E-06
233U	3.50E-08
229Th	0.00E+00
225Ra	0.00E+00
225Ac	0.00E+00
221Fr	0.00E+00
217At	0.00E+00
213Bi	0.00E+00
213Po	0.00E+00
209Tl	0.00E+00
209Pb	0.00E+00
121mSn	7.22E-10
121Sn	0.00E+00

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
Tv(1):Translocation:Leafy	Translocation factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E+00
Tv(2):Translocation:Root	Translocation factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01

Tv(3):Translocation:Fruit	Translocation factor for fruit	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(4):Translocation:Grain	Translocation factor for grain	CONSTANT(none)
Default value used		Value 1.00E-01
Tf(1):Translocation:Beef Forage	Translocation factor for forage consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(2):Translocation:Poultry Forage	Translocation factor for forage consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(3):Translocation:Milk Cow	Translocation factor for forage consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(4):Translocation:Layer Hen Forage	Translocation factor for forage consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E+00
Tg(1):Translocation:Beef Grain	Translocation factor for stored grain consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(2):Translocation:Poultry Grain	Translocation factor for stored grain consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(3):Translocation:Milk Cow Grain	Translocation factor for stored grain consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(4):Translocation:Layer Hen Grain	Translocation factor for stored grain consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E-01
Th(1):Translocation:Beef Hay	Translocation factor for stored hay consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Th(2):Translocation:Poultry Hay	Translocation factor for stored hay consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E+00
Th(3):Translocation:Milk Cow Hay	Translocation factor for stored hay consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E+00
Th(4):Translocation:Layer Hen Hay	Translocation factor for stored hay consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E+00
fca(1):Beef Carbon Fraction	Mass fraction of beef cattle that is carbon	CONSTANT(none)
Default value used		Value 3.60E-01
fca(2):Poultry Carbon Fraction	Mass fraction of poultry that is carbon	CONSTANT(none)
Default value used		Value 1.80E-01
fca(3):Milk Carbon Fraction	Mass fraction of milk that is carbon	CONSTANT(none)

Default value used		Value	6.00E-02
fca(4):Eggs Carbon Fraction	Mass fraction of an egg that is carbon	CONSTANT(none)	
Default value used		Value	1.60E-01
fcf(1):Beef Forage Carbon Fraction	Mass fraction of wet forage consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(2):Poultry Forage Carbon Fraction	Mass fraction of wet forage consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(3):Milk Cow Forage Carbon Fraction	Mass fraction of wet forage consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(4):Layer Hen Forage Carbon Fraction	Mass fraction of wet forage consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcg(1):Beef Grain Carbon Fraction	Mass fraction of wet stored grain consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(2):Poultry Grain Carbon Fraction	Mass fraction of wet stored grain consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(3):Milk Cow Grain Carbon Fraction	Mass fraction of wet stored grain consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(4):Layer Hen Grain Carbon Fraction	Mass fraction of wet stored grain consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fch(1):Beef Hay Carbon Fraction	Mass fraction of wet stored hay consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(2):Poultry Hay Carbon Fraction	Mass fraction of wet stored hay consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(3):Milk Cow Hay Carbon Fraction	Mass fraction of wet stored hay consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(4):Layer Hen Hay Carbon Fraction	Mass fraction of wet stored hay consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fCd:Soil Carbon Fraction	Mass fraction of dry soil that is carbon	CONSTANT(none)	
Default value used		Value	3.00E-02
SATac:Animal Product Specific Activity	Specific activity equivalence of animal product and specific activity of animal feed, forage, and soil	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(1):Beef Forage Contaminated Fraction	Fraction of forage consumed by beef cattle that is contaminated	CONSTANT(none)	

Default value used		Value	1.00E+00
xf(2):Poultry Forage Contaminated Fraction	Fraction of forage consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(3):Milk Cow Forage Contaminated Fraction	Fraction of forage consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(4):Layer Hen Forage Contaminated Fraction	Fraction of forage consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(1):Beef Grain Contaminated Fraction	Fraction of stored grain consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(2):Poultry Grain Contaminated Fraction	Fraction of stored grain consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(3):Milk Cow Grain Contaminated Fraction	Fraction of stored grain consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(4):Layer Hen Grain Contaminated Fraction	Fraction of stored grain that is consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(1):Beef Hay Contaminated Fraction	Fraction of stored hay consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(2):Poultry Hay Contaminated Fraction	Fraction of stored hay consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(3):Milk Cow Hay Contaminated Fraction	Fraction of stored hay consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(4):Layer Hen Hay Contaminated Fraction	Fraction of stored hay consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(1):Beef Water Contaminated Fraction	Fraction of water that is consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(2):Poultry Water Contaminated Fraction	Fraction of water consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(3):Milk Cow Water Contaminated Fraction	Fraction of water consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(4):Layer Hen Water Contaminated Fraction	Fraction of water consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
DIET:Garden Diet	Fraction of human diet grown onsite	CONSTANT(none)	
Default value used		Value	1.00E+00

Uv(1):Diet - Leafy	Yearly human consumption of leafy vegetables	CONSTANT(kg/y)
Default value used		Value 2.14E+01
Uv(2):Diet - Roots	Yearly human consumption of other vegetables	CONSTANT(kg/y)
Default value used		Value 4.46E+01
Uv(3):Diet - Fruit	Yearly human consumption of fruits	CONSTANT(kg/y)
Default value used		Value 5.28E+01
Uv(4):Diet - Grain	Yearly human consumption of grains	CONSTANT(kg/y)
Default value used		Value 1.44E+01
Ua(1):Diet - Beef	Yearly human consumption of beef	CONSTANT(kg/y)
Default value used		Value 3.98E+01
Ua(2):Diet - Poultry	Yearly human consumption of poultry	CONSTANT(kg/y)
Default value used		Value 2.53E+01
Ua(3):Diet - Milk	Yearly human consumption of milk	CONSTANT(L/y)
Default value used		Value 2.33E+02
Ua(4):Diet - Egg	Yearly human consumption of eggs	CONSTANT(kg/y)
Default value used		Value 1.91E+01
Uf:Diet - Fish	Yearly human consumption of fish produced from an onsite pond	CONSTANT(kg/y)
Default value used		Value 2.06E+01
tf:Consumption Period	Consumption period for fish	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(1):Consumption Period - Leafy	Food consumption period for leafy vegetables	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(2):Consumption Period - Roots	Food consumption period for other vegetables	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(3):Consumption Period - Fruit	Food consumption period for fruits	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(4):Consumption Period - Grain	Food consumption period for grains	CONSTANT(days)
Default value used		Value 3.65E+02
tca(1):Consumption Period - Beef	Food consumption period for beef	CONSTANT(days)
Default value used		Value 3.65E+02
tca(2):Consumption Period - Poultry	Food consumption period for poultry	CONSTANT(days)
Default value used		Value 3.65E+02
tca(3):Consumption Period - Milk	Food consumption period for milk	CONSTANT(days)
Default value used		Value 3.65E+02
tca(4):Consumption Period - Egg	Food consumption period for eggs	CONSTANT(days)
Default value used		Value 3.65E+02

Nunsat: Number of Unsaturated Layers	Number of model layers used to represent the unsaturated zone	CONSTANT(none)
Default value used		Value 1.00E+01
TstartR: Start Time	The start time of the scenario in days	CONSTANT(days)
Default value used		Value 0.00E+00
TendR: End Time	The ending time of the scenario in days	CONSTANT(days)
Default value used		Value 3.65E+05
dtR: Time Step Size	The time step size	CONSTANT(days)
Default value used		Value 3.65E+02
PstepR: Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
Default value used		Value 1.00E+00
TI: Indoor Exposure Period	The time the resident spends indoors	CONSTANT(days/year)
Default value used		Value 2.40E+02
TX: Outdoor Exposure Period	The time the resident spends outdoors	CONSTANT(days/year)
Default value used		Value 4.02E+01
TG: Gardening Period	The time the resident spends gardening	CONSTANT(days/year)
Default value used		Value 2.92E+00
TTR: Total time in period	Total time in the one year exposure period	CONSTANT(days/year)
Default value used		Value 3.65E+02
SFI: Indoor Shielding Factor	Shielding factor for the residence	CONSTANT(none)
Default value used		Value 5.52E-01
SFO: Outdoor Shielding Factor	Shielding factor for the cover soil	CONSTANT(none)
Default value used		Value 1.00E+00
PD: Floor dust loading	Floor dust loading	UNIFORM(g/m**2)
Default value used		Lower Limit 2.00E-02 Upper Limit 3.00E-01
RFR: Indoor Resuspension Factor	Resuspension factor for indoor dust	LOGUNIFORM(1/m)
Default value used		Lower Limit 1.00E-07 Upper Limit 8.00E-05
CDO: Outdoor Dust Loading	Average dust loading outdoors	LOGUNIFORM(g/m**3)
Default value used		Lower Limit 1.00E-07 Upper Limit 1.00E-04
CDI: Indoor Dust Loading	Average dust loading indoors	DERIVED(g/m**3)
Default value used		
PF: Indoor/Outdoor Penetration Factor	Fraction of outdoor dust in indoor air	UNIFORM(none)
Default value used		Lower Limit 2.00E-01 Upper Limit 7.00E-01
CDG: Gardening Dust Loading	Average dust loading while gardening	UNIFORM(g/m**3)
Default value used		Lower Limit 1.00E-04

		Upper Limit	7.00E-04
VR:Indoor Breathing Rate	Breathing rate while indoors	CONSTANT(m**3/hr)	
Default value used		Value	9.00E-01
VX:Outdoor Breathing Rate	Breathing rate while outdoors	CONSTANT(m**3/hr)	
Default value used		Value	1.40E+00
VG:Gardening Breathing Rate	Breathing rate while gardening	CONSTANT(m**3/hr)	
Default value used		Value	1.70E+00
GR:Soil Ingestion Transfer Rate	Average rate of soil ingestion	CONSTANT(g/d)	
Default value used		Value	5.00E-02
UW:Diet - Water	Drinking water ingestion rate	CONSTANT(L/d)	
Default value used		Value	1.26E+00
H1:Surface Soil Thickness	Thickness of the surface soil layer	CONSTANT(m)	
Default value used		Value	1.50E-01
H2:Unsaturated Zone Thickness	Thickness of the unsaturated zone	CONTINUOUS LINEAR(m)	
Default value used		Value	Probability
		3.05E-01	0.00E+00
		6.68E-01	4.76E-03
		8.11E-01	9.52E-03
		9.21E-01	1.43E-02
		9.94E-01	1.91E-02
		1.03E+00	2.38E-02
		1.07E+00	2.86E-02
		1.14E+00	3.33E-02
		1.21E+00	3.81E-02
		1.30E+00	4.29E-02
		1.31E+00	4.76E-02
		1.32E+00	5.24E-02
		1.56E+00	5.71E-02
		1.58E+00	6.19E-02
		1.61E+00	6.67E-02
		1.69E+00	7.62E-02
		1.78E+00	8.57E-02
		1.80E+00	9.05E-02
		1.81E+00	9.52E-02
		1.84E+00	1.00E-01
		1.87E+00	1.05E-01
		1.92E+00	1.10E-01
		2.04E+00	1.14E-01
		2.10E+00	1.19E-01
		2.11E+00	1.24E-01
		2.32E+00	1.29E-01
		2.36E+00	1.33E-01
		2.37E+00	1.38E-01
		2.39E+00	1.43E-01
		2.44E+00	1.48E-01
		2.44E+00	1.52E-01
		2.45E+00	1.57E-01
		2.59E+00	1.62E-01
		2.63E+00	1.67E-01
		2.69E+00	1.71E-01
		2.79E+00	1.76E-01
		2.81E+00	1.81E-01

2.90E+00	1.86E-01
2.95E+00	1.91E-01
3.07E+00	1.95E-01
3.18E+00	2.00E-01
3.22E+00	2.05E-01
3.30E+00	2.10E-01
3.34E+00	2.14E-01
3.37E+00	2.19E-01
3.44E+00	2.24E-01
3.58E+00	2.29E-01
3.62E+00	2.33E-01
3.66E+00	2.38E-01
3.74E+00	2.43E-01
3.86E+00	2.48E-01
3.88E+00	2.52E-01
4.17E+00	2.57E-01
4.26E+00	2.62E-01
4.44E+00	2.71E-01
4.63E+00	2.76E-01
4.87E+00	2.81E-01
5.13E+00	2.86E-01
5.18E+00	2.91E-01
5.54E+00	2.95E-01
5.83E+00	3.00E-01
5.86E+00	3.05E-01
5.86E+00	3.10E-01
5.90E+00	3.14E-01
6.06E+00	3.19E-01
6.13E+00	3.24E-01
6.17E+00	3.29E-01
6.22E+00	3.33E-01
6.31E+00	3.38E-01
6.36E+00	3.43E-01
6.40E+00	3.48E-01
6.46E+00	3.52E-01
6.51E+00	3.57E-01
6.55E+00	3.62E-01
6.60E+00	3.67E-01
6.86E+00	3.71E-01
6.93E+00	3.76E-01
6.95E+00	3.86E-01
6.97E+00	3.91E-01
7.09E+00	3.95E-01
7.18E+00	4.00E-01
7.35E+00	4.05E-01
7.36E+00	4.10E-01
7.40E+00	4.14E-01
7.43E+00	4.19E-01
7.46E+00	4.24E-01
7.59E+00	4.29E-01
7.60E+00	4.33E-01
7.64E+00	4.38E-01
7.87E+00	4.43E-01
8.10E+00	4.48E-01
8.28E+00	4.52E-01
8.35E+00	4.57E-01
8.71E+00	4.62E-01
8.71E+00	4.67E-01
8.73E+00	4.71E-01
8.79E+00	4.76E-01
8.80E+00	4.81E-01
8.82E+00	4.86E-01

8.85E+00	4.91E-01
8.89E+00	4.95E-01
8.90E+00	5.00E-01
8.99E+00	5.05E-01
9.00E+00	5.10E-01
9.13E+00	5.14E-01
9.14E+00	5.19E-01
9.21E+00	5.24E-01
9.31E+00	5.29E-01
9.55E+00	5.33E-01
9.60E+00	5.38E-01
9.63E+00	5.43E-01
9.86E+00	5.48E-01
1.05E+01	5.52E-01
1.07E+01	5.57E-01
1.13E+01	5.62E-01
1.15E+01	5.67E-01
1.17E+01	5.71E-01
1.20E+01	5.76E-01
1.26E+01	5.81E-01
1.26E+01	5.86E-01
1.28E+01	5.91E-01
1.32E+01	5.95E-01
1.32E+01	6.00E-01
1.34E+01	6.05E-01
1.34E+01	6.10E-01
1.36E+01	6.14E-01
1.37E+01	6.19E-01
1.38E+01	6.24E-01
1.41E+01	6.29E-01
1.45E+01	6.33E-01
1.51E+01	6.38E-01
1.52E+01	6.43E-01
1.61E+01	6.48E-01
1.62E+01	6.52E-01
1.65E+01	6.57E-01
1.66E+01	6.62E-01
1.69E+01	6.67E-01
1.74E+01	6.71E-01
1.82E+01	6.76E-01
1.84E+01	6.81E-01
1.84E+01	6.86E-01
1.87E+01	6.91E-01
1.95E+01	6.95E-01
2.01E+01	7.00E-01
2.07E+01	7.05E-01
2.08E+01	7.10E-01
2.17E+01	7.14E-01
2.24E+01	7.19E-01
2.27E+01	7.24E-01
2.29E+01	7.29E-01
2.29E+01	7.33E-01
2.40E+01	7.38E-01
2.47E+01	7.43E-01
2.60E+01	7.48E-01
2.65E+01	7.52E-01
2.72E+01	7.57E-01
2.73E+01	7.62E-01
2.76E+01	7.67E-01
2.77E+01	7.71E-01
2.78E+01	7.76E-01
2.80E+01	7.81E-01

	2.86E+01	7.86E-01
	2.94E+01	7.91E-01
	3.01E+01	7.95E-01
	3.03E+01	8.00E-01
	3.06E+01	8.10E-01
	3.08E+01	8.14E-01
	3.11E+01	8.19E-01
	3.17E+01	8.24E-01
	3.17E+01	8.29E-01
	3.17E+01	8.33E-01
	3.22E+01	8.38E-01
	3.39E+01	8.43E-01
	3.48E+01	8.48E-01
	3.54E+01	8.52E-01
	3.60E+01	8.57E-01
	3.68E+01	8.62E-01
	4.03E+01	8.67E-01
	4.07E+01	8.71E-01
	4.24E+01	8.76E-01
	4.29E+01	8.81E-01
	4.42E+01	8.86E-01
	4.72E+01	8.91E-01
	4.97E+01	8.95E-01
	5.12E+01	9.00E-01
	6.13E+01	9.05E-01
	6.19E+01	9.10E-01
	6.23E+01	9.14E-01
	6.32E+01	9.19E-01
	6.59E+01	9.24E-01
	6.73E+01	9.29E-01
	7.47E+01	9.33E-01
	7.92E+01	9.38E-01
	8.12E+01	9.43E-01
	8.28E+01	9.48E-01
	8.47E+01	9.52E-01
	8.96E+01	9.57E-01
	9.47E+01	9.62E-01
	1.08E+02	9.67E-01
	1.13E+02	9.71E-01
	1.15E+02	9.76E-01
1.42E+02	9.81E-01	
1.77E+02	9.86E-01	
1.78E+02	9.91E-01	
1.80E+02	9.95E-01	
3.16E+02	1.00E+00	
N1:Surface Soil Porosity	Porosity of the surface soil layer	DERIVED(none)
Default value used		
N2:Unsaturated Zone Porosity	Porosity of the unsaturated zone	DERIVED(none)
Default value used		
F1:Surface Soil Saturation	Saturation ratio of the surface soil layer	DERIVED(none)
Default value used		
F2:Unsaturated Zone Saturation	Saturation ratio of the unsaturated zone	DERIVED(none)
Default value used		
INFIL:Infiltration Rate	Net rate of infiltration to aquifer	DERIVED(m/y)
Default value used		
	SCS soil classification ID	DISCRETE CUMULATIVE(none)

SCSST:Soil Classification																												
Default value used		<table><tr><td>Value</td><td>Probability</td></tr><tr><td>1.00E+00</td><td>1.00E-04</td></tr><tr><td>2.00E+00</td><td>1.34E-03</td></tr><tr><td>3.00E+00</td><td>1.06E-02</td></tr><tr><td>4.00E+00</td><td>2.51E-02</td></tr><tr><td>5.00E+00</td><td>6.17E-02</td></tr><tr><td>6.00E+00</td><td>1.09E-01</td></tr><tr><td>7.00E+00</td><td>1.62E-01</td></tr><tr><td>8.00E+00</td><td>2.12E-01</td></tr><tr><td>9.00E+00</td><td>2.85E-01</td></tr><tr><td>1.00E+01</td><td>5.10E-01</td></tr><tr><td>1.10E+01</td><td>7.58E-01</td></tr><tr><td>1.20E+01</td><td>1.00E+00</td></tr></table>	Value	Probability	1.00E+00	1.00E-04	2.00E+00	1.34E-03	3.00E+00	1.06E-02	4.00E+00	2.51E-02	5.00E+00	6.17E-02	6.00E+00	1.09E-01	7.00E+00	1.62E-01	8.00E+00	2.12E-01	9.00E+00	2.85E-01	1.00E+01	5.10E-01	1.10E+01	7.58E-01	1.20E+01	1.00E+00
Value	Probability																											
1.00E+00	1.00E-04																											
2.00E+00	1.34E-03																											
3.00E+00	1.06E-02																											
4.00E+00	2.51E-02																											
5.00E+00	6.17E-02																											
6.00E+00	1.09E-01																											
7.00E+00	1.62E-01																											
8.00E+00	2.12E-01																											
9.00E+00	2.85E-01																											
1.00E+01	5.10E-01																											
1.10E+01	7.58E-01																											
1.20E+01	1.00E+00																											
NDEV:Porosity Probability	Relative porosity value within the distribution for this soil type	UNIFORM(none)																										
Default value used		<table><tr><td>Lower Limit</td><td>0.00E+00</td></tr><tr><td>Upper Limit</td><td>1.00E+00</td></tr></table>	Lower Limit	0.00E+00	Upper Limit	1.00E+00																						
Lower Limit	0.00E+00																											
Upper Limit	1.00E+00																											
KSDEV:Permeability Probability	Relative permeability value within the distribution for this soil type	UNIFORM(none)																										
Default value used		<table><tr><td>Lower Limit</td><td>0.00E+00</td></tr><tr><td>Upper Limit</td><td>1.00E+00</td></tr></table>	Lower Limit	0.00E+00	Upper Limit	1.00E+00																						
Lower Limit	0.00E+00																											
Upper Limit	1.00E+00																											
BDEV:Parameter "b" Probability	Relative value of "b" parameter within the distribution for this soil type	UNIFORM(none)																										
Default value used		<table><tr><td>Lower Limit</td><td>0.00E+00</td></tr><tr><td>Upper Limit</td><td>1.00E+00</td></tr></table>	Lower Limit	0.00E+00	Upper Limit	1.00E+00																						
Lower Limit	0.00E+00																											
Upper Limit	1.00E+00																											
AP:Water Application Rate	Total water application rate on cultivated area	CONTINUOUS LINEAR(m/y)																										
Default value used		<table><tr><td>Value</td><td>Probability</td></tr><tr><td>6.07E-01</td><td>0.00E+00</td></tr><tr><td>6.10E-01</td><td>4.62E-01</td></tr><tr><td>6.35E-01</td><td>4.76E-01</td></tr><tr><td>7.62E-01</td><td>5.40E-01</td></tr><tr><td>8.89E-01</td><td>6.29E-01</td></tr><tr><td>1.02E+00</td><td>7.05E-01</td></tr><tr><td>1.14E+00</td><td>8.04E-01</td></tr><tr><td>1.27E+00</td><td>8.79E-01</td></tr><tr><td>1.40E+00</td><td>9.41E-01</td></tr><tr><td>1.52E+00</td><td>9.82E-01</td></tr><tr><td>1.65E+00</td><td>9.98E-01</td></tr><tr><td>1.78E+00</td><td>1.00E+00</td></tr></table>	Value	Probability	6.07E-01	0.00E+00	6.10E-01	4.62E-01	6.35E-01	4.76E-01	7.62E-01	5.40E-01	8.89E-01	6.29E-01	1.02E+00	7.05E-01	1.14E+00	8.04E-01	1.27E+00	8.79E-01	1.40E+00	9.41E-01	1.52E+00	9.82E-01	1.65E+00	9.98E-01	1.78E+00	1.00E+00
Value	Probability																											
6.07E-01	0.00E+00																											
6.10E-01	4.62E-01																											
6.35E-01	4.76E-01																											
7.62E-01	5.40E-01																											
8.89E-01	6.29E-01																											
1.02E+00	7.05E-01																											
1.14E+00	8.04E-01																											
1.27E+00	8.79E-01																											
1.40E+00	9.41E-01																											
1.52E+00	9.82E-01																											
1.65E+00	9.98E-01																											
1.78E+00	1.00E+00																											
IR:Irrigation Rate	Annual average irrigation rate	CONSTANT(L/m**2-d)																										
Default value used		<table><tr><td>Value</td><td>1.29E+00</td></tr></table>	Value	1.29E+00																								
Value	1.29E+00																											
RHO1:Surface Soil Density	Bulk density of soil in the surface soil layer	DERIVED(g/mL)																										
Default value used																												
RHO2:Unsaturated Zone Density	Bulk density of soil in the unsaturated zone	DERIVED(g/mL)																										
Default value used																												
Ksat1:Surface Soil Permeability	Saturated permeability of the surface soil layer	DERIVED(cm/sec)																										
Default value used																												
VDR:Volume of Water Consumed	Volume of water withdrawn for consumptive use	CONSTANT(L)																										
Default value used		<table><tr><td>Value</td><td>1.18E+05</td></tr></table>	Value	1.18E+05																								
Value	1.18E+05																											

VSW:Volume of Water in Pond	Volume of water in the pond	CONSTANT(L)
Default value used		Value 1.30E+06
AR:Cultivated Area	Area of land cultivated	DERIVED(m**2)
Default value used		
sh:Soil Moisture Content	Moisture content of soil	DERIVED(none)
Default value used		
TTG:Gardening Period	Total time in gardening period	CONSTANT(days)
Default value used		Value 9.00E+01
TD:Drinking-water consumption period	Drinking-water consumption period	CONSTANT(days)
Default value used		Value 3.65E+02
THV(1):Holdup Period : Leafy	Holdup period for leafy vegetables	CONSTANT(days)
Default value used		Value 1.00E+00
THV(2):Holdup Period : Other vegetables	Holdup period for other vegetables	CONSTANT(days)
Default value used		Value 1.40E+01
THV(3):Holdup Period : Fruits	Holdup period for fruits	CONSTANT(days)
Default value used		Value 1.40E+01
THV(4):Holdup Period : Grains	Holdup period for grains	CONSTANT(days)
Default value used		Value 1.40E+01
THA(1):Holdup Period : Beef	Holdup period for beef	CONSTANT(days)
Default value used		Value 2.00E+01
THA(2):Holdup Period : Poultry	Holdup period for poultry	CONSTANT(days)
Default value used		Value 1.00E+00
THA(3):Holdup Period : Milk	Holdup period for milk	CONSTANT(days)
Default value used		Value 1.00E+00
THA(4):Holdup Period : Eggs	Holdup period for eggs	CONSTANT(days)
Default value used		Value 1.00E+00
TGV(1):Growing Period : Leafy	Minimum growing period for leafy vegetables	CONSTANT(days)
Default value used		Value 4.50E+01
TGV(2):Growing Period : Other vegetables	Minimum growing period for other vegetables	CONSTANT(days)
Default value used		Value 9.00E+01
TGV(3):Growing Period : Fruits	Minimum growing period for fruits	CONSTANT(days)
Default value used		Value 9.00E+01
TGV(4):Growing Period : Grains	Minimum growing period for grains	CONSTANT(days)

Default value used		Value	9.00E+01
TGF(1):Growing Period : Beef Forage	Minimum growing period for forage consumed by beef cattle	CONSTANT(days)	
Default value used		Value	3.00E+01
TGF(2):Growing Period : Poultry Forage	Minimum growing period for forage consumed by poultry	DERIVED(days)	
Default value used			
TGF(3):Growing Period : Milk Cow Forage	Minimum growing period for forage consumed by milk cows	DERIVED(days)	
Default value used			
TGF(4):Growing Period : Layer Hen Forage	Minimum growing period for forage consumed by layer hens	DERIVED(days)	
Default value used			
TGG(1):Growing Period : Beef Cow Grain	Minimum growing period for stored grain consumed by beef cattle	CONSTANT(days)	
Default value used		Value	9.00E+01
TGG(2):Growing Period : Poultry Grain	Minimum growing period for stored grain consumed by poultry	DERIVED(days)	
Default value used			
TGG(3):Growing Period : Milk Cow Grain	Minimum growing period for stored grain consumed by milk cows	DERIVED(days)	
Default value used			
TGG(4):Growing Period : Layer Hen Grain	Minimum growing period for stored grain consumed by layer hens	DERIVED(days)	
Default value used			
TGH(1):Growing Period : Beef Cow Hay	Minimum growing period for stored hay consumed by beef cattle	CONSTANT(days)	
Default value used		Value	4.50E+01
TGH(2):Growing Period : Poultry Hay	Minimum growing period for stored hay consumed by poultry	DERIVED(days)	
Default value used			
TGH(3):Growing Period : Milk Cow Hay	Minimum growing period for stored hay consumed by milk cows	DERIVED(days)	
Default value used			
TGH(4):Growing Period : Layer Hen Hay	Minimum growing period for stored hay consumed by layer hens	DERIVED(days)	
Default value used			
RV(1):Interception Fraction : Leafy	Interception fraction for leafy vegetables	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RV(2):Interception Fraction : Other vegetables	Interception fraction for other vegetables	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RV(3):Interception Fraction : Fruits	Interception fraction for fruits	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01

RV(4):Interception Fraction : Grains	Interception fraction for grains	UNIFORM(none)
Default value used		<div>Lower Limit1.00E-01</div> <div>Upper Limit6.00E-01</div>
RF(1):Interception Fraction : Beef Forage	Interception fraction for beef cattle forage	UNIFORM(none)
Default value used		<div>Lower Limit1.00E-01</div> <div>Upper Limit6.00E-01</div>
RF(2):Interception Fraction : Poultry forage	Interception fraction for poultry forage	DERIVED(none)
Default value used		
RF(3):Interception Fraction : Milk Cow Forage	Interception fraction for milk cow forage	DERIVED(none)
Default value used		
RF(4):Interception Fraction : Layer Hen Forage	Interception fraction for layer hen forage	DERIVED(none)
Default value used		
RG(1):Interception Fraction : Beef Cow Grain	Interception fraction for beef cattle grain	UNIFORM(none)
Default value used		<div>Lower Limit1.00E-01</div> <div>Upper Limit6.00E-01</div>
RG(2):Interception Fraction : Poultry Grain	Interception fraction for poultry grain	DERIVED(none)
Default value used		
RG(3):Interception Fraction : Milk Cow Grain	Interception fraction for milk cow grain	DERIVED(none)
Default value used		
RG(4):Interception Fraction : Layer Hen Grain	Interception fraction for layer hen grain	DERIVED(none)
Default value used		
RH(1):Interception Fraction : Beef Cow Hay	Interception fraction for beef cattle hay	DERIVED(none)
Default value used		
RH(2):Interception Fraction : Poultry Hay	Interception fraction for poultry hay	DERIVED(none)
Default value used		
RH(3):Interception Fraction : Milk Cow Hay	Interception fraction for milk cow hay	DERIVED(none)
Default value used		
RH(4):Interception Fraction : Layer Hen Hay	Interception fraction for layer hen hay	DERIVED(none)
Default value used		
YV(1):Crop Yield : Leafy	Crop yield for leafy vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)
Default value used		<div>ValueProbability</div> <div>2.70E+000.00E+00</div> <div>2.71E+001.60E-03</div> <div>2.74E+006.00E-03</div> <div>2.76E+001.76E-02</div> <div>2.78E+004.36E-02</div> <div>2.80E+008.48E-02</div> <div>2.82E+001.56E-01</div>

		2.85E+00	2.57E-01
		2.87E+00	3.64E-01
		2.89E+00	5.00E-01
		2.91E+00	6.39E-01
		2.93E+00	7.46E-01
		2.96E+00	8.42E-01
		2.98E+00	9.09E-01
		3.00E+00	9.60E-01
		3.02E+00	9.84E-01
		3.04E+00	9.94E-01
		3.07E+00	9.97E-01
		3.09E+00	9.99E-01
		3.11E+00	1.00E+00
		3.13E+00	1.00E+00
		3.15E+00	1.00E+00
YV(2):Crop Yield : Other	Crop yield for other vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.26E+00	0.00E+00
		2.29E+00	8.00E-04
		2.30E+00	1.20E-03
		2.31E+00	6.40E-03
		2.33E+00	1.52E-02
		2.34E+00	3.28E-02
		2.35E+00	7.44E-02
		2.36E+00	1.40E-01
		2.38E+00	2.49E-01
		2.39E+00	3.80E-01
		2.40E+00	5.30E-01
		2.42E+00	6.61E-01
		2.43E+00	7.88E-01
		2.44E+00	8.86E-01
		2.45E+00	9.42E-01
		2.47E+00	9.75E-01
		2.48E+00	9.88E-01
		2.49E+00	9.96E-01
		2.51E+00	9.97E-01
		2.52E+00	9.99E-01
		2.53E+00	1.00E+00
		2.54E+00	1.00E+00
YV(3):Crop Yield : Fruits	Crop yield for fruits	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.17E+00	0.00E+00
		2.20E+00	1.20E-03
		2.21E+00	2.40E-03
		2.23E+00	6.80E-03
		2.25E+00	1.80E-02
		2.27E+00	4.36E-02
		2.29E+00	7.64E-02
		2.31E+00	1.38E-01
		2.32E+00	2.14E-01
		2.34E+00	3.27E-01
		2.36E+00	4.50E-01
		2.38E+00	5.76E-01
		2.40E+00	6.87E-01
		2.42E+00	7.88E-01
		2.43E+00	8.68E-01
		2.45E+00	9.25E-01
		2.47E+00	9.60E-01
		2.49E+00	9.81E-01
		2.51E+00	9.92E-01

		2.53E+00	9.98E-01
		2.54E+00	1.00E+00
		2.56E+00	1.00E+00
YV(4):Crop Yield : Grains	Crop yield for grains	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.85E-01	0.00E+00
		2.90E-01	6.00E-04
		3.02E-01	2.80E-03
		3.14E-01	9.40E-03
		3.26E-01	2.14E-02
		3.38E-01	5.42E-02
		3.50E-01	1.08E-01
		3.62E-01	2.02E-01
		3.74E-01	3.15E-01
		3.86E-01	4.50E-01
		3.98E-01	5.92E-01
		4.10E-01	7.20E-01
		4.23E-01	8.26E-01
		4.35E-01	9.03E-01
		4.47E-01	9.51E-01
		4.59E-01	9.77E-01
		4.71E-01	9.91E-01
		4.83E-01	9.96E-01
		4.95E-01	9.99E-01
		5.07E-01	1.00E+00
		5.19E-01	1.00E+00
		5.31E-01	1.00E+00
YF(1):Crop Yield : Beef Forage	Crop yield for beef cattle forage	BETA(kg dry wt forage/m**2)	
Default value used		<u>Lower Limit</u>	3.70E-01
		<u>Upper Limit</u>	5.24E-01
		<u>p</u>	2.36E+00
		<u>q</u>	1.40E+00
YF(2):Crop Yield : Poultry Forage	Crop yield for poultry forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YF(3):Crop Yield : Milk Cow Forage	Crop yield for milk cow forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YF(4):Crop Yield : Layer Hen Forage	Crop yield for layer hen forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YG(1):Crop Yield : Beef Cow Grain	Crop yield for beef cattle grain	NORMAL(kg dry wt grain /m**2)	
Default value used		<u>Mean</u>	5.78E-01
		<u>Standard Deviation</u>	7.77E-02
YG(2):Crop Yield : Poultry Grain	Crop yield for poultry grain	DERIVED(kg wet wt grain /m**2)	
Default value used			
YG(3):Crop Yield : Milk Cow Grain	Crop yield for milk cow grain	DERIVED(kg wet wt grain /m**2)	
Default value used			
YG(4):Crop Yield : Layer Hen Grain	Crop yield for layer hen grain	DERIVED(kg wet wt grain /m**2)	

Default value used		
YH(1):Crop Yield : Beef Cow Hay	Crop yield for beef cattle hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(2):Crop Yield : Poultry Hay	Crop yield for poultry hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(3):Crop Yield : Milk Cow Hay	Crop yield for milk cow hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(4):Crop Yield : Layer Hen Hay	Crop yield for layer hen hay	DERIVED(kg wet wt/m**2)
Default value used		
WV(1):Wet/dry : Leafy Vegetables	Wet/dry conversion factor for leafy vegetables	CONTINUOUS LINEAR(none)
Default value used		Value
		Probability
		3.32E-02
		0.00E+00
		4.89E-02
		3.45E-02
		5.47E-02
		6.91E-02
		5.96E-02
		1.04E-01
		6.36E-02
		1.38E-01
		6.70E-02
		1.73E-01
		7.05E-02
		2.07E-01
		7.38E-02
		2.42E-01
		7.48E-02
		2.50E-01
		7.72E-02
		2.76E-01
		8.03E-02
		3.11E-01
		8.34E-02
		3.45E-01
		8.66E-02
		3.80E-01
		9.00E-02
		4.15E-01
		9.36E-02
		4.49E-01
		9.73E-02
		4.84E-01
		9.91E-02
		4.99E-01
		1.01E-01
		5.18E-01
		1.05E-01
		5.53E-01
		1.09E-01
		5.87E-01
		1.13E-01
		6.22E-01
		1.18E-01
		6.56E-01
		1.23E-01
		6.91E-01
		1.29E-01
		7.25E-01
		1.33E-01
		7.50E-01
		1.35E-01
		7.60E-01
		1.42E-01
		7.94E-01
		1.50E-01
		8.29E-01
		1.59E-01
		8.64E-01
		1.70E-01
		8.98E-01
		1.85E-01
		9.33E-01
		2.10E-01
		9.67E-01
		2.56E-01
		9.91E-01
		3.24E-01
		1.00E+00
WV(2):Wet/dry : Other Vegetables	Wet/dry conversion factor for other vegetables	CONTINUOUS LINEAR(none)
Default value used		Value
		Probability
		3.58E-02
		0.00E+00
		4.87E-02
		3.45E-02
		5.46E-02
		6.91E-02
		5.90E-02
		1.04E-01

		6.29E-02	1.38E-01
		6.69E-02	1.73E-01
		7.02E-02	2.07E-01
		7.34E-02	2.42E-01
		7.41E-02	2.50E-01
		7.65E-02	2.76E-01
		7.99E-02	3.11E-01
		8.32E-02	3.45E-01
		8.66E-02	3.80E-01
		9.05E-02	4.15E-01
		9.41E-02	4.49E-01
		9.82E-02	4.84E-01
		9.98E-02	4.99E-01
		1.02E-01	5.18E-01
		1.06E-01	5.53E-01
		1.09E-01	5.87E-01
		1.14E-01	6.22E-01
		1.19E-01	6.56E-01
		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.33E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.50E-01	8.29E-01
		1.59E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.12E-01	9.67E-01
		2.62E-01	9.91E-01
		3.13E-01	1.00E+00
WV(3):Wet/dry : Fruit	Wet/dry conversion factor for fruits	CONTINUOUS LINEAR(none)	
<u>Default value used</u>		Value	Probability
		3.66E-02	0.00E+00
		4.87E-02	3.45E-02
		5.45E-02	6.91E-02
		5.93E-02	1.04E-01
		6.31E-02	1.38E-01
		6.72E-02	1.73E-01
		7.10E-02	2.07E-01
		7.44E-02	2.42E-01
		7.52E-02	2.50E-01
		7.78E-02	2.76E-01
		8.13E-02	3.11E-01
		8.45E-02	3.45E-01
		8.78E-02	3.80E-01
		9.11E-02	4.15E-01
		9.46E-02	4.49E-01
		9.82E-02	4.84E-01
		9.97E-02	4.99E-01
		1.02E-01	5.18E-01
		1.06E-01	5.53E-01
		1.10E-01	5.87E-01
		1.14E-01	6.22E-01
		1.19E-01	6.56E-01
		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.34E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.49E-01	8.29E-01
		1.58E-01	8.64E-01

		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.14E-01	9.67E-01
		2.58E-01	9.91E-01
		3.25E-01	1.00E+00
WV(4):Wet/dry : Grain	Wet/dry conversion factor for grains	CONSTANT(none)	
Default value used		<u>Value</u>	8.80E-01
WF(1):Wet/dry : Beef Cow Forage	Wet/dry conversion factor for beef cattle forage	BETA(none)	
Default value used		<u>Lower Limit</u>	1.83E-01
		<u>Upper Limit</u>	3.23E-01
		<u>p</u>	1.15E+00
		<u>q</u>	1.18E+00
WF(2):Wet/dry : Poultry Forage	Wet/dry conversion factor for poultry forage	DERIVED(none)	
Default value used			
WF(3):Wet/dry : Milk Cow Forage	Wet/dry conversion factor for milk cow forage	DERIVED(none)	
Default value used			
WF(4):Wet/dry : Layer Hen Forage	Wet/dry conversion factor for layer hen forage	DERIVED(none)	
Default value used			
WG(1):Wet/dry : Beef Cow Grain	Wet/dry conversion factor for beef cattle grain	CONSTANT(none)	
Default value used		<u>Value</u>	8.80E-01
WG(2):Wet/dry : Poultry Grain	Wet/dry conversion factor for poultry grain	DERIVED(none)	
Default value used			
WG(3):Wet/dry : Milk Cow Grain	Wet/dry conversion factor for milk cow grain	DERIVED(none)	
Default value used			
WG(4):Wet/dry : Layer Hen Grain	Wet/dry conversion factor for layer hen grain	DERIVED(none)	
Default value used			
WH(1):Wet/dry : Beef Cow Hay	Wet/dry conversion factor for beef cattle hay	DERIVED(none)	
Default value used			
WH(2):Wet/dry : Poultry Hay	Wet/dry conversion factor for poultry hay	DERIVED(none)	
Default value used			
WH(3):Wet/dry : Milk Cow Hay	Wet/dry conversion factor for milk cow hay	DERIVED(none)	
Default value used			
WH(4):Wet/dry : Layer Hen Hay	Wet/dry conversion factor for layer hen hay	DERIVED(none)	
Default value used			
QF(1):Ingestion Rate : Beef Cow Forage	Ingestion rate for beef cattle forage	BETA(kg dry wt forage/d)	
Default value used		<u>Lower Limit</u>	1.69E+00
		<u>Upper Limit</u>	2.29E+00
		<u>p</u>	1.99E+00

		q	9.11E-01
QF(2):Ingestion Rate : Poultry Forage	Ingestion rate for poultry forage	BETA(kg dry wt forage/d)	
<u>Default value used</u>		<u>Lower Limit</u>	3.48E-03
		<u>Upper Limit</u>	2.82E-02
		<u>p</u>	1.51E+00
		<u>q</u>	1.41E+00
QF(3):Ingestion Rate : Milk Cow Forage	Ingestion rate for milk cow forage	CONTINUOUS LINEAR(kg dry wt forage/d)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		6.35E+00	0.00E+00
		6.77E+00	3.45E-02
		6.96E+00	6.91E-02
		7.10E+00	1.04E-01
		7.24E+00	1.38E-01
		7.35E+00	1.73E-01
		7.47E+00	2.07E-01
		7.57E+00	2.42E-01
		7.60E+00	2.50E-01
		7.67E+00	2.76E-01
		7.77E+00	3.11E-01
		7.87E+00	3.45E-01
		7.98E+00	3.80E-01
		8.08E+00	4.15E-01
		8.18E+00	4.49E-01
		8.31E+00	4.84E-01
		8.37E+00	4.99E-01
		8.42E+00	5.18E-01
		8.54E+00	5.53E-01
		8.67E+00	5.87E-01
		8.81E+00	6.22E-01
		8.95E+00	6.56E-01
		9.10E+00	6.91E-01
		9.26E+00	7.25E-01
		9.38E+00	7.50E-01
		9.45E+00	7.60E-01
		9.68E+00	7.94E-01
		9.93E+00	8.29E-01
		1.02E+01	8.64E-01
		1.06E+01	8.98E-01
		1.11E+01	9.33E-01
		1.20E+01	9.67E-01
		1.33E+01	9.91E-01
		1.53E+01	1.00E+00
QF(4):Ingestion Rate : Layer Hen Forage	Ingestion rate for layer hen forage	BETA(kg dry wt forage/d)	
<u>Default value used</u>		<u>Lower Limit</u>	1.19E-02
		<u>Upper Limit</u>	2.22E-02
		<u>p</u>	1.45E+00
		<u>q</u>	7.92E-01
QG(1):Ingestion Rate : Beef Cattle Grain	Ingestion rate for beef cattle grain	BETA(kg dry wt grain/d)	
<u>Default value used</u>		<u>Lower Limit</u>	1.69E+00
		<u>Upper Limit</u>	2.29E+00
		<u>p</u>	1.99E+00
		<u>q</u>	9.11E-01
QG(2):Ingestion Rate :	Ingestion rate for poultry grain	BETA(kg dry wt grain/d)	

Poultry Grain		
Default value used		Lower Limit1.04E-02
		Upper Limit8.45E-02
		p1.51E+00
		q1.41E+00
QG(3):Ingestion Rate : Milk Cow Grain	Ingestion rate for milk cow grain	NORMAL(kg dry wt grain/d)
Default value used		Mean1.71E+00
		Standard Deviation2.62E-01
QG(4):Ingestion Rate : Layer Hen Grain	Ingestion rate for layer hen grain	BETA(kg dry wt grain/d)
Default value used		Lower Limit3.58E-02
		Upper Limit6.67E-02
		p1.43E+00
		q7.92E-01
QH(1):Ingestion Rate : Beef Cattle Hay	Ingestion rate for beef cattle hay	BETA(kg dry wt hay/d)
Default value used		Lower Limit3.38E+00
		Upper Limit4.58E+00
		p1.99E+00
		q9.11E-01
QH(2):Ingestion Rate : Poultry Hay	Ingestion rate for poultry hay	CONSTANT(kg dry wt hay/d)
Default value used		Value0.00E+00
QH(3):Ingestion Rate : Milk Cow Hay	Ingestion rate for milk cow hay	CONTINUOUS LINEAR(kg dry wt hay/d)
Default value used		ValueProbability
		5.12E+000.00E+00
		5.43E+003.45E-02
		5.57E+006.91E-02
		5.68E+001.04E-01
		5.79E+001.38E-01
		5.89E+001.73E-01
		5.98E+002.07E-01
		6.06E+002.42E-01
		6.08E+002.50E-01
		6.14E+002.76E-01
		6.22E+003.11E-01
		6.30E+003.45E-01
		6.38E+003.80E-01
		6.46E+004.15E-01
		6.54E+004.49E-01
		6.63E+004.84E-01
		6.67E+004.99E-01
		6.72E+005.18E-01
		6.81E+005.53E-01
		6.92E+005.87E-01
		7.03E+006.22E-01
		7.13E+006.56E-01
		7.26E+006.91E-01
		7.39E+007.25E-01
		7.49E+007.50E-01
		7.56E+007.60E-01
		7.70E+007.94E-01
		7.89E+008.29E-01
		8.11E+008.64E-01
		8.39E+008.98E-01

		8.75E+00	9.33E-01
		9.44E+00	9.67E-01
		1.05E+01	9.91E-01
		1.27E+01	1.00E+00
QH(4):Ingestion Rate : Layer Hen Hay	Ingestion rate for layer hen hay	CONSTANT(kg dry wt hay/d)	
Default value used		Value	0.00E+00
QW(1):Water Rate : Beef Cattle	Water ingestion rate for beef cattle	CONSTANT(L/d)	
Default value used		Value	5.00E+01
QW(2):Water Rate : Poultry	Water ingestion rate for poultry	CONSTANT(L/d)	
Default value used		Value	3.00E-01
QW(3):Water Rate : Milk Cows	Water ingestion rate for milk cows	CONSTANT(L/d)	
Default value used		Value	6.00E+01
QW(4):Water Rate : Layer Hens	Water ingestion rate for layer hens	CONSTANT(L/d)	
Default value used		Value	3.00E-01
QD(1):Soil Fraction : Beef Cattle	Soil intake fraction for beef cattle	CONSTANT(none)	
Default value used		Value	2.00E-02
QD(2):Soil Fraction : Poultry	Soil intake fraction for poultry	CONSTANT(none)	
Default value used		Value	1.00E-01
QD(3):Soil Fraction : Milk Cows	Soil intake fraction for milk cows	CONSTANT(none)	
Default value used		Value	2.00E-02
QD(4):Soil Fraction : Layer Hens	Soil intake fraction for layer hens	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(1):Mass-Loading : Leafy Vegetables	Mass-loading factor for leafy vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(2):Mass-Loading : Other Vegetables	Mass-loading factor for other vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(3):Mass-Loading : Fruits	Mass-loading factor for fruits	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(4):Mass-Loading : Grains	Mass-loading factor for grains	CONSTANT(none)	
Default value used		Value	1.00E-01
LAMBDW:Weathering Rate	Weathering rate for activity removal from plants	CONSTANT(1/d)	
Default value used		Value	4.95E-02
MLF(1):Mass-Loading : Beef Cow Forage	Mass-loading factor for beef cattle forage	CONSTANT(none)	

Default value used		Value	1.00E-01
MLF(2):Mass-Loading : Poultry Forage	Mass-loading factor for poultry forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLF(3):Mass-Loading : Milk Cow Forage	Mass-loading factor for milk cow forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLF(4):Mass-Loading : Layer Hen Forage	Mass-loading factor for layer hen forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(1):Mass-Loading : Beef Cattle Grain	Mass-loading factor for beef cattle grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(2):Mass-Loading : Poultry Grain	Mass-loading factor for poultry grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(3):Mass-Loading : Milk Cow Grain	Mass-loading factor for milk cow grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(4):Mass-Loading : Layer Hen Grain	Mass-loading factor for layer hen grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLH(1):Mass-Loading : Beef Cattle Hay	Mass-loading factor for beef cattle hay	CONSTANT(none)	
Default value used		Value	1.00E-01
MLH(2):Mass-Loading : Poultry Hay	Mass-loading factor for poultry hay	CONSTANT(none)	
Default value used		Value	1.00E-01
MLH(3):Mass-Loading : Milk Cow Hay	Mass-loading factor for milk cow hay	CONSTANT(none)	
Default value used		Value	1.00E-01
MLH(4):Mass-Loading : Layer Hen Hay	Mass-loading factor for layer hen hay	CONSTANT(none)	
Default value used		Value	1.00E-01
TFF(1):Feeding Period : Beef Cow Forage	Feeding period for beef cattle forage	CONSTANT(days)	
Default value used		Value	3.65E+02
TFF(2):Feeding Period : Poultry Forage	Feeding period for poultry forage	CONSTANT(days)	
Default value used		Value	3.65E+02
TFF(3):Feeding Period : Milk Cow Forage	Feeding period for milk cow forage	CONSTANT(days)	
Default value used		Value	3.65E+02
TFF(4):Feeding Period : Layer Hen Forage	Feeding period for layer hen forage	CONSTANT(days)	
Default value used		Value	3.65E+02
TFG(1):Feeding Period : Beef Cattle Grain	Feeding period for beef cattle grain	CONSTANT(days)	

Default value used		Value	3.65E+02
TFG(2):Feeding Period : Poultry Grain	Feeding period for poultry grain	CONSTANT(days)	
Default value used		Value	3.65E+02
TFG(3):Feeding Period : Milk Cow Grain	Feeding period for milk cow grain	CONSTANT(days)	
Default value used		Value	3.65E+02
TFG(4):Feeding Period : Layer Hen Grain	Feeding period for layer hen grain	CONSTANT(days)	
Default value used		Value	3.65E+02
TFH(1):Feeding Period : Beef Cattle Hay	Feeding period for beef cattle hay	CONSTANT(days)	
Default value used		Value	3.65E+02
TFH(2):Feeding Period : Poultry Hay	Feeding period for poultry hay	CONSTANT(days)	
Default value used		Value	3.65E+02
TFH(3):Feeding Period : Milk Cow Hay	Feeding period for milk cow hay	CONSTANT(days)	
Default value used		Value	3.65E+02
TFH(4):Feeding Period : Layer Hen Hay	Feeding period for layer hen hay	CONSTANT(days)	
Default value used		Value	3.65E+02
TFW(1):Water Period : Beef Cattle	Water ingestion period for beef cattle	CONSTANT(days)	
Default value used		Value	3.65E+02
TFW(2):Water Period : Poultry	Water ingestion period for poultry	CONSTANT(days)	
Default value used		Value	3.65E+02
TFW(3):Water Period : Milk Cows	Water ingestion period for milk cows	CONSTANT(days)	
Default value used		Value	3.65E+02
TFW(4):Water Period : Layer Hens	Water ingestion period for layer hens	CONSTANT(days)	
Default value used		Value	3.65E+02
fha(1):Hydrogen Fraction : Beef Cattle	Hydrogen fraction for beef cattle	CONSTANT(none)	
Default value used		Value	1.00E-01
fha(2):Hydrogen Fraction : Poultry	Hydrogen fraction for poultry	CONSTANT(none)	
Default value used		Value	1.00E-01
fha(3):Hydrogen Fraction : Milk Cows	Hydrogen fraction for milk cows	CONSTANT(none)	
Default value used		Value	1.10E-01
fha(4):Hydrogen Fraction : Eggs	Hydrogen fraction for eggs	CONSTANT(none)	
Default value used		Value	1.10E-01
fhv(1):Hydrogen Fraction : Leafy Vegetables	Hydrogen fraction for leafy vegetables	CONSTANT(none)	

Default value used		Value	1.00E-01
fhv(2):Hydrogen Fraction : Other Vegetables	Hydrogen fraction for other vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
fhv(3):Hydrogen Fraction : Fruits	Hydrogen fraction for fruits	CONSTANT(none)	
Default value used		Value	1.00E-01
fhv(4):Hydrogen Fraction : Grains	Hydrogen fraction for grains	CONSTANT(none)	
Default value used		Value	6.80E-02
fhf(1):Hydrogen Fraction : Beef Cow Forage	Hydrogen fraction for beef cattle forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhf(2):Hydrogen Fraction : Poultry Forage	Hydrogen fraction for poultry forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhf(3):Hydrogen Fraction : Milk Cow Forage	Hydrogen fraction for milk cow forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhf(4):Hydrogen Fraction : Layer Hen Forage	Hydrogen fraction for layer hen forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(1):Hydrogen Fraction : Beef Cattle Hay	Hydrogen fraction for beef cattle hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(2):Hydrogen Fraction : Poultry Hay	Hydrogen fraction for poultry hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(3):Hydrogen Fraction : Milk Cow Hay	Hydrogen fraction for milk cow hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(4):Hydrogen Fraction : Layer Hen Hay	Hydrogen fraction for layer hen hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhg(1):Hydrogen Fraction : Beef Cattle Grain	Hydrogen fraction for beef cattle grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(2):Hydrogen Fraction : Poultry Grain	Hydrogen fraction for poultry grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(3):Hydrogen Fraction : Milk Cow Grain	Hydrogen fraction for milk cow grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(4):Hydrogen Fraction : Layer Hen Grain	Hydrogen fraction for layer hen grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhd016:Hydrogen Fraction : Soil	Fraction of hydrogen in soil	DERIVED(none)	

<u>Default value used</u>		
sasvh:Tritium Equivalence: Plant/Soil	Tritium equivalence: plant/soil	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
sawvh:Tritium Equivalence: Plant/Water	Tritium equivalence: plant/water	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
satah:Tritium Equivalence: Animal Products	Tritium equivalence: animal product intake	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
YA(1):Animal Product Yield : Beef Cattle	Annual yield of beef per individual animal	CONSTANT(kg/y)
<u>Default value used</u>		<u>Value</u> 2.09E+02
YA(2):Animal Product Yield : Poultry	Annual yield of chicken per individual animal	CONSTANT(kg/y)
<u>Default value used</u>		<u>Value</u> 1.53E+00
YA(3):Animal Product Yield : Milk Cows	Annual yield of milk per individual animal	CONSTANT(L/y)
<u>Default value used</u>		<u>Value</u> 7.41E+03
YA(4):Animal Product Yield : Layer Hens	Annual yield of eggs per individual animal	CONSTANT(kg/y)
<u>Default value used</u>		<u>Value</u> 1.26E+01
ARExt:External Exposure Area	Minimum surface area to which resident is exposed via external radiation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARInh:Inhalation Exposure Area	Minimum surface area to which resident is exposed via inhalation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARIng:Secondary Ingestion Exposure Area	Minimum surface area to which resident is exposed via secondary ingestion during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARAgr:Agricultural Exposure Area	Minimum surface area to which resident is exposed via any agricultural product during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARH2O:Groundwater Exposure Area	Minimum surface area to which resident is exposed via groundwater during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARAll:Exposure Area	Minimum surface area to which resident is exposed via any pathway during the residential period	DERIVED(m**2)
<u>Default value used</u>		

Element Dependant Parameters

Parameter Name	Description	Distribution
Cl:Coefficient	Partition coefficient for Cl	NORMAL(Log10(mL/g))
Default value used		Mean7.00E-01
		Standard Deviation1.40E+00
Ca:Coefficient	Partition coefficient for Ca	NORMAL(Log10(mL/g))
Default value used		Mean3.17E+00
		Standard Deviation1.40E+00
Mn:Coefficient	Partition coefficient for Mn	CONTINUOUS LINEAR(Log10(mL/g))
Default value used		ValueProbability
		8.81E-010.00E+00
		1.00E+001.03E-02
		1.10E+003.44E-02
		1.18E+006.71E-02
		1.24E+009.98E-02
		1.30E+001.33E-01
		1.36E+001.65E-01
		1.41E+001.98E-01
		1.46E+002.31E-01
		1.51E+002.63E-01
		1.57E+002.96E-01
		1.62E+003.29E-01
		1.67E+003.61E-01
		1.73E+003.94E-01
		1.79E+004.27E-01
		1.85E+004.60E-01
		1.91E+004.92E-01
		1.93E+005.01E-01
		1.98E+005.25E-01
		2.05E+005.58E-01
		2.13E+005.90E-01
		2.21E+006.23E-01
		2.30E+006.56E-01
		2.40E+006.88E-01
		2.51E+007.21E-01
		2.64E+007.54E-01
		2.79E+007.87E-01
		2.96E+008.19E-01
		3.17E+008.52E-01
		3.43E+008.85E-01
		3.83E+009.17E-01
		4.43E+009.50E-01
		5.03E+009.69E-01
		5.87E+009.83E-01
		6.91E+009.91E-01
		1.04E+011.00E+00
Zn:Coefficient	Partition coefficient for Zn	NORMAL(Log10(mL/g))
Default value used		Mean3.03E+00
		Standard Deviation1.93E+00
Se:Coefficient	Partition coefficient for Se	NORMAL(Log10(mL/g))
Default value used		Mean2.06E+00
		Standard Deviation2.50E-01
Zr:Coefficient	Partition coefficient for Zr	NORMAL(Log10(mL/g))
Default value used		Mean3.38E+00
		Standard Deviation1.40E+00
Nb:Coefficient	Partition coefficient for Nb	NORMAL(Log10(mL/g))

Default value used		Mean	2.80E+00
		Standard Deviation	1.40E+00
Mo:Coefficient	Partition coefficient for Mo	NORMAL(Log10(mL/g))	
Default value used		Mean	1.42E+00
		Standard Deviation	7.50E-01
Sn:Coefficient	Partition coefficient for Sn	NORMAL(Log10(mL/g))	
Default value used		Mean	2.70E+00
		Standard Deviation	1.40E+00
Cs:Coefficient	Partition coefficient for Cs	NORMAL(Log10(mL/g))	
Default value used		Mean	2.65E+00
		Standard Deviation	1.01E+00
Sm:Coefficient	Partition coefficient for Sm	NORMAL(Log10(mL/g))	
Default value used		Mean	2.97E+00
		Standard Deviation	1.40E+00
Eu:Coefficient	Partition coefficient for Eu	NORMAL(Log10(mL/g))	
Default value used		Mean	2.98E+00
		Standard Deviation	1.74E+00
Ho:Coefficient	Partition coefficient for Ho	NORMAL(Log10(mL/g))	
Default value used		Mean	2.97E+00
		Standard Deviation	1.40E+00
Tl:Coefficient	Partition coefficient for Tl	NORMAL(Log10(mL/g))	
Default value used		Mean	2.20E+00
		Standard Deviation	1.40E+00
Pb:Coefficient	Partition coefficient for Pb	NORMAL(Log10(mL/g))	
Default value used		Mean	3.38E+00
		Standard Deviation	1.20E+00
Bi:Coefficient	Partition coefficient for Bi	NORMAL(Log10(mL/g))	
Default value used		Mean	2.65E+00
		Standard Deviation	1.40E+00
Po:Coefficient	Partition coefficient for Po	NORMAL(Log10(mL/g))	
Default value used		Mean	2.26E+00
		Standard Deviation	7.30E-01
Ra:Coefficient	Partition coefficient for Ra	NORMAL(Log10(mL/g))	
Default value used		Mean	3.55E+00
		Standard Deviation	7.40E-01
Ac:Coefficient	Partition coefficient for Ac	NORMAL(Log10(mL/g))	
Default value used		Mean	3.24E+00
		Standard Deviation	1.40E+00
Th:Coefficient	Partition coefficient for Th	NORMAL(Log10(mL/g))	
Default value used		Mean	3.77E+00
		Standard Deviation	1.57E+00
U:Coefficient	Partition coefficient for U	NORMAL(Log10(mL/g))	
Default value used		Mean	2.10E+00
		Standard Deviation	1.36E+00
Cl:Leafy	Leafy plant concentration factor for Cl	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	4.25E+00
		Standard Deviation of Ln	9.04E-01
Ca:Leafy	Leafy plant concentration factor for Ca	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg	

		soil)
Default value used		Mean of Ln(X) 1.25E+00
		Standard Deviation of Ln 9.04E-01
Mn:Leafy	Leafy plant concentration factor for Mn	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -1.11E+00
		Standard Deviation of Ln 2.03E+00
Zn:Leafy	Leafy plant concentration factor for Zn	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -5.45E-01
		Standard Deviation of Ln 9.56E-01
Se:Leafy	Leafy plant concentration factor for Se	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.69E+00
		Standard Deviation of Ln 9.04E-01
Zr:Leafy	Leafy plant concentration factor for Zr	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -2.63E+00
		Standard Deviation of Ln 6.93E-01
Nb:Leafy	Leafy plant concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.91E+00
		Standard Deviation of Ln 9.04E-01
Mo:Leafy	Leafy plant concentration factor for Mo	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) 7.88E-01
		Standard Deviation of Ln 1.19E+00
Sn:Leafy	Leafy plant concentration factor for Sn	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.51E+00
		Standard Deviation of Ln 9.04E-01
Cs:Leafy	Leafy plant concentration factor for Cs	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.19E+00
		Standard Deviation of Ln 1.25E+00
Sm:Leafy	Leafy plant concentration factor for Sm	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.61E+00
		Standard Deviation of Ln 9.04E-01
Eu:Leafy	Leafy plant concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.61E+00
		Standard Deviation of Ln 9.04E-01
Ho:Leafy	Leafy plant concentration factor for Ho	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.61E+00
		Standard Deviation of Ln 9.04E-01
Tl:Leafy	Leafy plant concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Pb:Leafy	Leafy plant concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)

Default value used		Mean of Ln(X)	-3.10E+00
		Standard Deviation of Ln	9.04E-01
Bi:Leafy	Leafy plant concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-3.35E+00
		Standard Deviation of Ln	9.04E-01
Po:Leafy	Leafy plant concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.99E+00
		Standard Deviation of Ln	9.04E-01
Ra:Leafy	Leafy plant concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.20E+00
		Standard Deviation of Ln	9.04E-01
Ac:Leafy	Leafy plant concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.65E+00
		Standard Deviation of Ln	9.04E-01
Th:Leafy	Leafy plant concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.07E+00
		Standard Deviation of Ln	9.04E-01
U:Leafy	Leafy plant concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.77E+00
		Standard Deviation of Ln	9.04E-01
Cl:Root	Root plant concentration factor for Cl	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	4.25E+00
		Standard Deviation of Ln	9.04E-01
Ca:Root	Root plant concentration factor for Ca	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-1.05E+00
		Standard Deviation of Ln	9.04E-01
Mn:Root	Root plant concentration factor for Mn	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-2.12E+00
		Standard Deviation of Ln	1.59E+00
Zn:Root	Root plant concentration factor for Zn	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-2.21E+00
		Standard Deviation of Ln	1.36E+00
Se:Root	Root plant concentration factor for Se	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-3.69E+00
		Standard Deviation of Ln	9.04E-01
Zr:Root	Root plant concentration factor for Zr	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.17E+00
		Standard Deviation of Ln	2.25E+00
Nb:Root	Root plant concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00

		Standard Deviation of Ln	9.04E-01
Mo:Root	Root plant concentration factor for Mo	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-2.81E+00
		Standard Deviation of Ln	9.04E-01
Sn:Root	Root plant concentration factor for Sn	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.12E+00
		Standard Deviation of Ln	9.04E-01
Cs:Root	Root plant concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	1.41E+00
Sm:Root	Root plant concentration factor for Sm	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Eu:Root	Root plant concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Ho:Root	Root plant concentration factor for Ho	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Tl:Root	Root plant concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Pb:Root	Root plant concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.71E+00
		Standard Deviation of Ln	9.04E-01
Bi:Root	Root plant concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	9.04E-01
Po:Root	Root plant concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Ra:Root	Root plant concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-6.50E+00
		Standard Deviation of Ln	9.04E-01
Ac:Root	Root plant concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.96E+00
		Standard Deviation of Ln	9.04E-01
Th:Root	Root plant concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)	
Default value used		Mean of Ln(X)	-9.37E+00
		Standard Deviation of Ln	9.04E-01

U:Root	Root plant concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Cl:Fruit	Fruit concentration factor for Cl	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) 4.25E+00
		Standard Deviation of Ln 9.04E-01
Ca:Fruit	Fruit concentration factor for Ca	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -1.05E+00
		Standard Deviation of Ln 9.04E-01
Mn:Fruit	Fruit concentration factor for Mn	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -2.12E+00
		Standard Deviation of Ln 1.59E+00
Zn:Fruit	Fruit concentration factor for Zn	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -2.21E+00
		Standard Deviation of Ln 1.36E+00
Se:Fruit	Fruit concentration factor for Se	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -3.69E+00
		Standard Deviation of Ln 9.04E-01
Zr:Fruit	Fruit concentration factor for Zr	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.17E+00
		Standard Deviation of Ln 2.25E+00
Nb:Fruit	Fruit concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Mo:Fruit	Fruit concentration factor for Mo	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -2.81E+00
		Standard Deviation of Ln 9.04E-01
Sn:Fruit	Fruit concentration factor for Sn	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.12E+00
		Standard Deviation of Ln 9.04E-01
Cs:Fruit	Fruit concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 1.41E+00
Sm:Fruit	Fruit concentration factor for Sm	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Eu:Fruit	Fruit concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Ho:Fruit	Fruit concentration factor for Ho	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)

		soil)
Default value used		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Tl:Fruit	Fruit concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Pb:Fruit	Fruit concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -4.71E+00
		Standard Deviation of Ln 9.04E-01
Bi:Fruit	Fruit concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Po:Fruit	Fruit concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Ra:Fruit	Fruit concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -6.50E+00
		Standard Deviation of Ln 9.04E-01
Ac:Fruit	Fruit concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -7.96E+00
		Standard Deviation of Ln 9.04E-01
Th:Fruit	Fruit concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -9.37E+00
		Standard Deviation of Ln 9.04E-01
U:Fruit	Fruit concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
Default value used		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Cl:Grain	Grain concentration factor for Cl	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)
Default value used		Mean of Ln(X) 4.25E+00
		Standard Deviation of Ln 9.04E-01
Ca:Grain	Grain concentration factor for Ca	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)
Default value used		Mean of Ln(X) -1.05E+00
		Standard Deviation of Ln 9.04E-01
Mn:Grain	Grain concentration factor for Mn	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)
Default value used		Mean of Ln(X) -2.12E+00
		Standard Deviation of Ln 1.59E+00
Zn:Grain	Grain concentration factor for Zn	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)
Default value used		Mean of Ln(X) -2.21E+00
		Standard Deviation of Ln 1.36E+00
Se:Grain	Grain concentration factor for Se	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)

Default value used		Mean of Ln(X)	-3.69E+00
		Standard Deviation of Ln	9.04E-01
Zr:Grain	Grain concentration factor for Zr	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.17E+00
		Standard Deviation of Ln	2.25E+00
Nb:Grain	Grain concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	9.04E-01
Mo:Grain	Grain concentration factor for Mo	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-2.81E+00
		Standard Deviation of Ln	9.04E-01
Sn:Grain	Grain concentration factor for Sn	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.12E+00
		Standard Deviation of Ln	9.04E-01
Cs:Grain	Grain concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	1.41E+00
Sm:Grain	Grain concentration factor for Sm	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Eu:Grain	Grain concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Ho:Grain	Grain concentration factor for Ho	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Tl:Grain	Grain concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Pb:Grain	Grain concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.71E+00
		Standard Deviation of Ln	9.04E-01
Bi:Grain	Grain concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	9.04E-01
Po:Grain	Grain concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Ra:Grain	Grain concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-6.50E+00

		Standard Deviation of Ln	9.04E-01
Ac:Grain	Grain concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.96E+00
		Standard Deviation of Ln	9.04E-01
Th:Grain	Grain concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-9.37E+00
		Standard Deviation of Ln	9.04E-01
U:Grain	Grain concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Cl:Beef	Beef transfer factor for Cl	CONSTANT(d/kg)	
Default value used		Value	8.00E-02
Ca:Beef	Beef transfer factor for Ca	CONSTANT(d/kg)	
Default value used		Value	7.00E-04
Mn:Beef	Beef transfer factor for Mn	CONSTANT(d/kg)	
Default value used		Value	4.00E-04
Zn:Beef	Beef transfer factor for Zn	CONSTANT(d/kg)	
Default value used		Value	1.00E-01
Se:Beef	Beef transfer factor for Se	CONSTANT(d/kg)	
Default value used		Value	1.50E-02
Zr:Beef	Beef transfer factor for Zr	CONSTANT(d/kg)	
Default value used		Value	5.50E-03
Nb:Beef	Beef transfer factor for Nb	CONSTANT(d/kg)	
Default value used		Value	2.50E-01
Mo:Beef	Beef transfer factor for Mo	CONSTANT(d/kg)	
Default value used		Value	6.00E-03
Sn:Beef	Beef transfer factor for Sn	CONSTANT(d/kg)	
Default value used		Value	8.00E-02
Cs:Beef	Beef transfer factor for Cs	CONSTANT(d/kg)	
Default value used		Value	2.00E-02
Sm:Beef	Beef transfer factor for Sm	CONSTANT(d/kg)	
Default value used		Value	5.00E-03
Eu:Beef	Beef transfer factor for Eu	CONSTANT(d/kg)	
Default value used		Value	5.00E-03
Ho:Beef	Beef transfer factor for Ho	CONSTANT(d/kg)	
Default value used		Value	4.50E-03
Tl:Beef	Beef transfer factor for Tl	CONSTANT(d/kg)	
Default value used		Value	4.00E-02
Pb:Beef	Beef transfer factor for Pb	CONSTANT(d/kg)	
Default value used		Value	3.00E-04
Bi:Beef	Beef transfer factor for Bi	CONSTANT(d/kg)	
Default value used		Value	4.00E-04
Po:Beef	Beef transfer factor for Po	CONSTANT(d/kg)	

Default value used		Value	3.00E-04
Ra:Beef	Beef transfer factor for Ra	CONSTANT(d/kg)	
Default value used		Value	2.50E-04
Ac:Beef	Beef transfer factor for Ac	CONSTANT(d/kg)	
Default value used		Value	2.50E-05
Th:Beef	Beef transfer factor for Th	CONSTANT(d/kg)	
Default value used		Value	6.00E-06
U:Beef	Beef transfer factor for U	CONSTANT(d/kg)	
Default value used		Value	2.00E-04
Cl:Poultry	Poultry transfer factor for Cl	CONSTANT(d/kg)	
Default value used		Value	3.00E-02
Ca:Poultry	Poultry transfer factor for Ca	CONSTANT(d/kg)	
Default value used		Value	4.40E-02
Mn:Poultry	Poultry transfer factor for Mn	CONSTANT(d/kg)	
Default value used		Value	5.00E-02
Zn:Poultry	Poultry transfer factor for Zn	CONSTANT(d/kg)	
Default value used		Value	6.50E+00
Se:Poultry	Poultry transfer factor for Se	CONSTANT(d/kg)	
Default value used		Value	8.50E+00
Zr:Poultry	Poultry transfer factor for Zr	CONSTANT(d/kg)	
Default value used		Value	6.40E-05
Nb:Poultry	Poultry transfer factor for Nb	CONSTANT(d/kg)	
Default value used		Value	3.10E-04
Mo:Poultry	Poultry transfer factor for Mo	CONSTANT(d/kg)	
Default value used		Value	1.90E-01
Sn:Poultry	Poultry transfer factor for Sn	CONSTANT(d/kg)	
Default value used		Value	2.00E-01
Cs:Poultry	Poultry transfer factor for Cs	CONSTANT(d/kg)	
Default value used		Value	4.40E+00
Sm:Poultry	Poultry transfer factor for Sm	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
Eu:Poultry	Poultry transfer factor for Eu	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
Ho:Poultry	Poultry transfer factor for Ho	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
Tl:Poultry	Poultry transfer factor for Tl	CONSTANT(d/kg)	
Default value used		Value	3.00E-01
Pb:Poultry	Poultry transfer factor for Pb	CONSTANT(d/kg)	
Default value used		Value	2.00E-01
Bi:Poultry	Poultry transfer factor for Bi	CONSTANT(d/kg)	
Default value used		Value	1.00E-01
Po:Poultry	Poultry transfer factor for Po	CONSTANT(d/kg)	
Default value used		Value	9.00E-01
Ra:Poultry	Poultry transfer factor for Ra	CONSTANT(d/kg)	

Default value used		Value	3.00E-02
Ac:Poultry	Poultry transfer factor for Ac	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
Th:Poultry	Poultry transfer factor for Th	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
U:Poultry	Poultry transfer factor for U	CONSTANT(d/kg)	
Default value used		Value	1.20E+00
Cl:Milk	Milk transfer factor for Cl	CONSTANT(d/L)	
Default value used		Value	1.50E-02
Ca:Milk	Milk transfer factor for Ca	CONSTANT(d/L)	
Default value used		Value	1.00E-02
Mn:Milk	Milk transfer factor for Mn	CONSTANT(d/L)	
Default value used		Value	3.50E-04
Zn:Milk	Milk transfer factor for Zn	CONSTANT(d/L)	
Default value used		Value	1.00E-02
Se:Milk	Milk transfer factor for Se	CONSTANT(d/L)	
Default value used		Value	4.00E-03
Zr:Milk	Milk transfer factor for Zr	CONSTANT(d/L)	
Default value used		Value	3.00E-05
Nb:Milk	Milk transfer factor for Nb	CONSTANT(d/L)	
Default value used		Value	2.00E-02
Mo:Milk	Milk transfer factor for Mo	CONSTANT(d/L)	
Default value used		Value	1.50E-03
Sn:Milk	Milk transfer factor for Sn	CONSTANT(d/L)	
Default value used		Value	1.00E-03
Cs:Milk	Milk transfer factor for Cs	CONSTANT(d/L)	
Default value used		Value	7.00E-03
Sm:Milk	Milk transfer factor for Sm	CONSTANT(d/L)	
Default value used		Value	2.00E-05
Eu:Milk	Milk transfer factor for Eu	CONSTANT(d/L)	
Default value used		Value	2.00E-05
Ho:Milk	Milk transfer factor for Ho	CONSTANT(d/L)	
Default value used		Value	2.00E-05
Tl:Milk	Milk transfer factor for Tl	CONSTANT(d/L)	
Default value used		Value	2.00E-03
Pb:Milk	Milk transfer factor for Pb	CONSTANT(d/L)	
Default value used		Value	2.50E-04
Bi:Milk	Milk transfer factor for Bi	CONSTANT(d/L)	
Default value used		Value	5.00E-04
Po:Milk	Milk transfer factor for Po	CONSTANT(d/L)	
Default value used		Value	3.50E-04
Ra:Milk	Milk transfer factor for Ra	CONSTANT(d/L)	
Default value used		Value	4.50E-04
Ac:Milk	Milk transfer factor for Ac	CONSTANT(d/L)	

Default value used		Value	2.00E-05
Th:Milk	Milk transfer factor for Th	CONSTANT(d/L)	
Default value used		Value	5.00E-06
U:Milk	Milk transfer factor for U	CONSTANT(d/L)	
Default value used		Value	6.00E-04
Cl:Eggs	Egg transfer factor for Cl	CONSTANT(d/kg)	
Default value used		Value	2.00E+00
Ca:Eggs	Egg transfer factor for Ca	CONSTANT(d/kg)	
Default value used		Value	4.40E-01
Mn:Eggs	Egg transfer factor for Mn	CONSTANT(d/kg)	
Default value used		Value	6.50E-02
Zn:Eggs	Egg transfer factor for Zn	CONSTANT(d/kg)	
Default value used		Value	2.60E+00
Se:Eggs	Egg transfer factor for Se	CONSTANT(d/kg)	
Default value used		Value	9.30E+00
Zr:Eggs	Egg transfer factor for Zr	CONSTANT(d/kg)	
Default value used		Value	1.90E-04
Nb:Eggs	Egg transfer factor for Nb	CONSTANT(d/kg)	
Default value used		Value	1.30E-03
Mo:Eggs	Egg transfer factor for Mo	CONSTANT(d/kg)	
Default value used		Value	7.80E-01
Sn:Eggs	Egg transfer factor for Sn	CONSTANT(d/kg)	
Default value used		Value	8.00E-01
Cs:Eggs	Egg transfer factor for Cs	CONSTANT(d/kg)	
Default value used		Value	4.90E-01
Sm:Eggs	Egg transfer factor for Sm	CONSTANT(d/kg)	
Default value used		Value	7.00E-03
Eu:Eggs	Egg transfer factor for Eu	CONSTANT(d/kg)	
Default value used		Value	7.00E-03
Ho:Eggs	Egg transfer factor for Ho	CONSTANT(d/kg)	
Default value used		Value	7.00E-03
Tl:Eggs	Egg transfer factor for Tl	CONSTANT(d/kg)	
Default value used		Value	8.00E-01
Pb:Eggs	Egg transfer factor for Pb	CONSTANT(d/kg)	
Default value used		Value	8.00E-01
Bi:Eggs	Egg transfer factor for Bi	CONSTANT(d/kg)	
Default value used		Value	8.00E-01
Po:Eggs	Egg transfer factor for Po	CONSTANT(d/kg)	
Default value used		Value	7.00E+00
Ra:Eggs	Egg transfer factor for Ra	CONSTANT(d/kg)	
Default value used		Value	2.00E-05
Ac:Eggs	Egg transfer factor for Ac	CONSTANT(d/kg)	
Default value used		Value	2.00E-03
Th:Eggs	Egg transfer factor for Th	CONSTANT(d/kg)	

Default value used		Value	2.00E-03
U:Eggs	Egg transfer factor for U	CONSTANT(d/kg)	
Default value used		Value	9.90E-01
Cl:Factor	Bioaccumulation factor for Cl in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	5.00E+01
Ca:Factor	Bioaccumulation factor for Ca in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	4.00E+01
Mn:Factor	Bioaccumulation factor for Mn in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	4.00E+02
Zn:Factor	Bioaccumulation factor for Zn in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.50E+03
Se:Factor	Bioaccumulation factor for Se in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	1.70E+02
Zr:Factor	Bioaccumulation factor for Zr in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.00E+02
Nb:Factor	Bioaccumulation factor for Nb in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.00E+02
Mo:Factor	Bioaccumulation factor for Mo in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	1.00E+01
Sn:Factor	Bioaccumulation factor for Sn in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	3.00E+03
Cs:Factor	Bioaccumulation factor for Cs in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.00E+03
Sm:Factor	Bioaccumulation factor for Sm in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.50E+01
Eu:Factor	Bioaccumulation factor for Eu in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.50E+01
Ho:Factor	Bioaccumulation factor for Ho in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.50E+01
Tl:Factor	Bioaccumulation factor for Tl in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	0.00E+00
Pb:Factor	Bioaccumulation factor for Pb in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	1.00E+02
Bi:Factor	Bioaccumulation factor for Bi in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	1.50E+01
Po:Factor	Bioaccumulation factor for Po in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	5.00E+02
Ra:Factor	Bioaccumulation factor for Ra in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	7.00E+01
Ac:Factor	Bioaccumulation factor for Ac in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	2.50E+01
Th:Factor	Bioaccumulation factor for Th in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	
Default value used		Value	1.00E+02
	Bioaccumulation factor for U in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)	

U:Factor	
Default value used	Value 5.00E+01

Correlation Coefficients:

Parameter One	Parameter Two	Correlation Coefficient
KSDEV:Permeability Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		
NDEV:Porosity Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		

Summary Results:

90.00% of the 202 calculated TEDE values are < 2.25E-03 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 2.04E-03 to 2.62E-03 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Soil Concentration (pCi/g)	Water Concentration (pCi/g)
36Cl	3.48E-05	2.05E-09
41Ca	3.11E-07	2.56E-19
54Mn	2.87E-15	1.16E-38
65Zn	5.26E-20	1.44E-36
79Se	2.18E-08	2.71E-20
93Zr	2.19E-09	3.64E-21
93mNb	0.00E+00	3.38E-19
93Mo	7.07E-09	3.91E-20
134Cs	9.63E-10	4.03E-33
135Cs	5.91E-09	7.72E-21
151Sm	6.17E-07	4.70E-23
155Eu	3.26E-07	7.64E-27
166mHo	5.98E-06	8.50E-19
233U	3.50E-08	1.78E-19
229Th	0.00E+00	2.46E-20
225Ra	0.00E+00	2.33E-20
225Ac	0.00E+00	4.86E-20
221Fr	0.00E+00	4.86E-20
217At	0.00E+00	4.86E-20
213Bi	0.00E+00	4.86E-20
213Po	0.00E+00	4.75E-20

209Tl	0.00E+00	1.05E-21
209Pb	0.00E+00	4.86E-20
121mSn	7.22E-10	1.09E-25
121Sn	0.00E+00	8.49E-26

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
2.62E-03	2.59E-03	2.97E-12	3.33E-12	2.68E-05	3.26E-09	2.34E-09	1.03E-10

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
36Cl	2.59E-03
41Ca	1.48E-07
54Mn	5.03E-15
65Zn	1.34E-19
79Se	2.84E-09
93Zr	2.27E-11
93mNb	5.49E-12
93Mo	9.26E-10
134Cs	4.31E-09
135Cs	6.98E-10
151Sm	8.74E-10
155Eu	2.87E-08
166mHo	2.69E-05
233U	4.37E-08
229Th	3.45E-11
225Ra	3.46E-12
225Ac	9.67E-13
221Fr	9.60E-14
217At	1.05E-15
213Bi	4.62E-13
213Po	0.00E+00
209Tl	1.52E-13
209Pb	2.26E-15
121mSn	9.92E-12
121Sn	4.22E-12
All Nuclides	2.62E-03

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation

36Cl	2.59E-03	2.87E-12	3.12E-12	3.89E-08	2.45E-10	1.49E-09	1.03E-10
41Ca	1.48E-07	1.50E-22	1.40E-22	0.00E+00	1.35E-13	5.60E-12	1.12E-21
54Mn	7.07E-16	1.49E-41	1.35E-40	4.32E-15	4.47E-21	7.71E-20	1.98E-41
65Zn	8.28E-20	9.61E-39	5.36E-37	5.05E-20	2.28E-25	6.69E-24	7.33E-38
79Se	2.84E-09	1.09E-22	4.05E-22	1.98E-13	6.89E-14	2.68E-12	6.53E-22
93Zr	2.25E-11	2.78E-24	1.21E-23	0.00E+00	2.26E-13	5.14E-14	6.02E-24
93mNb	5.47E-12	8.14E-23	3.59E-22	1.16E-14	1.89E-15	1.71E-15	1.72E-21
93Mo	9.24E-10	2.43E-23	5.17E-24	2.04E-12	6.45E-14	1.35E-13	8.61E-23
134Cs	9.65E-10	1.36E-34	6.17E-33	3.34E-09	1.24E-14	8.48E-13	6.64E-34
135Cs	6.97E-10	2.52E-23	1.13E-21	1.10E-13	8.64E-15	5.91E-13	1.87E-22
151Sm	8.69E-10	8.44E-27	4.79E-27	2.95E-13	5.92E-12	3.38E-12	1.94E-26
155Eu	1.63E-09	5.39E-30	2.96E-30	2.71E-08	4.09E-12	6.58E-12	9.07E-30
166mHo	1.77E-07	3.17E-21	1.74E-21	2.67E-05	1.49E-09	6.83E-10	5.05E-21
233U	4.29E-08	2.38E-20	2.68E-20	2.31E-11	1.52E-09	1.43E-10	5.82E-20
229Th	3.32E-11	4.02E-20	8.69E-20	2.53E-13	9.91E-13	8.26E-14	8.13E-20
225Ra	3.41E-12	4.14E-21	6.27E-21	7.80E-15	3.18E-15	8.01E-15	9.15E-21
225Ac	9.08E-13	2.49E-21	1.29E-21	4.07E-14	4.05E-15	2.13E-15	2.57E-21
221Fr	0.00E+00	0.00E+00	0.00E+00	9.60E-14	0.00E+00	0.00E+00	0.00E+00
217At	0.00E+00	0.00E+00	0.00E+00	1.05E-15	0.00E+00	0.00E+00	0.00E+00
213Bi	5.90E-15	1.62E-23	8.39E-24	4.56E-13	6.43E-18	1.38E-17	1.67E-23
213Po	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209Tl	0.00E+00	0.00E+00	0.00E+00	1.52E-13	0.00E+00	0.00E+00	0.00E+00
209Pb	1.74E-15	4.77E-24	2.47E-24	4.96E-16	3.55E-20	4.08E-18	4.94E-24
121mSn	9.21E-12	7.83E-29	5.33E-27	6.90E-13	2.65E-15	1.57E-14	9.02E-28
121Sn	4.16E-12	3.54E-29	2.41E-27	5.28E-14	9.08E-17	7.08E-15	4.07E-28



DandD Residential Scenario

DandD Version: 2.1.0

Run Date/Time: 5/13/2014 11:14:54 AM

Site Name: HBPP

Description: Residential discounted

FileName: C:\Users\MxEo\Desktop\soil.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 202

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Agricultural Pathway is ON

Drinking Water Pathway is ON

Irrigation Pathway is ON

Surface Water Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
55Fe	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 6.08E-04
129I	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 9.18E-12

Chain Data:

Number of chains: 2

Chain No. 1: 55Fe

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
55Fe	1	9.86E+02					1.64E-10	7.26E-10	0.00E+00	0.00E+00

Chain No. 2: 129I
Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
129I	1	5.73E+09					7.46E-08	4.69E-08	2.23E-12	5.98E-15

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Soil Concentration (pCi/g)
55Fe	6.08E-04
129I	9.18E-12

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
Tv(1):Translocation:Leafy	Translocation factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E+00
Tv(2):Translocation:Root	Translocation factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(3):Translocation:Fruit	Translocation factor for fruit	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(4):Translocation:Grain	Translocation factor for grain	CONSTANT(none)
Default value used		Value 1.00E-01
Tf(1):Translocation:Beef Forage	Translocation factor for forage consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(2):Translocation:Poultry Forage	Translocation factor for forage consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(3):Translocation:Milk Cow	Translocation factor for forage consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(4):Translocation:Layer Hen Forage	Translocation factor for forage consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E+00
Tg(1):Translocation:Beef Grain	Translocation factor for stored grain consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(2):Translocation:Poultry	Translocation factor for stored grain	

Grain	consumed by poultry	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
Tg(3):Translocation:Milk Cow Grain	Translocation factor for stored grain consumed by milk cows	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
Tg(4):Translocation:Layer Hen Grain	Translocation factor for stored grain consumed by layer hens	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
Th(1):Translocation:Beef Hay	Translocation factor for stored hay consumed by beef cattle	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
Th(2):Translocation:Poultry Hay	Translocation factor for stored hay consumed by poultry	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
Th(3):Translocation:Milk Cow Hay	Translocation factor for stored hay consumed by milk cows	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
Th(4):Translocation:Layer Hen Hay	Translocation factor for stored hay consumed by layer hens	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
fca(1):Beef Carbon Fraction	Mass fraction of beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 3.60E-01
fca(2):Poultry Carbon Fraction	Mass fraction of poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.80E-01
fca(3):Milk Carbon Fraction	Mass fraction of milk that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 6.00E-02
fca(4):Eggs Carbon Fraction	Mass fraction of an egg that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.60E-01
fcf(1):Beef Forage Carbon Fraction	Mass fraction of wet forage consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(2):Poultry Forage Carbon Fraction	Mass fraction of wet forage consumed by poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(3):Milk Cow Forage Carbon Fraction	Mass fraction of wet forage consumed by milk cows that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(4):Layer Hen Forage Carbon Fraction	Mass fraction of wet forage consumed by layer hens that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcg(1):Beef Grain Carbon Fraction	Mass fraction of wet stored grain consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(2):Poultry Grain	Mass fraction of wet stored grain	

Carbon Fraction	consumed by poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(3):Milk Cow Grain Carbon Fraction	Mass fraction of wet stored grain consumed by milk cows that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(4):Layer Hen Grain Carbon Fraction	Mass fraction of wet stored grain consumed by layer hens that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fch(1):Beef Hay Carbon Fraction	Mass fraction of wet stored hay consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 7.00E-02
fch(2):Poultry Hay Carbon Fraction	Mass fraction of wet stored hay consumed by poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 7.00E-02
fch(3):Milk Cow Hay Carbon Fraction	Mass fraction of wet stored hay consumed by milk cows that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 7.00E-02
fch(4):Layer Hen Hay Carbon Fraction	Mass fraction of wet stored hay consumed by layer hens that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 7.00E-02
fCd:Soil Carbon Fraction	Mass fraction of dry soil that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 3.00E-02
SATac:Animal Product Specific Activity	Specific activity equivalence of animal product and specific activity of animal feed, forage, and soil	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xf(1):Beef Forage Contaminated Fraction	Fraction of forage consumed by beef cattle that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xf(2):Poultry Forage Contaminated Fraction	Fraction of forage consumed by poultry that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xf(3):Milk Cow Forage Contaminated Fraction	Fraction of forage consumed by milk cows that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xf(4):Layer Hen Forage Contaminated Fraction	Fraction of forage consumed by layer hens that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xg(1):Beef Grain Contaminated Fraction	Fraction of stored grain consumed by beef cattle that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xg(2):Poultry Grain Contaminated Fraction	Fraction of stored grain consumed by poultry that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
xg(3):Milk Cow Grain Contaminated Fraction	Fraction of stored grain consumed by milk cows that is contaminated	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00

xg(4):Layer Hen Grain Contaminated Fraction	Fraction of stored grain that is consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xh(1):Beef Hay Contaminated Fraction	Fraction of stored hay consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xh(2):Poultry Hay Contaminated Fraction	Fraction of stored hay consumed by poultry that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xh(3):Milk Cow Hay Contaminated Fraction	Fraction of stored hay consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xh(4):Layer Hen Hay Contaminated Fraction	Fraction of stored hay consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(1):Beef Water Contaminated Fraction	Fraction of water that is consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(2):Poultry Water Contaminated Fraction	Fraction of water consumed by poultry that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(3):Milk Cow Water Contaminated Fraction	Fraction of water consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(4):Layer Hen Water Contaminated Fraction	Fraction of water consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
DIET:Garden Diet	Fraction of human diet grown onsite	CONSTANT(none)
Default value used		Value 1.00E+00
Uv(1):Diet - Leafy	Yearly human consumption of leafy vegetables	CONSTANT(kg/y)
Default value used		Value 2.14E+01
Uv(2):Diet - Roots	Yearly human consumption of other vegetables	CONSTANT(kg/y)
Default value used		Value 4.46E+01
Uv(3):Diet - Fruit	Yearly human consumption of fruits	CONSTANT(kg/y)
Default value used		Value 5.28E+01
Uv(4):Diet - Grain	Yearly human consumption of grains	CONSTANT(kg/y)
Default value used		Value 1.44E+01
Ua(1):Diet - Beef	Yearly human consumption of beef	CONSTANT(kg/y)
Default value used		Value 3.98E+01
Ua(2):Diet - Poultry	Yearly human consumption of poultry	CONSTANT(kg/y)
Default value used		Value 2.53E+01
Ua(3):Diet - Milk	Yearly human consumption of milk	CONSTANT(L/y)
Default value used		Value 2.33E+02
Ua(4):Diet - Egg	Yearly human consumption of eggs	CONSTANT(kg/y)
Default value used		Value 1.91E+01

Uf:Diet - Fish	Yearly human consumption of fish produced from an onsite pond	CONSTANT(kg/y)
Default value used		Value 2.06E+01
tf:Consumption Period	Consumption period for fish	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(1):Consumption Period - Leafy	Food consumption period for leafy vegetables	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(2):Consumption Period - Roots	Food consumption period for other vegetables	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(3):Consumption Period - Fruit	Food consumption period for fruits	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(4):Consumption Period - Grain	Food consumption period for grains	CONSTANT(days)
Default value used		Value 3.65E+02
tca(1):Consumption Period - Beef	Food consumption period for beef	CONSTANT(days)
Default value used		Value 3.65E+02
tca(2):Consumption Period - Poultry	Food consumption period for poultry	CONSTANT(days)
Default value used		Value 3.65E+02
tca(3):Consumption Period - Milk	Food consumption period for milk	CONSTANT(days)
Default value used		Value 3.65E+02
tca(4):Consumption Period - Egg	Food consumption period for eggs	CONSTANT(days)
Default value used		Value 3.65E+02
Nunsat:Number of Unsaturated Layers	Number of model layers used to represent the unsaturated zone	CONSTANT(none)
Default value used		Value 1.00E+01
TstartR:Start Time	The start time of the scenario in days	CONSTANT(days)
Default value used		Value 0.00E+00
TendR:End Time	The ending time of the scenario in days	CONSTANT(days)
Default value used		Value 3.65E+05
dtR:Time Step Size	The time step size	CONSTANT(days)
Default value used		Value 3.65E+02
PstepR:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
Default value used		Value 1.00E+00
TI:Indoor Exposure Period	The time the resident spends indoors	CONSTANT(days/year)
Default value used		Value 2.40E+02
TX:Outdoor Exposure Period	The time the resident spends outdoors	CONSTANT(days/year)
Default value used		Value 4.02E+01

TG:Gardening Period	The time the resident spends gardening	CONSTANT(days/year)
Default value used		Value 2.92E+00
TTR:Total time in period	Total time in the one year exposure period	CONSTANT(days/year)
Default value used		Value 3.65E+02
SFI:Indoor Shielding Factor	Shielding factor for the residence	CONSTANT(none)
Default value used		Value 5.52E-01
SFO:Outdoor Shielding Factor	Shielding factor for the cover soil	CONSTANT(none)
Default value used		Value 1.00E+00
PD:Floor dust loading	Floor dust loading	UNIFORM(g/m**2)
Default value used		Lower Limit 2.00E-02
		Upper Limit 3.00E-01
RFR:Indoor Resuspension Factor	Resuspension factor for indoor dust	LOGUNIFORM(1/m)
Default value used		Lower Limit 1.00E-07
		Upper Limit 8.00E-05
CDO:Outdoor Dust Loading	Average dust loading outdoors	LOGUNIFORM(g/m**3)
Default value used		Lower Limit 1.00E-07
		Upper Limit 1.00E-04
CDI:Indoor Dust Loading	Average dust loading indoors	DERIVED(g/m**3)
Default value used		
PF:Indoor/Outdoor Penetration Factor	Fraction of outdoor dust in indoor air	UNIFORM(none)
Default value used		Lower Limit 2.00E-01
		Upper Limit 7.00E-01
CDG:Gardening Dust Loading	Average dust loading while gardening	UNIFORM(g/m**3)
Default value used		Lower Limit 1.00E-04
		Upper Limit 7.00E-04
VR:Indoor Breathing Rate	Breathing rate while indoors	CONSTANT(m**3/hr)
Default value used		Value 9.00E-01
VX:Outdoor Breathing Rate	Breathing rate while outdoors	CONSTANT(m**3/hr)
Default value used		Value 1.40E+00
VG:Gardening Breathing Rate	Breathing rate while gardening	CONSTANT(m**3/hr)
Default value used		Value 1.70E+00
GR:Soil Ingestion Transfer Rate	Average rate of soil ingestion	CONSTANT(g/d)
Default value used		Value 5.00E-02
UW:Diet - Water	Drinking water ingestion rate	CONSTANT(L/d)
Default value used		Value 1.26E+00
H1:Surface Soil Thickness	Thickness of the surface soil layer	CONSTANT(m)
Default value used		Value 1.50E-01
H2:Unsaturated Zone Thickness	Thickness of the unsaturated zone	CONTINUOUS LINEAR(m)

Default value used

Value	Probability
-------	-------------

3.05E-01	0.00E+00
6.68E-01	4.76E-03
8.11E-01	9.52E-03
9.21E-01	1.43E-02
9.94E-01	1.91E-02
1.03E+00	2.38E-02
1.07E+00	2.86E-02
1.14E+00	3.33E-02
1.21E+00	3.81E-02
1.30E+00	4.29E-02
1.31E+00	4.76E-02
1.32E+00	5.24E-02
1.56E+00	5.71E-02
1.58E+00	6.19E-02
1.61E+00	6.67E-02
1.69E+00	7.62E-02
1.78E+00	8.57E-02
1.80E+00	9.05E-02
1.81E+00	9.52E-02
1.84E+00	1.00E-01
1.87E+00	1.05E-01
1.92E+00	1.10E-01
2.04E+00	1.14E-01
2.10E+00	1.19E-01
2.11E+00	1.24E-01
2.32E+00	1.29E-01
2.36E+00	1.33E-01
2.37E+00	1.38E-01
2.39E+00	1.43E-01
2.44E+00	1.48E-01
2.44E+00	1.52E-01
2.45E+00	1.57E-01
2.59E+00	1.62E-01
2.63E+00	1.67E-01
2.69E+00	1.71E-01
2.79E+00	1.76E-01
2.81E+00	1.81E-01
2.90E+00	1.86E-01
2.95E+00	1.91E-01
3.07E+00	1.95E-01
3.18E+00	2.00E-01
3.22E+00	2.05E-01
3.30E+00	2.10E-01
3.34E+00	2.14E-01
3.37E+00	2.19E-01
3.44E+00	2.24E-01
3.58E+00	2.29E-01
3.62E+00	2.33E-01
3.66E+00	2.38E-01
3.74E+00	2.43E-01
3.86E+00	2.48E-01
3.88E+00	2.52E-01
4.17E+00	2.57E-01
4.26E+00	2.62E-01
4.44E+00	2.71E-01
4.63E+00	2.76E-01
4.87E+00	2.81E-01
5.13E+00	2.86E-01
5.18E+00	2.91E-01
5.54E+00	2.95E-01

5.83E+00	3.00E-01
5.86E+00	3.05E-01
5.86E+00	3.10E-01
5.90E+00	3.14E-01
6.06E+00	3.19E-01
6.13E+00	3.24E-01
6.17E+00	3.29E-01
6.22E+00	3.33E-01
6.31E+00	3.38E-01
6.36E+00	3.43E-01
6.40E+00	3.48E-01
6.46E+00	3.52E-01
6.51E+00	3.57E-01
6.55E+00	3.62E-01
6.60E+00	3.67E-01
6.86E+00	3.71E-01
6.93E+00	3.76E-01
6.95E+00	3.86E-01
6.97E+00	3.91E-01
7.09E+00	3.95E-01
7.18E+00	4.00E-01
7.35E+00	4.05E-01
7.36E+00	4.10E-01
7.40E+00	4.14E-01
7.43E+00	4.19E-01
7.46E+00	4.24E-01
7.59E+00	4.29E-01
7.60E+00	4.33E-01
7.64E+00	4.38E-01
7.87E+00	4.43E-01
8.10E+00	4.48E-01
8.28E+00	4.52E-01
8.35E+00	4.57E-01
8.71E+00	4.62E-01
8.71E+00	4.67E-01
8.73E+00	4.71E-01
8.79E+00	4.76E-01
8.80E+00	4.81E-01
8.82E+00	4.86E-01
8.85E+00	4.91E-01
8.89E+00	4.95E-01
8.90E+00	5.00E-01
8.99E+00	5.05E-01
9.00E+00	5.10E-01
9.13E+00	5.14E-01
9.14E+00	5.19E-01
9.21E+00	5.24E-01
9.31E+00	5.29E-01
9.55E+00	5.33E-01
9.60E+00	5.38E-01
9.63E+00	5.43E-01
9.86E+00	5.48E-01
1.05E+01	5.52E-01
1.07E+01	5.57E-01
1.13E+01	5.62E-01
1.15E+01	5.67E-01
1.17E+01	5.71E-01
1.20E+01	5.76E-01
1.26E+01	5.81E-01
1.26E+01	5.86E-01
1.28E+01	5.91E-01

1.32E+01	5.95E-01
1.32E+01	6.00E-01
1.34E+01	6.05E-01
1.34E+01	6.10E-01
1.36E+01	6.14E-01
1.37E+01	6.19E-01
1.38E+01	6.24E-01
1.41E+01	6.29E-01
1.45E+01	6.33E-01
1.51E+01	6.38E-01
1.52E+01	6.43E-01
1.61E+01	6.48E-01
1.62E+01	6.52E-01
1.65E+01	6.57E-01
1.66E+01	6.62E-01
1.69E+01	6.67E-01
1.74E+01	6.71E-01
1.82E+01	6.76E-01
1.84E+01	6.81E-01
1.84E+01	6.86E-01
1.87E+01	6.91E-01
1.95E+01	6.95E-01
2.01E+01	7.00E-01
2.07E+01	7.05E-01
2.08E+01	7.10E-01
2.17E+01	7.14E-01
2.24E+01	7.19E-01
2.27E+01	7.24E-01
2.29E+01	7.29E-01
2.29E+01	7.33E-01
2.40E+01	7.38E-01
2.47E+01	7.43E-01
2.60E+01	7.48E-01
2.65E+01	7.52E-01
2.72E+01	7.57E-01
2.73E+01	7.62E-01
2.76E+01	7.67E-01
2.77E+01	7.71E-01
2.78E+01	7.76E-01
2.80E+01	7.81E-01
2.86E+01	7.86E-01
2.94E+01	7.91E-01
3.01E+01	7.95E-01
3.03E+01	8.00E-01
3.06E+01	8.10E-01
3.08E+01	8.14E-01
3.11E+01	8.19E-01
3.17E+01	8.24E-01
3.17E+01	8.29E-01
3.17E+01	8.33E-01
3.22E+01	8.38E-01
3.39E+01	8.43E-01
3.48E+01	8.48E-01
3.54E+01	8.52E-01
3.60E+01	8.57E-01
3.68E+01	8.62E-01
4.03E+01	8.67E-01
4.07E+01	8.71E-01
4.24E+01	8.76E-01
4.29E+01	8.81E-01
4.42E+01	8.86E-01

		4.72E+01	8.91E-01																										
		4.97E+01	8.95E-01																										
		5.12E+01	9.00E-01																										
		6.13E+01	9.05E-01																										
		6.19E+01	9.10E-01																										
		6.23E+01	9.14E-01																										
		6.32E+01	9.19E-01																										
		6.59E+01	9.24E-01																										
		6.73E+01	9.29E-01																										
		7.47E+01	9.33E-01																										
		7.92E+01	9.38E-01																										
		8.12E+01	9.43E-01																										
		8.28E+01	9.48E-01																										
		8.47E+01	9.52E-01																										
		8.96E+01	9.57E-01																										
		9.47E+01	9.62E-01																										
		1.08E+02	9.67E-01																										
		1.13E+02	9.71E-01																										
		1.15E+02	9.76E-01																										
		1.42E+02	9.81E-01																										
		1.77E+02	9.86E-01																										
		1.78E+02	9.91E-01																										
		1.80E+02	9.95E-01																										
		3.16E+02	1.00E+00																										
N1:Surface Soil Porosity	Porosity of the surface soil layer	DERIVED(none)																											
Default value used																													
N2:Unsaturated Zone Porosity	Porosity of the unsaturated zone	DERIVED(none)																											
Default value used																													
F1:Surface Soil Saturation	Saturation ratio of the surface soil layer	DERIVED(none)																											
Default value used																													
F2:Unsaturated Zone Saturation	Saturation ratio of the unsaturated zone	DERIVED(none)																											
Default value used																													
INFIL:Infiltration Rate	Net rate of infiltration to aquifer	DERIVED(m/y)																											
Default value used																													
SCSST:Soil Classification	SCS soil classification ID	DISCRETE CUMULATIVE(none)																											
Default value used		<table><tr><td>Value</td><td>Probability</td></tr><tr><td>1.00E+00</td><td>1.00E-04</td></tr><tr><td>2.00E+00</td><td>1.34E-03</td></tr><tr><td>3.00E+00</td><td>1.06E-02</td></tr><tr><td>4.00E+00</td><td>2.51E-02</td></tr><tr><td>5.00E+00</td><td>6.17E-02</td></tr><tr><td>6.00E+00</td><td>1.09E-01</td></tr><tr><td>7.00E+00</td><td>1.62E-01</td></tr><tr><td>8.00E+00</td><td>2.12E-01</td></tr><tr><td>9.00E+00</td><td>2.85E-01</td></tr><tr><td>1.00E+01</td><td>5.10E-01</td></tr><tr><td>1.10E+01</td><td>7.58E-01</td></tr><tr><td>1.20E+01</td><td>1.00E+00</td></tr></table>		Value	Probability	1.00E+00	1.00E-04	2.00E+00	1.34E-03	3.00E+00	1.06E-02	4.00E+00	2.51E-02	5.00E+00	6.17E-02	6.00E+00	1.09E-01	7.00E+00	1.62E-01	8.00E+00	2.12E-01	9.00E+00	2.85E-01	1.00E+01	5.10E-01	1.10E+01	7.58E-01	1.20E+01	1.00E+00
Value	Probability																												
1.00E+00	1.00E-04																												
2.00E+00	1.34E-03																												
3.00E+00	1.06E-02																												
4.00E+00	2.51E-02																												
5.00E+00	6.17E-02																												
6.00E+00	1.09E-01																												
7.00E+00	1.62E-01																												
8.00E+00	2.12E-01																												
9.00E+00	2.85E-01																												
1.00E+01	5.10E-01																												
1.10E+01	7.58E-01																												
1.20E+01	1.00E+00																												
NDEV:Porosity Probability	Relative porosity value within the distribution for this soil type	UNIFORM(none)																											
Default value used		<table><tr><td>Lower Limit</td><td>0.00E+00</td></tr><tr><td>Upper Limit</td><td>1.00E+00</td></tr></table>		Lower Limit	0.00E+00	Upper Limit	1.00E+00																						
Lower Limit	0.00E+00																												
Upper Limit	1.00E+00																												
KSDEV:Permeability Probability	Relative permeability value within the distribution for this soil type	UNIFORM(none)																											

Default value used		Lower Limit	0.00E+00
		Upper Limit	1.00E+00
BDEV:Parameter "b" Probability	Relative value of "b" parameter within the distribution for this soil type	UNIFORM(none)	
Default value used		Lower Limit	0.00E+00
		Upper Limit	1.00E+00
AP:Water Application Rate	Total water application rate on cultivated area	CONTINUOUS LINEAR(m/y)	
Default value used		Value	Probability
		6.07E-01	0.00E+00
		6.10E-01	4.62E-01
		6.35E-01	4.76E-01
		7.62E-01	5.40E-01
		8.89E-01	6.29E-01
		1.02E+00	7.05E-01
		1.14E+00	8.04E-01
		1.27E+00	8.79E-01
		1.40E+00	9.41E-01
		1.52E+00	9.82E-01
		1.65E+00	9.98E-01
		1.78E+00	1.00E+00
IR:Irrigation Rate	Annual average irrigation rate	CONSTANT(L/m**2-d)	
Default value used		Value	1.29E+00
RHO1:Surface Soil Density	Bulk density of soil in the surface soil layer	DERIVED(g/mL)	
Default value used			
RHO2:Unsaturated Zone Density	Bulk density of soil in the unsaturated zone	DERIVED(g/mL)	
Default value used			
Ksat1:Surface Soil Permeability	Saturated permeability of the surface soil layer	DERIVED(cm/sec)	
Default value used			
VDR:Volume of Water Consumed	Volume of water withdrawn for consumptive use	CONSTANT(L)	
Default value used		Value	1.18E+05
VSW:Volume of Water in Pond	Volume of water in the pond	CONSTANT(L)	
Default value used		Value	1.30E+06
AR:Cultivated Area	Area of land cultivated	DERIVED(m**2)	
Default value used			
sh:Soil Moisture Content	Moisture content of soil	DERIVED(none)	
Default value used			
TTG:Gardening Period	Total time in gardening period	CONSTANT(days)	
Default value used		Value	9.00E+01
TD:Drinking-water consumption period	Drinking-water consumption period	CONSTANT(days)	
Default value used		Value	3.65E+02
THV(1):Holdup Period : Leafy	Holdup period for leafy vegetables	CONSTANT(days)	
Default value used		Value	1.00E+00

THV(2):Holdup Period : Other vegetables	Holdup period for other vegetables	CONSTANT(days)
Default value used		<u>Value</u> 1.40E+01
THV(3):Holdup Period : Fruits	Holdup period for fruits	CONSTANT(days)
Default value used		<u>Value</u> 1.40E+01
THV(4):Holdup Period : Grains	Holdup period for grains	CONSTANT(days)
Default value used		<u>Value</u> 1.40E+01
THA(1):Holdup Period : Beef	Holdup period for beef	CONSTANT(days)
Default value used		<u>Value</u> 2.00E+01
THA(2):Holdup Period : Poultry	Holdup period for poultry	CONSTANT(days)
Default value used		<u>Value</u> 1.00E+00
THA(3):Holdup Period : Milk	Holdup period for milk	CONSTANT(days)
Default value used		<u>Value</u> 1.00E+00
THA(4):Holdup Period : Eggs	Holdup period for eggs	CONSTANT(days)
Default value used		<u>Value</u> 1.00E+00
TGV(1):Growing Period : Leafy	Minimum growing period for leafy vegetables	CONSTANT(days)
Default value used		<u>Value</u> 4.50E+01
TGV(2):Growing Period : Other vegetables	Minimum growing period for other vegetables	CONSTANT(days)
Default value used		<u>Value</u> 9.00E+01
TGV(3):Growing Period : Fruits	Minimum growing period for fruits	CONSTANT(days)
Default value used		<u>Value</u> 9.00E+01
TGV(4):Growing Period : Grains	Minimum growing period for grains	CONSTANT(days)
Default value used		<u>Value</u> 9.00E+01
TGF(1):Growing Period : Beef Forage	Minimum growing period for forage consumed by beef cattle	CONSTANT(days)
Default value used		<u>Value</u> 3.00E+01
TGF(2):Growing Period : Poultry Forage	Minimum growing period for forage consumed by poultry	DERIVED(days)
Default value used		
TGF(3):Growing Period : Milk Cow Forage	Minimum growing period for forage consumed by milk cows	DERIVED(days)
Default value used		
TGF(4):Growing Period : Layer Hen Forage	Minimum growing period for forage consumed by layer hens	DERIVED(days)
Default value used		
TGG(1):Growing Period : Beef Cow Grain	Minimum growing period for stored grain consumed by beef cattle	CONSTANT(days)
Default value used		<u>Value</u> 9.00E+01

TGG(2):Growing Period : Poultry Grain	Minimum growing period for stored grain consumed by poultry	DERIVED(days)
Default value used		
TGG(3):Growing Period : Milk Cow Grain	Minimum growing period for stored grain consumed by milk cows	DERIVED(days)
Default value used		
TGG(4):Growing Period : Layer Hen Grain	Minimum growing period for stored grain consumed by layer hens	DERIVED(days)
Default value used		
TGH(1):Growing Period : Beef Cow Hay	Minimum growing period for stored hay consumed by beef cattle	CONSTANT(days)
Default value used		Value 4.50E+01
TGH(2):Growing Period : Poultry Hay	Minimum growing period for stored hay consumed by poultry	DERIVED(days)
Default value used		
TGH(3):Growing Period : Milk Cow Hay	Minimum growing period for stored hay consumed by milk cows	DERIVED(days)
Default value used		
TGH(4):Growing Period : Layer Hen Hay	Minimum growing period for stored hay consumed by layer hens	DERIVED(days)
Default value used		
RV(1):Interception Fraction : Leafy	Interception fraction for leafy vegetables	UNIFORM(none)
Default value used		Lower Limit 1.00E-01 Upper Limit 6.00E-01
RV(2):Interception Fraction : Other vegetables	Interception fraction for other vegetables	UNIFORM(none)
Default value used		Lower Limit 1.00E-01 Upper Limit 6.00E-01
RV(3):Interception Fraction : Fruits	Interception fraction for fruits	UNIFORM(none)
Default value used		Lower Limit 1.00E-01 Upper Limit 6.00E-01
RV(4):Interception Fraction : Grains	Interception fraction for grains	UNIFORM(none)
Default value used		Lower Limit 1.00E-01 Upper Limit 6.00E-01
RF(1):Interception Fraction : Beef Forage	Interception fraction for beef cattle forage	UNIFORM(none)
Default value used		Lower Limit 1.00E-01 Upper Limit 6.00E-01
RF(2):Interception Fraction : Poultry forage	Interception fraction for poultry forage	DERIVED(none)
Default value used		
RF(3):Interception Fraction : Milk Cow Forage	Interception fraction for milk cow forage	DERIVED(none)
Default value used		
RF(4):Interception Fraction : Layer Hen Forage	Interception fraction for layer hen forage	DERIVED(none)

Default value used		
RG(1):Interception Fraction : Beef Cow Grain	Interception fraction for beef cattle grain	UNIFORM(none)
Default value used		<div>Lower Limit1.00E-01</div> <div>Upper Limit6.00E-01</div>
RG(2):Interception Fraction : Poultry Grain	Interception fraction for poultry grain	DERIVED(none)
Default value used		
RG(3):Interception Fraction : Milk Cow Grain	Interception fraction for milk cow grain	DERIVED(none)
Default value used		
RG(4):Interception Fraction : Layer Hen Grain	Interception fraction for layer hen grain	DERIVED(none)
Default value used		
RH(1):Interception Fraction : Beef Cow Hay	Interception fraction for beef cattle hay	DERIVED(none)
Default value used		
RH(2):Interception Fraction : Poultry Hay	Interception fraction for poultry hay	DERIVED(none)
Default value used		
RH(3):Interception Fraction : Milk Cow Hay	Interception fraction for milk cow hay	DERIVED(none)
Default value used		
RH(4):Interception Fraction : Layer Hen Hay	Interception fraction for layer hen hay	DERIVED(none)
Default value used		
YV(1):Crop Yield : Leafy	Crop yield for leafy vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)
Default value used		<div>ValueProbability</div> <div>2.70E+000.00E+00</div> <div>2.71E+001.60E-03</div> <div>2.74E+006.00E-03</div> <div>2.76E+001.76E-02</div> <div>2.78E+004.36E-02</div> <div>2.80E+008.48E-02</div> <div>2.82E+001.56E-01</div> <div>2.85E+002.57E-01</div> <div>2.87E+003.64E-01</div> <div>2.89E+005.00E-01</div> <div>2.91E+006.39E-01</div> <div>2.93E+007.46E-01</div> <div>2.96E+008.42E-01</div> <div>2.98E+009.09E-01</div> <div>3.00E+009.60E-01</div> <div>3.02E+009.84E-01</div> <div>3.04E+009.94E-01</div> <div>3.07E+009.97E-01</div> <div>3.09E+009.99E-01</div> <div>3.11E+001.00E+00</div> <div>3.13E+001.00E+00</div> <div>3.15E+001.00E+00</div>
YV(2):Crop Yield : Other	Crop yield for other vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)
Default value used		<div>ValueProbability</div> <div>2.26E+000.00E+00</div>

		2.29E+00	8.00E-04
		2.30E+00	1.20E-03
		2.31E+00	6.40E-03
		2.33E+00	1.52E-02
		2.34E+00	3.28E-02
		2.35E+00	7.44E-02
		2.36E+00	1.40E-01
		2.38E+00	2.49E-01
		2.39E+00	3.80E-01
		2.40E+00	5.30E-01
		2.42E+00	6.61E-01
		2.43E+00	7.88E-01
		2.44E+00	8.86E-01
		2.45E+00	9.42E-01
		2.47E+00	9.75E-01
		2.48E+00	9.88E-01
		2.49E+00	9.96E-01
		2.51E+00	9.97E-01
		2.52E+00	9.99E-01
		2.53E+00	1.00E+00
		2.54E+00	1.00E+00
YV(3):Crop Yield : Fruits	Crop yield for fruits	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.17E+00	0.00E+00
		2.20E+00	1.20E-03
		2.21E+00	2.40E-03
		2.23E+00	6.80E-03
		2.25E+00	1.80E-02
		2.27E+00	4.36E-02
		2.29E+00	7.64E-02
		2.31E+00	1.38E-01
		2.32E+00	2.14E-01
		2.34E+00	3.27E-01
		2.36E+00	4.50E-01
		2.38E+00	5.76E-01
		2.40E+00	6.87E-01
		2.42E+00	7.88E-01
		2.43E+00	8.68E-01
		2.45E+00	9.25E-01
		2.47E+00	9.60E-01
		2.49E+00	9.81E-01
		2.51E+00	9.92E-01
		2.53E+00	9.98E-01
		2.54E+00	1.00E+00
		2.56E+00	1.00E+00
YV(4):Crop Yield : Grains	Crop yield for grains	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.85E-01	0.00E+00
		2.90E-01	6.00E-04
		3.02E-01	2.80E-03
		3.14E-01	9.40E-03
		3.26E-01	2.14E-02
		3.38E-01	5.42E-02
		3.50E-01	1.08E-01
		3.62E-01	2.02E-01
		3.74E-01	3.15E-01
		3.86E-01	4.50E-01
		3.98E-01	5.92E-01
		4.10E-01	7.20E-01
		4.23E-01	8.26E-01

		4.35E-01	9.03E-01
		4.47E-01	9.51E-01
		4.59E-01	9.77E-01
		4.71E-01	9.91E-01
		4.83E-01	9.96E-01
		4.95E-01	9.99E-01
		5.07E-01	1.00E+00
		5.19E-01	1.00E+00
		5.31E-01	1.00E+00
YF(1):Crop Yield : Beef Forage	Crop yield for beef cattle forage	BETA(kg dry wt forage/m**2)	
<u>Default value used</u>		<u>Lower Limit</u>	3.70E-01
		<u>Upper Limit</u>	5.24E-01
		<u>p</u>	2.36E+00
		<u>q</u>	1.40E+00
YF(2):Crop Yield : Poultry Forage	Crop yield for poultry forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(3):Crop Yield : Milk Cow Forage	Crop yield for milk cow forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(4):Crop Yield : Layer Hen Forage	Crop yield for layer hen forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YG(1):Crop Yield : Beef Cow Grain	Crop yield for beef cattle grain	NORMAL(kg dry wt grain /m**2)	
<u>Default value used</u>		<u>Mean</u>	5.78E-01
		<u>Standard Deviation</u>	7.77E-02
YG(2):Crop Yield : Poultry Grain	Crop yield for poultry grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YG(3):Crop Yield : Milk Cow Grain	Crop yield for milk cow grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YG(4):Crop Yield : Layer Hen Grain	Crop yield for layer hen grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YH(1):Crop Yield : Beef Cow Hay	Crop yield for beef cattle hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(2):Crop Yield : Poultry Hay	Crop yield for poultry hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(3):Crop Yield : Milk Cow Hay	Crop yield for milk cow hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(4):Crop Yield : Layer Hen Hay	Crop yield for layer hen hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
WV(1):Wet/dry : Leafy Vegetables	Wet/dry conversion factor for leafy vegetables	CONTINUOUS LINEAR(none)	

Default value used

Value Probability

3.32E-02	0.00E+00
4.89E-02	3.45E-02
5.47E-02	6.91E-02
5.96E-02	1.04E-01
6.36E-02	1.38E-01
6.70E-02	1.73E-01
7.05E-02	2.07E-01
7.38E-02	2.42E-01
7.48E-02	2.50E-01
7.72E-02	2.76E-01
8.03E-02	3.11E-01
8.34E-02	3.45E-01
8.66E-02	3.80E-01
9.00E-02	4.15E-01
9.36E-02	4.49E-01
9.73E-02	4.84E-01
9.91E-02	4.99E-01
1.01E-01	5.18E-01
1.05E-01	5.53E-01
1.09E-01	5.87E-01
1.13E-01	6.22E-01
1.18E-01	6.56E-01
1.23E-01	6.91E-01
1.29E-01	7.25E-01
1.33E-01	7.50E-01
1.35E-01	7.60E-01
1.42E-01	7.94E-01
1.50E-01	8.29E-01
1.59E-01	8.64E-01
1.70E-01	8.98E-01
1.85E-01	9.33E-01
2.10E-01	9.67E-01
2.56E-01	9.91E-01
3.24E-01	1.00E+00

WV(2):Wet/dry : Other Vegetables

Wet/dry conversion factor for other vegetables

CONTINUOUS LINEAR(none)

Default value used

Value Probability

3.58E-02	0.00E+00
4.87E-02	3.45E-02
5.46E-02	6.91E-02
5.90E-02	1.04E-01
6.29E-02	1.38E-01
6.69E-02	1.73E-01
7.02E-02	2.07E-01
7.34E-02	2.42E-01
7.41E-02	2.50E-01
7.65E-02	2.76E-01
7.99E-02	3.11E-01
8.32E-02	3.45E-01
8.66E-02	3.80E-01
9.05E-02	4.15E-01
9.41E-02	4.49E-01
9.82E-02	4.84E-01
9.98E-02	4.99E-01
1.02E-01	5.18E-01
1.06E-01	5.53E-01
1.09E-01	5.87E-01
1.14E-01	6.22E-01
1.19E-01	6.56E-01

		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.33E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.50E-01	8.29E-01
		1.59E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.12E-01	9.67E-01
		2.62E-01	9.91E-01
		3.13E-01	1.00E+00
WV(3):Wet/dry : Fruit	Wet/dry conversion factor for fruits	CONTINUOUS LINEAR(none)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		3.66E-02	0.00E+00
		4.87E-02	3.45E-02
		5.45E-02	6.91E-02
		5.93E-02	1.04E-01
		6.31E-02	1.38E-01
		6.72E-02	1.73E-01
		7.10E-02	2.07E-01
		7.44E-02	2.42E-01
		7.52E-02	2.50E-01
		7.78E-02	2.76E-01
		8.13E-02	3.11E-01
		8.45E-02	3.45E-01
		8.78E-02	3.80E-01
		9.11E-02	4.15E-01
		9.46E-02	4.49E-01
		9.82E-02	4.84E-01
		9.97E-02	4.99E-01
		1.02E-01	5.18E-01
		1.06E-01	5.53E-01
		1.10E-01	5.87E-01
		1.14E-01	6.22E-01
		1.19E-01	6.56E-01
		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.34E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.49E-01	8.29E-01
		1.58E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.14E-01	9.67E-01
		2.58E-01	9.91E-01
		3.25E-01	1.00E+00
WV(4):Wet/dry : Grain	Wet/dry conversion factor for grains	CONSTANT(none)	
<u>Default value used</u>		<u>Value</u>	8.80E-01
WF(1):Wet/dry : Beef Cow Forage	Wet/dry conversion factor for beef cattle forage	BETA(none)	
<u>Default value used</u>		<u>Lower Limit</u>	1.83E-01
		<u>Upper Limit</u>	3.23E-01
		<u>p</u>	1.15E+00
		<u>q</u>	1.18E+00
WF(2):Wet/dry : Poultry Forage	Wet/dry conversion factor for poultry forage	DERIVED(none)	

Default value used		
WF(3):Wet/dry : Milk Cow Forage	Wet/dry conversion factor for milk cow forage	DERIVED(none)
Default value used		
WF(4):Wet/dry : Layer Hen Forage	Wet/dry conversion factor for layer hen forage	DERIVED(none)
Default value used		
WG(1):Wet/dry : Beef Cow Grain	Wet/dry conversion factor for beef cattle grain	CONSTANT(none)
Default value used		Value 8.80E-01
WG(2):Wet/dry : Poultry Grain	Wet/dry conversion factor for poultry grain	DERIVED(none)
Default value used		
WG(3):Wet/dry : Milk Cow Grain	Wet/dry conversion factor for milk cow grain	DERIVED(none)
Default value used		
WG(4):Wet/dry : Layer Hen Grain	Wet/dry conversion factor for layer hen grain	DERIVED(none)
Default value used		
WH(1):Wet/dry : Beef Cow Hay	Wet/dry conversion factor for beef cattle hay	DERIVED(none)
Default value used		
WH(2):Wet/dry : Poultry Hay	Wet/dry conversion factor for poultry hay	DERIVED(none)
Default value used		
WH(3):Wet/dry : Milk Cow Hay	Wet/dry conversion factor for milk cow hay	DERIVED(none)
Default value used		
WH(4):Wet/dry : Layer Hen Hay	Wet/dry conversion factor for layer hen hay	DERIVED(none)
Default value used		
QF(1):Ingestion Rate : Beef Cow Forage	Ingestion rate for beef cattle forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 1.69E+00
		Upper Limit 2.29E+00
		p 1.99E+00
		q 9.11E-01
QF(2):Ingestion Rate : Poultry Forage	Ingestion rate for poultry forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 3.48E-03
		Upper Limit 2.82E-02
		p 1.51E+00
		q 1.41E+00
QF(3):Ingestion Rate : Milk Cow Forage	Ingestion rate for milk cow forage	CONTINUOUS LINEAR(kg dry wt forage/d)
Default value used		Value Probability
		6.35E+00 0.00E+00
		6.77E+00 3.45E-02
		6.96E+00 6.91E-02
		7.10E+00 1.04E-01
		7.24E+00 1.38E-01

		7.35E+00	1.73E-01
		7.47E+00	2.07E-01
		7.57E+00	2.42E-01
		7.60E+00	2.50E-01
		7.67E+00	2.76E-01
		7.77E+00	3.11E-01
		7.87E+00	3.45E-01
		7.98E+00	3.80E-01
		8.08E+00	4.15E-01
		8.18E+00	4.49E-01
		8.31E+00	4.84E-01
		8.37E+00	4.99E-01
		8.42E+00	5.18E-01
		8.54E+00	5.53E-01
		8.67E+00	5.87E-01
		8.81E+00	6.22E-01
		8.95E+00	6.56E-01
		9.10E+00	6.91E-01
		9.26E+00	7.25E-01
		9.38E+00	7.50E-01
		9.45E+00	7.60E-01
		9.68E+00	7.94E-01
		9.93E+00	8.29E-01
		1.02E+01	8.64E-01
		1.06E+01	8.98E-01
		1.11E+01	9.33E-01
		1.20E+01	9.67E-01
		1.33E+01	9.91E-01
		1.53E+01	1.00E+00
QF(4):Ingestion Rate : Layer Hen Forage	Ingestion rate for layer hen forage	BETA(kg dry wt forage/d)	
Default value used		<u>Lower Limit</u>	1.19E-02
		<u>Upper Limit</u>	2.22E-02
		<u>p</u>	1.45E+00
		<u>q</u>	7.92E-01
QG(1):Ingestion Rate : Beef Cattle Grain	Ingestion rate for beef cattle grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	1.69E+00
		<u>Upper Limit</u>	2.29E+00
		<u>p</u>	1.99E+00
		<u>q</u>	9.11E-01
QG(2):Ingestion Rate : Poultry Grain	Ingestion rate for poultry grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	1.04E-02
		<u>Upper Limit</u>	8.45E-02
		<u>p</u>	1.51E+00
		<u>q</u>	1.41E+00
QG(3):Ingestion Rate : Milk Cow Grain	Ingestion rate for milk cow grain	NORMAL(kg dry wt grain/d)	
Default value used		<u>Mean</u>	1.71E+00
		<u>Standard Deviation</u>	2.62E-01
QG(4):Ingestion Rate : Layer Hen Grain	Ingestion rate for layer hen grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	3.58E-02
		<u>Upper Limit</u>	6.67E-02
		<u>p</u>	1.43E+00
		<u>q</u>	7.92E-01

QH(1):Ingestion Rate : Beef Cattle Hay	Ingestion rate for beef cattle hay	BETA(kg dry wt hay/d)
Default value used		<u>Lower Limit</u> 3.38E+00
		<u>Upper Limit</u> 4.58E+00
		<u>p</u> 1.99E+00
		<u>q</u> 9.11E-01
QH(2):Ingestion Rate : Poultry Hay	Ingestion rate for poultry hay	CONSTANT(kg dry wt hay/d)
Default value used		<u>Value</u> 0.00E+00
QH(3):Ingestion Rate : Milk Cow Hay	Ingestion rate for milk cow hay	CONTINUOUS LINEAR(kg dry wt hay/d)
Default value used		<u>Value</u> <u>Probability</u>
		5.12E+00 0.00E+00
		5.43E+00 3.45E-02
		5.57E+00 6.91E-02
		5.68E+00 1.04E-01
		5.79E+00 1.38E-01
		5.89E+00 1.73E-01
		5.98E+00 2.07E-01
		6.06E+00 2.42E-01
		6.08E+00 2.50E-01
		6.14E+00 2.76E-01
		6.22E+00 3.11E-01
		6.30E+00 3.45E-01
		6.38E+00 3.80E-01
		6.46E+00 4.15E-01
		6.54E+00 4.49E-01
		6.63E+00 4.84E-01
		6.67E+00 4.99E-01
		6.72E+00 5.18E-01
		6.81E+00 5.53E-01
		6.92E+00 5.87E-01
		7.03E+00 6.22E-01
		7.13E+00 6.56E-01
		7.26E+00 6.91E-01
		7.39E+00 7.25E-01
		7.49E+00 7.50E-01
		7.56E+00 7.60E-01
		7.70E+00 7.94E-01
		7.89E+00 8.29E-01
		8.11E+00 8.64E-01
		8.39E+00 8.98E-01
		8.75E+00 9.33E-01
		9.44E+00 9.67E-01
		1.05E+01 9.91E-01
		1.27E+01 1.00E+00
QH(4):Ingestion Rate : Layer Hen Hay	Ingestion rate for layer hen hay	CONSTANT(kg dry wt hay/d)
Default value used		<u>Value</u> 0.00E+00
QW(1):Water Rate : Beef Cattle	Water ingestion rate for beef cattle	CONSTANT(L/d)
Default value used		<u>Value</u> 5.00E+01
QW(2):Water Rate : Poultry	Water ingestion rate for poultry	CONSTANT(L/d)
Default value used		<u>Value</u> 3.00E-01
QW(3):Water Rate : Milk		

Cows	Water ingestion rate for milk cows	CONSTANT(L/d)
Default value used		Value 6.00E+01
QW(4):Water Rate : Layer Hens	Water ingestion rate for layer hens	CONSTANT(L/d)
Default value used		Value 3.00E-01
QD(1):Soil Fraction : Beef Cattle	Soil intake fraction for beef cattle	CONSTANT(none)
Default value used		Value 2.00E-02
QD(2):Soil Fraction : Poultry	Soil intake fraction for poultry	CONSTANT(none)
Default value used		Value 1.00E-01
QD(3):Soil Fraction : Milk Cows	Soil intake fraction for milk cows	CONSTANT(none)
Default value used		Value 2.00E-02
QD(4):Soil Fraction : Layer Hens	Soil intake fraction for layer hens	CONSTANT(none)
Default value used		Value 1.00E-01
MLV(1):Mass-Loading : Leafy Vegetables	Mass-loading factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
MLV(2):Mass-Loading : Other Vegetables	Mass-loading factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
MLV(3):Mass-Loading : Fruits	Mass-loading factor for fruits	CONSTANT(none)
Default value used		Value 1.00E-01
MLV(4):Mass-Loading : Grains	Mass-loading factor for grains	CONSTANT(none)
Default value used		Value 1.00E-01
LAMBDW:Weathering Rate	Weathering rate for activity removal from plants	CONSTANT(1/d)
Default value used		Value 4.95E-02
MLF(1):Mass-Loading : Beef Cow Forage	Mass-loading factor for beef cattle forage	CONSTANT(none)
Default value used		Value 1.00E-01
MLF(2):Mass-Loading : Poultry Forage	Mass-loading factor for poultry forage	CONSTANT(none)
Default value used		Value 1.00E-01
MLF(3):Mass-Loading : Milk Cow Forage	Mass-loading factor for milk cow forage	CONSTANT(none)
Default value used		Value 1.00E-01
MLF(4):Mass-Loading : Layer Hen Forage	Mass-loading factor for layer hen forage	CONSTANT(none)
Default value used		Value 1.00E-01
MLG(1):Mass-Loading : Beef Cattle Grain	Mass-loading factor for beef cattle grain	CONSTANT(none)
Default value used		Value 1.00E-01

MLG(2):Mass-Loading : Poultry Grain	Mass-loading factor for poultry grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLG(3):Mass-Loading : Milk Cow Grain	Mass-loading factor for milk cow grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLG(4):Mass-Loading : Layer Hen Grain	Mass-loading factor for layer hen grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(1):Mass-Loading : Beef Cattle Hay	Mass-loading factor for beef cattle hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(2):Mass-Loading : Poultry Hay	Mass-loading factor for poultry hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(3):Mass-Loading : Milk Cow Hay	Mass-loading factor for milk cow hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(4):Mass-Loading : Layer Hen Hay	Mass-loading factor for layer hen hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
TFF(1):Feeding Period : Beef Cow Forage	Feeding period for beef cattle forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(2):Feeding Period : Poultry Forage	Feeding period for poultry forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(3):Feeding Period : Milk Cow Forage	Feeding period for milk cow forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(4):Feeding Period : Layer Hen Forage	Feeding period for layer hen forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(1):Feeding Period : Beef Cattle Grain	Feeding period for beef cattle grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(2):Feeding Period : Poultry Grain	Feeding period for poultry grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(3):Feeding Period : Milk Cow Grain	Feeding period for milk cow grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(4):Feeding Period : Layer Hen Grain	Feeding period for layer hen grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFH(1):Feeding Period : Beef Cattle Hay	Feeding period for beef cattle hay	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02

TFH(2):Feeding Period : Poultry Hay	Feeding period for poultry hay	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFH(3):Feeding Period : Milk Cow Hay	Feeding period for milk cow hay	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFH(4):Feeding Period : Layer Hen Hay	Feeding period for layer hen hay	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFW(1):Water Period : Beef Cattle	Water ingestion period for beef cattle	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFW(2):Water Period : Poultry	Water ingestion period for poultry	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFW(3):Water Period : Milk Cows	Water ingestion period for milk cows	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFW(4):Water Period : Layer Hens	Water ingestion period for layer hens	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
fha(1):Hydrogen Fraction : Beef Cattle	Hydrogen fraction for beef cattle	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fha(2):Hydrogen Fraction : Poultry	Hydrogen fraction for poultry	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fha(3):Hydrogen Fraction : Milk Cows	Hydrogen fraction for milk cows	CONSTANT(none)
Default value used		<u>Value</u> 1.10E-01
fha(4):Hydrogen Fraction : Eggs	Hydrogen fraction for eggs	CONSTANT(none)
Default value used		<u>Value</u> 1.10E-01
fhv(1):Hydrogen Fraction : Leafy Vegetables	Hydrogen fraction for leafy vegetables	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(2):Hydrogen Fraction : Other Vegetables	Hydrogen fraction for other vegetables	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(3):Hydrogen Fraction : Fruits	Hydrogen fraction for fruits	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(4):Hydrogen Fraction : Grains	Hydrogen fraction for grains	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhf(1):Hydrogen Fraction : Beef Cow Forage	Hydrogen fraction for beef cattle forage	CONSTANT(none)

Default value used		Value	1.00E-01
fhf(2):Hydrogen Fraction : Poultry Forage	Hydrogen fraction for poultry forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhf(3):Hydrogen Fraction : Milk Cow Forage	Hydrogen fraction for milk cow forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhf(4):Hydrogen Fraction : Layer Hen Forage	Hydrogen fraction for layer hen forage	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(1):Hydrogen Fraction : Beef Cattle Hay	Hydrogen fraction for beef cattle hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(2):Hydrogen Fraction : Poultry Hay	Hydrogen fraction for poultry hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(3):Hydrogen Fraction : Milk Cow Hay	Hydrogen fraction for milk cow hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhh(4):Hydrogen Fraction : Layer Hen Hay	Hydrogen fraction for layer hen hay	CONSTANT(none)	
Default value used		Value	1.00E-01
fhg(1):Hydrogen Fraction : Beef Cattle Grain	Hydrogen fraction for beef cattle grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(2):Hydrogen Fraction : Poultry Grain	Hydrogen fraction for poultry grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(3):Hydrogen Fraction : Milk Cow Grain	Hydrogen fraction for milk cow grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhg(4):Hydrogen Fraction : Layer Hen Grain	Hydrogen fraction for layer hen grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhd016:Hydrogen Fraction : Soil	Fraction of hydrogen in soil	DERIVED(none)	
Default value used			
sasvh:Tritium Equivalence: Plant/Soil	Tritium equivalence: plant/soil	CONSTANT(none)	
Default value used		Value	1.00E+00
sawvh:Tritium Equivalence: Plant/Water	Tritium equivalence: plant/water	CONSTANT(none)	
Default value used		Value	1.00E+00
satah:Tritium Equivalence: Animal Products	Tritium equivalence: animal product intake	CONSTANT(none)	
Default value used		Value	1.00E+00
YA(1):Animal Product Yield : Beef Cattle	Annual yield of beef per individual animal	CONSTANT(kg/y)	

<u>Default value used</u>		<u>Value</u> 2.09E+02
YA(2):Animal Product Yield : Poultry	Annual yield of chicken per individual animal	CONSTANT(kg/y)
<u>Default value used</u>		<u>Value</u> 1.53E+00
YA(3):Animal Product Yield : Milk Cows	Annual yield of milk per individual animal	CONSTANT(L/y)
<u>Default value used</u>		<u>Value</u> 7.41E+03
YA(4):Animal Product Yield : Layer Hens	Annual yield of eggs per individual animal	CONSTANT(kg/y)
<u>Default value used</u>		<u>Value</u> 1.26E+01
ARExt:External Exposure Area	Minimum surface area to which resident is exposed via external radiation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARInh:Inhalation Exposure Area	Minimum surface area to which resident is exposed via inhalation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARIng:Secondary Ingestion Exposure Area	Minimum surface area to which resident is exposed via secondary ingestion during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARAgr:Agricultural Exposure Area	Minimum surface area to which resident is exposed via any agricultural product during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARH2O:Groundwater Exposure Area	Minimum surface area to which resident is exposed via groundwater during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARAll:Exposure Area	Minimum surface area to which resident is exposed via any pathway during the residential period	DERIVED(m**2)
<u>Default value used</u>		

Element Dependant Parameters

Parameter Name	Description	Distribution	
Fe:Coefficient	Partition coefficient for Fe	CONTINUOUS LINEAR(Log10(mL/g))	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		-1.11E+00	0.00E+00
		9.49E-01	3.45E-02
		1.35E+00	6.91E-02
		1.62E+00	1.04E-01
		1.80E+00	1.38E-01
		1.94E+00	1.73E-01
		2.07E+00	2.07E-01
		2.17E+00	2.42E-01
		2.20E+00	2.50E-01
		2.26E+00	2.76E-01

		2.35E+00	3.11E-01
		2.43E+00	3.45E-01
		2.50E+00	3.80E-01
		2.57E+00	4.15E-01
		2.64E+00	4.49E-01
		2.70E+00	4.84E-01
		2.73E+00	4.99E-01
		2.76E+00	5.18E-01
		2.82E+00	5.53E-01
		2.87E+00	5.87E-01
		2.93E+00	6.22E-01
		2.99E+00	6.56E-01
		3.05E+00	6.91E-01
		3.11E+00	7.25E-01
		3.15E+00	7.50E-01
		3.17E+00	7.60E-01
		3.23E+00	7.94E-01
		3.29E+00	8.29E-01
		3.36E+00	8.64E-01
		3.45E+00	8.98E-01
		3.55E+00	9.33E-01
		3.69E+00	9.67E-01
		3.89E+00	9.91E-01
		4.14E+00	1.00E+00
I:Coefficient	Partition coefficient for I	NORMAL(Log10(mL/g))	
<u>Default value used</u>		<u>Mean</u>	6.60E-01
		<u>Standard Deviation</u>	9.50E-01
Fe:Leafy	Leafy plant concentration factor for Fe	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-5.18E+00
		<u>Standard Deviation of Ln</u>	1.34E+00
I:Leafy	Leafy plant concentration factor for I	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-1.83E+00
		<u>Standard Deviation of Ln</u>	1.25E+00
Fe:Root	Root plant concentration factor for Fe	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-7.78E+00
		<u>Standard Deviation of Ln</u>	1.25E+00
I:Root	Root plant concentration factor for I	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-5.40E+00
		<u>Standard Deviation of Ln</u>	1.59E+00
Fe:Fruit	Fruit concentration factor for Fe	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-7.78E+00
		<u>Standard Deviation of Ln</u>	1.25E+00
I:Fruit	Fruit concentration factor for I	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-5.40E+00
		<u>Standard Deviation of Ln</u>	1.59E+00
Fe:Grain	Grain concentration factor for Fe	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
<u>Default value used</u>		<u>Mean of Ln(X)</u>	-7.78E+00
		<u>Standard Deviation of Ln</u>	1.25E+00
		LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg	

I:Grain	Grain concentration factor for I	soil)
Default value used		Mean of Ln(X) -5.40E+00
		Standard Deviation of Ln 1.59E+00
Fe:Beef	Beef transfer factor for Fe	CONSTANT(d/kg)
Default value used		Value 2.00E-02
I:Beef	Beef transfer factor for I	CONSTANT(d/kg)
Default value used		Value 7.00E-03
Fe:Poultry	Poultry transfer factor for Fe	CONSTANT(d/kg)
Default value used		Value 1.50E+00
I:Poultry	Poultry transfer factor for I	CONSTANT(d/kg)
Default value used		Value 1.80E-02
Fe:Milk	Milk transfer factor for Fe	CONSTANT(d/L)
Default value used		Value 2.50E-04
I:Milk	Milk transfer factor for I	CONSTANT(d/L)
Default value used		Value 1.00E-02
Fe:Eggs	Egg transfer factor for Fe	CONSTANT(d/kg)
Default value used		Value 1.30E+00
I:Eggs	Egg transfer factor for I	CONSTANT(d/kg)
Default value used		Value 2.80E+00
Fe:Factor	Bioaccumulation factor for Fe in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.00E+03
I:Factor	Bioaccumulation factor for I in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 5.00E+02

Correlation Coefficients:

Parameter One	Parameter Two	Correlation Coefficient
KSDEV:Permeability Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		
NDEV:Porosity Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		

Summary Results:

90.00% of the 202 calculated TEDE values are < 1.43E-06 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 1.41E-06 to 1.47E-06 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Soil Concentration (pCi/g)	Water Concentration (pCi/g)

55Fe	6.08E-04	2.50E-27
129I	9.18E-12	3.78E-17

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
1.47E-06	1.46E-06	6.11E-18	6.64E-17	5.80E-14	4.84E-10	4.61E-09	6.27E-17

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
55Fe	1.47E-06
129I	1.18E-10
All Nuclides	1.47E-06

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
55Fe	1.46E-06	7.02E-31	3.10E-29	0.00E+00	4.84E-10	4.61E-09	1.34E-30
129I	9.52E-11	4.83E-18	5.28E-17	5.80E-14	5.23E-16	3.59E-14	5.74E-17



DandD Residential Scenario

DandD Version: 2.1.0

Run Date/Time: 5/13/2014 11:27:51 AM

Site Name: HBPP

Description: Residential discounted

FileName: C:\Users\MxEo\Desktop\soil.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 202

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Agricultural Pathway is ON

Drinking Water Pathway is ON

Irrigation Pathway is ON

Surface Water Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
3H	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 3.12E-04
14C	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 1.59E-03
60Co	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 4.01E-02
63Ni	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 9.48E-01
90Sr	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 1.27E-05
94Nb	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 1.38E-05
99Tc	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 3.27E-06
137Cs	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 1.33E-05
152Eu	UNLIMITED	CONSTANT(pCi/g)

90Sr	1	1.06E+04					3.85E-08	3.51E-07	2.46E-14	3.21E-16
90Y	2	2.67E+00	1	1	0	0	2.91E-09	2.28E-09	4.60E-13	1.03E-14

Chain No. 6: **94Nb**
Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
94Nb	1	7.41E+06					1.93E-09	1.12E-07	1.32E-10	3.91E-12

Chain No. 7: **99Tc**
Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
99Tc	1	7.78E+07					3.95E-10	2.25E-09	6.73E-15	5.79E-17

Chain No. 8: **137Cs**
Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
137Cs	1	1.10E+04					1.35E-08	8.63E-09	2.46E-14	3.40E-16
137mBa	Implicit		1	0.946			0.00E+00	0.00E+00	5.06E-11	1.48E-12

Chain No. 9: **152Eu**
Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
152Eu	1	4.87E+03					1.75E-09	5.97E-08	9.53E-11	2.78E-12
152Gd	2	3.94E+16	1	0.2792			4.34E-08	1.01E-06	0.00E+00	0.00E+00

Chain No. 10: **154Eu**
Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
154Eu	1	3.21E+03					2.58E-09	7.73E-08	1.02E-10	3.04E-12

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Soil Concentration (pCi/g)
3H	3.12E-04
14C	1.59E-03
60Co	4.01E-02
63Ni	9.48E-01
90Sr	1.27E-05
90Y	0.00E+00
94Nb	1.38E-05
99Tc	3.27E-06
137Cs	1.33E-05
137mBa	1.26E-05
152Eu	4.39E-08
152Gd	0.00E+00
154Eu	9.05E-06

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
Tv(1):Translocation:Leafy	Translocation factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E+00
Tv(2):Translocation:Root	Translocation factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(3):Translocation:Fruit	Translocation factor for fruit	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(4):Translocation:Grain	Translocation factor for grain	CONSTANT(none)
Default value used		Value 1.00E-01
Tf(1):Translocation:Beef Forage	Translocation factor for forage consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(2):Translocation:Poultry Forage	Translocation factor for forage consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(3):Translocation:Milk Cow	Translocation factor for forage consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(4):Translocation:Layer Hen Forage	Translocation factor for forage consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E+00
Tg(1):Translocation:Beef Grain	Translocation factor for stored grain consumed by beef cattle	CONSTANT(none)

Default value used		Value	1.00E-01
Tg(2):Translocation:Poultry Grain	Translocation factor for stored grain consumed by poultry	CONSTANT(none)	
Default value used		Value	1.00E-01
Tg(3):Translocation:Milk Cow Grain	Translocation factor for stored grain consumed by milk cows	CONSTANT(none)	
Default value used		Value	1.00E-01
Tg(4):Translocation:Layer Hen Grain	Translocation factor for stored grain consumed by layer hens	CONSTANT(none)	
Default value used		Value	1.00E-01
Th(1):Translocation:Beef Hay	Translocation factor for stored hay consumed by beef cattle	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(2):Translocation:Poultry Hay	Translocation factor for stored hay consumed by poultry	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(3):Translocation:Milk Cow Hay	Translocation factor for stored hay consumed by milk cows	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(4):Translocation:Layer Hen Hay	Translocation factor for stored hay consumed by layer hens	CONSTANT(none)	
Default value used		Value	1.00E+00
fca(1):Beef Carbon Fraction	Mass fraction of beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	3.60E-01
fca(2):Poultry Carbon Fraction	Mass fraction of poultry that is carbon	CONSTANT(none)	
Default value used		Value	1.80E-01
fca(3):Milk Carbon Fraction	Mass fraction of milk that is carbon	CONSTANT(none)	
Default value used		Value	6.00E-02
fca(4):Eggs Carbon Fraction	Mass fraction of an egg that is carbon	CONSTANT(none)	
Default value used		Value	1.60E-01
fcf(1):Beef Forage Carbon Fraction	Mass fraction of wet forage consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(2):Poultry Forage Carbon Fraction	Mass fraction of wet forage consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(3):Milk Cow Forage Carbon Fraction	Mass fraction of wet forage consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(4):Layer Hen Forage Carbon Fraction	Mass fraction of wet forage consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcg(1):Beef Grain Carbon Fraction	Mass fraction of wet stored grain consumed by beef cattle that is carbon	CONSTANT(none)	

Default value used		Value	4.00E-01
fcg(2):Poultry Grain Carbon Fraction	Mass fraction of wet stored grain consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(3):Milk Cow Grain Carbon Fraction	Mass fraction of wet stored grain consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(4):Layer Hen Grain Carbon Fraction	Mass fraction of wet stored grain consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fch(1):Beef Hay Carbon Fraction	Mass fraction of wet stored hay consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(2):Poultry Hay Carbon Fraction	Mass fraction of wet stored hay consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(3):Milk Cow Hay Carbon Fraction	Mass fraction of wet stored hay consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(4):Layer Hen Hay Carbon Fraction	Mass fraction of wet stored hay consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fCd:Soil Carbon Fraction	Mass fraction of dry soil that is carbon	CONSTANT(none)	
Default value used		Value	3.00E-02
SATac:Animal Product Specific Activity	Specific activity equivalence of animal product and specific activity of animal feed, forage, and soil	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(1):Beef Forage Contaminated Fraction	Fraction of forage consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(2):Poultry Forage Contaminated Fraction	Fraction of forage consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(3):Milk Cow Forage Contaminated Fraction	Fraction of forage consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(4):Layer Hen Forage Contaminated Fraction	Fraction of forage consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(1):Beef Grain Contaminated Fraction	Fraction of stored grain consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(2):Poultry Grain Contaminated Fraction	Fraction of stored grain consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(3):Milk Cow Grain Contaminated Fraction	Fraction of stored grain consumed by milk cows that is contaminated	CONSTANT(none)	

Default value used		Value	1.00E+00
xg(4):Layer Hen Grain Contaminated Fraction	Fraction of stored grain that is consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(1):Beef Hay Contaminated Fraction	Fraction of stored hay consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(2):Poultry Hay Contaminated Fraction	Fraction of stored hay consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(3):Milk Cow Hay Contaminated Fraction	Fraction of stored hay consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(4):Layer Hen Hay Contaminated Fraction	Fraction of stored hay consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(1):Beef Water Contaminated Fraction	Fraction of water that is consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(2):Poultry Water Contaminated Fraction	Fraction of water consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(3):Milk Cow Water Contaminated Fraction	Fraction of water consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(4):Layer Hen Water Contaminated Fraction	Fraction of water consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
DIET:Garden Diet	Fraction of human diet grown onsite	CONSTANT(none)	
Default value used		Value	1.00E+00
Uv(1):Diet - Leafy	Yearly human consumption of leafy vegetables	CONSTANT(kg/y)	
Default value used		Value	2.14E+01
Uv(2):Diet - Roots	Yearly human consumption of other vegetables	CONSTANT(kg/y)	
Default value used		Value	4.46E+01
Uv(3):Diet - Fruit	Yearly human consumption of fruits	CONSTANT(kg/y)	
Default value used		Value	5.28E+01
Uv(4):Diet - Grain	Yearly human consumption of grains	CONSTANT(kg/y)	
Default value used		Value	1.44E+01
Ua(1):Diet - Beef	Yearly human consumption of beef	CONSTANT(kg/y)	
Default value used		Value	3.98E+01
Ua(2):Diet - Poultry	Yearly human consumption of poultry	CONSTANT(kg/y)	
Default value used		Value	2.53E+01
Ua(3):Diet - Milk	Yearly human consumption of milk	CONSTANT(L/y)	
Default value used		Value	2.33E+02
Ua(4):Diet - Egg	Yearly human consumption of eggs	CONSTANT(kg/y)	

Default value used		Value	1.91E+01
Uf:Diet - Fish	Yearly human consumption of fish produced from an onsite pond	CONSTANT(kg/y)	
Default value used		Value	2.06E+01
tf:Consumption Period	Consumption period for fish	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(1):Consumption Period - Leafy	Food consumption period for leafy vegetables	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(2):Consumption Period - Roots	Food consumption period for other vegetables	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(3):Consumption Period - Fruit	Food consumption period for fruits	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(4):Consumption Period - Grain	Food consumption period for grains	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(1):Consumption Period - Beef	Food consumption period for beef	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(2):Consumption Period - Poultry	Food consumption period for poultry	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(3):Consumption Period - Milk	Food consumption period for milk	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(4):Consumption Period - Egg	Food consumption period for eggs	CONSTANT(days)	
Default value used		Value	3.65E+02
Nunsat:Number of Unsaturated Layers	Number of model layers used to represent the unsaturated zone	CONSTANT(none)	
Default value used		Value	1.00E+01
TstartR:Start Time	The start time of the scenario in days	CONSTANT(days)	
Default value used		Value	0.00E+00
TendR:End Time	The ending time of the scenario in days	CONSTANT(days)	
Default value used		Value	3.65E+05
dtR:Time Step Size	The time step size	CONSTANT(days)	
Default value used		Value	3.65E+02
PstepR:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)	
Default value used		Value	1.00E+00
TI:Indoor Exposure Period	The time the resident spends indoors	CONSTANT(days/year)	
Default value used		Value	2.40E+02
TX:Outdoor Exposure Period	The time the resident spends outdoors	CONSTANT(days/year)	

Default value used		Value	4.02E+01
TG:Gardening Period	The time the resident spends gardening	CONSTANT(days/year)	
Default value used		Value	2.92E+00
TTR:Total time in period	Total time in the one year exposure period	CONSTANT(days/year)	
Default value used		Value	3.65E+02
SFI:Indoor Shielding Factor	Shielding factor for the residence	CONSTANT(none)	
Default value used		Value	5.52E-01
SFO:Outdoor Shielding Factor	Shielding factor for the cover soil	CONSTANT(none)	
Default value used		Value	1.00E+00
PD:Floor dust loading	Floor dust loading	UNIFORM(g/m**2)	
Default value used		Lower Limit	2.00E-02
		Upper Limit	3.00E-01
RFR:Indoor Resuspension Factor	Resuspension factor for indoor dust	LOGUNIFORM(1/m)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	8.00E-05
CDO:Outdoor Dust Loading	Average dust loading outdoors	LOGUNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	1.00E-04
CDI:Indoor Dust Loading	Average dust loading indoors	DERIVED(g/m**3)	
Default value used			
PF:Indoor/Outdoor Penetration Factor	Fraction of outdoor dust in indoor air	UNIFORM(none)	
Default value used		Lower Limit	2.00E-01
		Upper Limit	7.00E-01
CDG:Gardening Dust Loading	Average dust loading while gardening	UNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-04
		Upper Limit	7.00E-04
VR:Indoor Breathing Rate	Breathing rate while indoors	CONSTANT(m**3/hr)	
Default value used		Value	9.00E-01
VX:Outdoor Breathing Rate	Breathing rate while outdoors	CONSTANT(m**3/hr)	
Default value used		Value	1.40E+00
VG:Gardening Breathing Rate	Breathing rate while gardening	CONSTANT(m**3/hr)	
Default value used		Value	1.70E+00
GR:Soil Ingestion Transfer Rate	Average rate of soil ingestion	CONSTANT(g/d)	
Default value used		Value	5.00E-02
UW:Diet - Water	Drinking water ingestion rate	CONSTANT(L/d)	
Default value used		Value	1.26E+00
H1:Surface Soil Thickness	Thickness of the surface soil layer	CONSTANT(m)	
Default value used		Value	1.50E-01

**H2:Unsaturated Zone
Thickness**

Thickness of the unsaturated zone

CONTINUOUS LINEAR(m)

Default value used

<u>Value</u>	<u>Probability</u>
3.05E-01	0.00E+00
6.68E-01	4.76E-03
8.11E-01	9.52E-03
9.21E-01	1.43E-02
9.94E-01	1.91E-02
1.03E+00	2.38E-02
1.07E+00	2.86E-02
1.14E+00	3.33E-02
1.21E+00	3.81E-02
1.30E+00	4.29E-02
1.31E+00	4.76E-02
1.32E+00	5.24E-02
1.56E+00	5.71E-02
1.58E+00	6.19E-02
1.61E+00	6.67E-02
1.69E+00	7.62E-02
1.78E+00	8.57E-02
1.80E+00	9.05E-02
1.81E+00	9.52E-02
1.84E+00	1.00E-01
1.87E+00	1.05E-01
1.92E+00	1.10E-01
2.04E+00	1.14E-01
2.10E+00	1.19E-01
2.11E+00	1.24E-01
2.32E+00	1.29E-01
2.36E+00	1.33E-01
2.37E+00	1.38E-01
2.39E+00	1.43E-01
2.44E+00	1.48E-01
2.44E+00	1.52E-01
2.45E+00	1.57E-01
2.59E+00	1.62E-01
2.63E+00	1.67E-01
2.69E+00	1.71E-01
2.79E+00	1.76E-01
2.81E+00	1.81E-01
2.90E+00	1.86E-01
2.95E+00	1.91E-01
3.07E+00	1.95E-01
3.18E+00	2.00E-01
3.22E+00	2.05E-01
3.30E+00	2.10E-01
3.34E+00	2.14E-01
3.37E+00	2.19E-01
3.44E+00	2.24E-01
3.58E+00	2.29E-01
3.62E+00	2.33E-01
3.66E+00	2.38E-01
3.74E+00	2.43E-01
3.86E+00	2.48E-01
3.88E+00	2.52E-01
4.17E+00	2.57E-01
4.26E+00	2.62E-01
4.44E+00	2.71E-01
4.63E+00	2.76E-01
4.87E+00	2.81E-01
5.13E+00	2.86E-01

5.18E+00	2.91E-01
5.54E+00	2.95E-01
5.83E+00	3.00E-01
5.86E+00	3.05E-01
5.86E+00	3.10E-01
5.90E+00	3.14E-01
6.06E+00	3.19E-01
6.13E+00	3.24E-01
6.17E+00	3.29E-01
6.22E+00	3.33E-01
6.31E+00	3.38E-01
6.36E+00	3.43E-01
6.40E+00	3.48E-01
6.46E+00	3.52E-01
6.51E+00	3.57E-01
6.55E+00	3.62E-01
6.60E+00	3.67E-01
6.86E+00	3.71E-01
6.93E+00	3.76E-01
6.95E+00	3.86E-01
6.97E+00	3.91E-01
7.09E+00	3.95E-01
7.18E+00	4.00E-01
7.35E+00	4.05E-01
7.36E+00	4.10E-01
7.40E+00	4.14E-01
7.43E+00	4.19E-01
7.46E+00	4.24E-01
7.59E+00	4.29E-01
7.60E+00	4.33E-01
7.64E+00	4.38E-01
7.87E+00	4.43E-01
8.10E+00	4.48E-01
8.28E+00	4.52E-01
8.35E+00	4.57E-01
8.71E+00	4.62E-01
8.71E+00	4.67E-01
8.73E+00	4.71E-01
8.79E+00	4.76E-01
8.80E+00	4.81E-01
8.82E+00	4.86E-01
8.85E+00	4.91E-01
8.89E+00	4.95E-01
8.90E+00	5.00E-01
8.99E+00	5.05E-01
9.00E+00	5.10E-01
9.13E+00	5.14E-01
9.14E+00	5.19E-01
9.21E+00	5.24E-01
9.31E+00	5.29E-01
9.55E+00	5.33E-01
9.60E+00	5.38E-01
9.63E+00	5.43E-01
9.86E+00	5.48E-01
1.05E+01	5.52E-01
1.07E+01	5.57E-01
1.13E+01	5.62E-01
1.15E+01	5.67E-01
1.17E+01	5.71E-01
1.20E+01	5.76E-01
1.26E+01	5.81E-01
1.26E+01	5.86E-01

1.28E+01	5.91E-01
1.32E+01	5.95E-01
1.32E+01	6.00E-01
1.34E+01	6.05E-01
1.34E+01	6.10E-01
1.36E+01	6.14E-01
1.37E+01	6.19E-01
1.38E+01	6.24E-01
1.41E+01	6.29E-01
1.45E+01	6.33E-01
1.51E+01	6.38E-01
1.52E+01	6.43E-01
1.61E+01	6.48E-01
1.62E+01	6.52E-01
1.65E+01	6.57E-01
1.66E+01	6.62E-01
1.69E+01	6.67E-01
1.74E+01	6.71E-01
1.82E+01	6.76E-01
1.84E+01	6.81E-01
1.84E+01	6.86E-01
1.87E+01	6.91E-01
1.95E+01	6.95E-01
2.01E+01	7.00E-01
2.07E+01	7.05E-01
2.08E+01	7.10E-01
2.17E+01	7.14E-01
2.24E+01	7.19E-01
2.27E+01	7.24E-01
2.29E+01	7.29E-01
2.29E+01	7.33E-01
2.40E+01	7.38E-01
2.47E+01	7.43E-01
2.60E+01	7.48E-01
2.65E+01	7.52E-01
2.72E+01	7.57E-01
2.73E+01	7.62E-01
2.76E+01	7.67E-01
2.77E+01	7.71E-01
2.78E+01	7.76E-01
2.80E+01	7.81E-01
2.86E+01	7.86E-01
2.94E+01	7.91E-01
3.01E+01	7.95E-01
3.03E+01	8.00E-01
3.06E+01	8.10E-01
3.08E+01	8.14E-01
3.11E+01	8.19E-01
3.17E+01	8.24E-01
3.17E+01	8.29E-01
3.17E+01	8.33E-01
3.22E+01	8.38E-01
3.39E+01	8.43E-01
3.48E+01	8.48E-01
3.54E+01	8.52E-01
3.60E+01	8.57E-01
3.68E+01	8.62E-01
4.03E+01	8.67E-01
4.07E+01	8.71E-01
4.24E+01	8.76E-01
4.29E+01	8.81E-01

		4.42E+01	8.86E-01
		4.72E+01	8.91E-01
		4.97E+01	8.95E-01
		5.12E+01	9.00E-01
		6.13E+01	9.05E-01
		6.19E+01	9.10E-01
		6.23E+01	9.14E-01
		6.32E+01	9.19E-01
		6.59E+01	9.24E-01
		6.73E+01	9.29E-01
		7.47E+01	9.33E-01
		7.92E+01	9.38E-01
		8.12E+01	9.43E-01
		8.28E+01	9.48E-01
		8.47E+01	9.52E-01
		8.96E+01	9.57E-01
		9.47E+01	9.62E-01
		1.08E+02	9.67E-01
		1.13E+02	9.71E-01
		1.15E+02	9.76E-01
		1.42E+02	9.81E-01
		1.77E+02	9.86E-01
		1.78E+02	9.91E-01
		1.80E+02	9.95E-01
		3.16E+02	1.00E+00
N1:Surface Soil Porosity	Porosity of the surface soil layer	DERIVED(none)	
Default value used			
N2:Unsaturated Zone Porosity	Porosity of the unsaturated zone	DERIVED(none)	
Default value used			
F1:Surface Soil Saturation	Saturation ratio of the surface soil layer	DERIVED(none)	
Default value used			
F2:Unsaturated Zone Saturation	Saturation ratio of the unsaturated zone	DERIVED(none)	
Default value used			
INFIL:Infiltration Rate	Net rate of infiltration to aquifer	DERIVED(m/y)	
Default value used			
SCSST:Soil Classification	SCS soil classification ID	DISCRETE CUMULATIVE(none)	
Default value used		<u>Value</u>	<u>Probability</u>
		1.00E+00	1.00E-04
		2.00E+00	1.34E-03
		3.00E+00	1.06E-02
		4.00E+00	2.51E-02
		5.00E+00	6.17E-02
		6.00E+00	1.09E-01
		7.00E+00	1.62E-01
		8.00E+00	2.12E-01
		9.00E+00	2.85E-01
		1.00E+01	5.10E-01
		1.10E+01	7.58E-01
		1.20E+01	1.00E+00
NDEV:Porosity Probability	Relative porosity value within the distribution for this soil type	UNIFORM(none)	
Default value used		<u>Lower Limit</u>	0.00E+00
		<u>Upper Limit</u>	1.00E+00
KSDEV:Permeability	Relative permeability value within the		

Probability	distribution for this soil type	UNIFORM(none)
Default value used		Lower Limit0.00E+00
		Upper Limit1.00E+00
BDEV:Parameter "b" Probability	Relative value of "b" parameter within the distribution for this soil type	UNIFORM(none)
Default value used		Lower Limit0.00E+00
		Upper Limit1.00E+00
AP:Water Application Rate	Total water application rate on cultivated area	CONTINUOUS LINEAR(m/y)
Default value used		ValueProbability
		6.07E-010.00E+00
		6.10E-014.62E-01
		6.35E-014.76E-01
		7.62E-015.40E-01
		8.89E-016.29E-01
		1.02E+007.05E-01
		1.14E+008.04E-01
		1.27E+008.79E-01
		1.40E+009.41E-01
		1.52E+009.82E-01
		1.65E+009.98E-01
		1.78E+001.00E+00
IR:Irrigation Rate	Annual average irrigation rate	CONSTANT(L/m**2-d)
Default value used		Value1.29E+00
RHO1:Surface Soil Density	Bulk density of soil in the surface soil layer	DERIVED(g/mL)
Default value used		
RHO2:Unsaturated Zone Density	Bulk density of soil in the unsaturated zone	DERIVED(g/mL)
Default value used		
Ksat1:Surface Soil Permeabiliy	Saturated permeability of the surface soil layer	DERIVED(cm/sec)
Default value used		
VDR:Volume of Water Consumed	Volume of water withdrawn for consumptive use	CONSTANT(L)
Default value used		Value1.18E+05
VSW:Volume of Water in Pond	Volume of water in the pond	CONSTANT(L)
Default value used		Value1.30E+06
AR:Cultivated Area	Area of land cultivated	DERIVED(m**2)
Default value used		
sh:Soil Moisture Content	Moisture content of soil	DERIVED(none)
Default value used		
TTG:Gardening Period	Total time in gardening period	CONSTANT(days)
Default value used		Value9.00E+01
TD:Drinking-water consumption period	Drinking-water consumption period	CONSTANT(days)
Default value used		Value3.65E+02
THV(1):Holdup Period : Leafy	Holdup period for leafy vegetables	CONSTANT(days)
Default value used		Value1.00E+00

THV(2):Holdup Period : Other vegetables	Holdup period for other vegetables	CONSTANT(days)
Default value used		Value 1.40E+01
THV(3):Holdup Period : Fruits	Holdup period for fruits	CONSTANT(days)
Default value used		Value 1.40E+01
THV(4):Holdup Period : Grains	Holdup period for grains	CONSTANT(days)
Default value used		Value 1.40E+01
THA(1):Holdup Period : Beef	Holdup period for beef	CONSTANT(days)
Default value used		Value 2.00E+01
THA(2):Holdup Period : Poultry	Holdup period for poultry	CONSTANT(days)
Default value used		Value 1.00E+00
THA(3):Holdup Period : Milk	Holdup period for milk	CONSTANT(days)
Default value used		Value 1.00E+00
THA(4):Holdup Period : Eggs	Holdup period for eggs	CONSTANT(days)
Default value used		Value 1.00E+00
TGV(1):Growing Period : Leafy	Minimum growing period for leafy vegetables	CONSTANT(days)
Default value used		Value 4.50E+01
TGV(2):Growing Period : Other vegetables	Minimum growing period for other vegetables	CONSTANT(days)
Default value used		Value 9.00E+01
TGV(3):Growing Period : Fruits	Minimum growing period for fruits	CONSTANT(days)
Default value used		Value 9.00E+01
TGV(4):Growing Period : Grains	Minimum growing period for grains	CONSTANT(days)
Default value used		Value 9.00E+01
TGF(1):Growing Period : Beef Forage	Minimum growing period for forage consumed by beef cattle	CONSTANT(days)
Default value used		Value 3.00E+01
TGF(2):Growing Period : Poultry Forage	Minimum growing period for forage consumed by poultry	DERIVED(days)
Default value used		
TGF(3):Growing Period : Milk Cow Forage	Minimum growing period for forage consumed by milk cows	DERIVED(days)
Default value used		
TGF(4):Growing Period : Layer Hen Forage	Minimum growing period for forage consumed by layer hens	DERIVED(days)
Default value used		
TGG(1):Growing Period : Beef Cow Grain	Minimum growing period for stored grain consumed by beef cattle	CONSTANT(days)
Default value used		Value 9.00E+01

TGG(2):Growing Period : Poultry Grain	Minimum growing period for stored grain consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGG(3):Growing Period : Milk Cow Grain	Minimum growing period for stored grain consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGG(4):Growing Period : Layer Hen Grain	Minimum growing period for stored grain consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
TGH(1):Growing Period : Beef Cow Hay	Minimum growing period for stored hay consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 4.50E+01
TGH(2):Growing Period : Poultry Hay	Minimum growing period for stored hay consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGH(3):Growing Period : Milk Cow Hay	Minimum growing period for stored hay consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGH(4):Growing Period : Layer Hen Hay	Minimum growing period for stored hay consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
RV(1):Interception Fraction : Leafy	Interception fraction for leafy vegetables	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01 <u>Upper Limit</u> 6.00E-01
RV(2):Interception Fraction : Other vegetables	Interception fraction for other vegetables	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01 <u>Upper Limit</u> 6.00E-01
RV(3):Interception Fraction : Fruits	Interception fraction for fruits	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01 <u>Upper Limit</u> 6.00E-01
RV(4):Interception Fraction : Grains	Interception fraction for grains	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01 <u>Upper Limit</u> 6.00E-01
RF(1):Interception Fraction : Beef Forage	Interception fraction for beef cattle forage	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01 <u>Upper Limit</u> 6.00E-01
RF(2):Interception Fraction : Poultry forage	Interception fraction for poultry forage	DERIVED(none)
<u>Default value used</u>		
RF(3):Interception Fraction : Milk Cow Forage	Interception fraction for milk cow forage	DERIVED(none)
<u>Default value used</u>		
RF(4):Interception Fraction : Layer Hen Forage	Interception fraction for layer hen forage	DERIVED(none)
<u>Default value used</u>		

RG(1):Interception Fraction : Beef Cow Grain	Interception fraction for beef cattle grain	UNIFORM(none)	
Default value used		<u>Lower Limit</u>	1.00E-01
		<u>Upper Limit</u>	6.00E-01
RG(2):Interception Fraction : Poultry Grain	Interception fraction for poultry grain	DERIVED(none)	
Default value used			
RG(3):Interception Fraction : Milk Cow Grain	Interception fraction for milk cow grain	DERIVED(none)	
Default value used			
RG(4):Interception Fraction : Layer Hen Grain	Interception fraction for layer hen grain	DERIVED(none)	
Default value used			
RH(1):Interception Fraction : Beef Cow Hay	Interception fraction for beef cattle hay	DERIVED(none)	
Default value used			
RH(2):Interception Fraction : Poultry Hay	Interception fraction for poultry hay	DERIVED(none)	
Default value used			
RH(3):Interception Fraction : Milk Cow Hay	Interception fraction for milk cow hay	DERIVED(none)	
Default value used			
RH(4):Interception Fraction : Layer Hen Hay	Interception fraction for layer hen hay	DERIVED(none)	
Default value used			
YV(1):Crop Yield : Leafy	Crop yield for leafy vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.70E+00	0.00E+00
		2.71E+00	1.60E-03
		2.74E+00	6.00E-03
		2.76E+00	1.76E-02
		2.78E+00	4.36E-02
		2.80E+00	8.48E-02
		2.82E+00	1.56E-01
		2.85E+00	2.57E-01
		2.87E+00	3.64E-01
		2.89E+00	5.00E-01
		2.91E+00	6.39E-01
		2.93E+00	7.46E-01
		2.96E+00	8.42E-01
		2.98E+00	9.09E-01
		3.00E+00	9.60E-01
		3.02E+00	9.84E-01
		3.04E+00	9.94E-01
		3.07E+00	9.97E-01
		3.09E+00	9.99E-01
		3.11E+00	1.00E+00
		3.13E+00	1.00E+00
		3.15E+00	1.00E+00
YV(2):Crop Yield : Other	Crop yield for other vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.26E+00	0.00E+00
		2.29E+00	8.00E-04
		2.30E+00	1.20E-03

		2.31E+00	6.40E-03
		2.33E+00	1.52E-02
		2.34E+00	3.28E-02
		2.35E+00	7.44E-02
		2.36E+00	1.40E-01
		2.38E+00	2.49E-01
		2.39E+00	3.80E-01
		2.40E+00	5.30E-01
		2.42E+00	6.61E-01
		2.43E+00	7.88E-01
		2.44E+00	8.86E-01
		2.45E+00	9.42E-01
		2.47E+00	9.75E-01
		2.48E+00	9.88E-01
		2.49E+00	9.96E-01
		2.51E+00	9.97E-01
		2.52E+00	9.99E-01
		2.53E+00	1.00E+00
		2.54E+00	1.00E+00
YV(3):Crop Yield : Fruits	Crop yield for fruits	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.17E+00	0.00E+00
		2.20E+00	1.20E-03
		2.21E+00	2.40E-03
		2.23E+00	6.80E-03
		2.25E+00	1.80E-02
		2.27E+00	4.36E-02
		2.29E+00	7.64E-02
		2.31E+00	1.38E-01
		2.32E+00	2.14E-01
		2.34E+00	3.27E-01
		2.36E+00	4.50E-01
		2.38E+00	5.76E-01
		2.40E+00	6.87E-01
		2.42E+00	7.88E-01
		2.43E+00	8.68E-01
		2.45E+00	9.25E-01
		2.47E+00	9.60E-01
		2.49E+00	9.81E-01
		2.51E+00	9.92E-01
		2.53E+00	9.98E-01
		2.54E+00	1.00E+00
		2.56E+00	1.00E+00
YV(4):Crop Yield : Grains	Crop yield for grains	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.85E-01	0.00E+00
		2.90E-01	6.00E-04
		3.02E-01	2.80E-03
		3.14E-01	9.40E-03
		3.26E-01	2.14E-02
		3.38E-01	5.42E-02
		3.50E-01	1.08E-01
		3.62E-01	2.02E-01
		3.74E-01	3.15E-01
		3.86E-01	4.50E-01
		3.98E-01	5.92E-01
		4.10E-01	7.20E-01
		4.23E-01	8.26E-01
		4.35E-01	9.03E-01
		4.47E-01	9.51E-01

		4.59E-01	9.77E-01
		4.71E-01	9.91E-01
		4.83E-01	9.96E-01
		4.95E-01	9.99E-01
		5.07E-01	1.00E+00
		5.19E-01	1.00E+00
		5.31E-01	1.00E+00
YF(1):Crop Yield : Beef Forage	Crop yield for beef cattle forage	BETA(kg dry wt forage/m**2)	
Default value used		Lower Limit	3.70E-01
		Upper Limit	5.24E-01
		p	2.36E+00
		q	1.40E+00
YF(2):Crop Yield : Poultry Forage	Crop yield for poultry forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YF(3):Crop Yield : Milk Cow Forage	Crop yield for milk cow forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YF(4):Crop Yield : Layer Hen Forage	Crop yield for layer hen forage	DERIVED(kg wet wt forage/m**2)	
Default value used			
YG(1):Crop Yield : Beef Cow Grain	Crop yield for beef cattle grain	NORMAL(kg dry wt grain /m**2)	
Default value used		Mean	5.78E-01
		Standard Deviation	7.77E-02
YG(2):Crop Yield : Poultry Grain	Crop yield for poultry grain	DERIVED(kg wet wt grain /m**2)	
Default value used			
YG(3):Crop Yield : Milk Cow Grain	Crop yield for milk cow grain	DERIVED(kg wet wt grain /m**2)	
Default value used			
YG(4):Crop Yield : Layer Hen Grain	Crop yield for layer hen grain	DERIVED(kg wet wt grain /m**2)	
Default value used			
YH(1):Crop Yield : Beef Cow Hay	Crop yield for beef cattle hay	DERIVED(kg wet wt/m**2)	
Default value used			
YH(2):Crop Yield : Poultry Hay	Crop yield for poultry hay	DERIVED(kg wet wt/m**2)	
Default value used			
YH(3):Crop Yield : Milk Cow Hay	Crop yield for milk cow hay	DERIVED(kg wet wt/m**2)	
Default value used			
YH(4):Crop Yield : Layer Hen Hay	Crop yield for layer hen hay	DERIVED(kg wet wt/m**2)	
Default value used			
WV(1):Wet/dry : Leafy Vegetables	Wet/dry conversion factor for leafy vegetables	CONTINUOUS LINEAR(none)	
Default value used		Value	Probability
		3.32E-02	0.00E+00

			4.89E-02	3.45E-02
			5.47E-02	6.91E-02
			5.96E-02	1.04E-01
			6.36E-02	1.38E-01
			6.70E-02	1.73E-01
			7.05E-02	2.07E-01
			7.38E-02	2.42E-01
			7.48E-02	2.50E-01
			7.72E-02	2.76E-01
			8.03E-02	3.11E-01
			8.34E-02	3.45E-01
			8.66E-02	3.80E-01
			9.00E-02	4.15E-01
			9.36E-02	4.49E-01
			9.73E-02	4.84E-01
			9.91E-02	4.99E-01
			1.01E-01	5.18E-01
			1.05E-01	5.53E-01
			1.09E-01	5.87E-01
			1.13E-01	6.22E-01
			1.18E-01	6.56E-01
			1.23E-01	6.91E-01
			1.29E-01	7.25E-01
			1.33E-01	7.50E-01
			1.35E-01	7.60E-01
			1.42E-01	7.94E-01
			1.50E-01	8.29E-01
			1.59E-01	8.64E-01
			1.70E-01	8.98E-01
			1.85E-01	9.33E-01
			2.10E-01	9.67E-01
			2.56E-01	9.91E-01
			3.24E-01	1.00E+00
WV(2):Wet/dry : Other Vegetables		Wet/dry conversion factor for other vegetables	CONTINUOUS LINEAR(none)	
<u>Default value used</u>			<u>Value</u>	<u>Probability</u>
			3.58E-02	0.00E+00
			4.87E-02	3.45E-02
			5.46E-02	6.91E-02
			5.90E-02	1.04E-01
			6.29E-02	1.38E-01
			6.69E-02	1.73E-01
			7.02E-02	2.07E-01
			7.34E-02	2.42E-01
			7.41E-02	2.50E-01
			7.65E-02	2.76E-01
			7.99E-02	3.11E-01
			8.32E-02	3.45E-01
			8.66E-02	3.80E-01
			9.05E-02	4.15E-01
			9.41E-02	4.49E-01
			9.82E-02	4.84E-01
			9.98E-02	4.99E-01
			1.02E-01	5.18E-01
			1.06E-01	5.53E-01
			1.09E-01	5.87E-01
			1.14E-01	6.22E-01
			1.19E-01	6.56E-01
			1.24E-01	6.91E-01
			1.29E-01	7.25E-01
			1.33E-01	7.50E-01

		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.50E-01	8.29E-01
		1.59E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.12E-01	9.67E-01
		2.62E-01	9.91E-01
		3.13E-01	1.00E+00
WV(3):Wet/dry : Fruit	Wet/dry conversion factor for fruits	CONTINUOUS LINEAR(none)	
Default value used		<u>Value</u>	<u>Probability</u>
		3.66E-02	0.00E+00
		4.87E-02	3.45E-02
		5.45E-02	6.91E-02
		5.93E-02	1.04E-01
		6.31E-02	1.38E-01
		6.72E-02	1.73E-01
		7.10E-02	2.07E-01
		7.44E-02	2.42E-01
		7.52E-02	2.50E-01
		7.78E-02	2.76E-01
		8.13E-02	3.11E-01
		8.45E-02	3.45E-01
		8.78E-02	3.80E-01
		9.11E-02	4.15E-01
		9.46E-02	4.49E-01
		9.82E-02	4.84E-01
		9.97E-02	4.99E-01
		1.02E-01	5.18E-01
		1.06E-01	5.53E-01
		1.10E-01	5.87E-01
		1.14E-01	6.22E-01
		1.19E-01	6.56E-01
		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.34E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.49E-01	8.29E-01
		1.58E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.14E-01	9.67E-01
		2.58E-01	9.91E-01
		3.25E-01	1.00E+00
WV(4):Wet/dry : Grain	Wet/dry conversion factor for grains	CONSTANT(none)	
Default value used		<u>Value</u>	8.80E-01
WF(1):Wet/dry : Beef Cow Forage	Wet/dry conversion factor for beef cattle forage	BETA(none)	
Default value used		<u>Lower Limit</u>	1.83E-01
		<u>Upper Limit</u>	3.23E-01
		<u>p</u>	1.15E+00
		<u>q</u>	1.18E+00
WF(2):Wet/dry : Poultry Forage	Wet/dry conversion factor for poultry forage	DERIVED(none)	
Default value used			
WF(3):Wet/dry : Milk Cow Forage	Wet/dry conversion factor for milk cow forage	DERIVED(none)	

Default value used		
WF(4):Wet/dry : Layer Hen Forage	Wet/dry conversion factor for layer hen forage	DERIVED(none)
Default value used		
WG(1):Wet/dry : Beef Cow Grain	Wet/dry conversion factor for beef cattle grain	CONSTANT(none)
Default value used		Value 8.80E-01
WG(2):Wet/dry : Poultry Grain	Wet/dry conversion factor for poultry grain	DERIVED(none)
Default value used		
WG(3):Wet/dry : Milk Cow Grain	Wet/dry conversion factor for milk cow grain	DERIVED(none)
Default value used		
WG(4):Wet/dry : Layer Hen Grain	Wet/dry conversion factor for layer hen grain	DERIVED(none)
Default value used		
WH(1):Wet/dry : Beef Cow Hay	Wet/dry conversion factor for beef cattle hay	DERIVED(none)
Default value used		
WH(2):Wet/dry : Poultry Hay	Wet/dry conversion factor for poultry hay	DERIVED(none)
Default value used		
WH(3):Wet/dry : Milk Cow Hay	Wet/dry conversion factor for milk cow hay	DERIVED(none)
Default value used		
WH(4):Wet/dry : Layer Hen Hay	Wet/dry conversion factor for layer hen hay	DERIVED(none)
Default value used		
QF(1):Ingestion Rate : Beef Cow Forage	Ingestion rate for beef cattle forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 1.69E+00
		Upper Limit 2.29E+00
		p 1.99E+00
		q 9.11E-01
QF(2):Ingestion Rate : Poultry Forage	Ingestion rate for poultry forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 3.48E-03
		Upper Limit 2.82E-02
		p 1.51E+00
		q 1.41E+00
QF(3):Ingestion Rate : Milk Cow Forage	Ingestion rate for milk cow forage	CONTINUOUS LINEAR(kg dry wt forage/d)
Default value used		Value Probability
		6.35E+00 0.00E+00
		6.77E+00 3.45E-02
		6.96E+00 6.91E-02
		7.10E+00 1.04E-01
		7.24E+00 1.38E-01
		7.35E+00 1.73E-01
		7.47E+00 2.07E-01
		7.57E+00 2.42E-01
		7.60E+00 2.50E-01

		7.67E+00	2.76E-01
		7.77E+00	3.11E-01
		7.87E+00	3.45E-01
		7.98E+00	3.80E-01
		8.08E+00	4.15E-01
		8.18E+00	4.49E-01
		8.31E+00	4.84E-01
		8.37E+00	4.99E-01
		8.42E+00	5.18E-01
		8.54E+00	5.53E-01
		8.67E+00	5.87E-01
		8.81E+00	6.22E-01
		8.95E+00	6.56E-01
		9.10E+00	6.91E-01
		9.26E+00	7.25E-01
		9.38E+00	7.50E-01
		9.45E+00	7.60E-01
		9.68E+00	7.94E-01
		9.93E+00	8.29E-01
		1.02E+01	8.64E-01
		1.06E+01	8.98E-01
		1.11E+01	9.33E-01
		1.20E+01	9.67E-01
		1.33E+01	9.91E-01
		1.53E+01	1.00E+00
QF(4):Ingestion Rate : Layer Hen Forage	Ingestion rate for layer hen forage	BETA(kg dry wt forage/d)	
Default value used		Lower Limit	1.19E-02
		Upper Limit	2.22E-02
		p	1.45E+00
		q	7.92E-01
QG(1):Ingestion Rate : Beef Cattle Grain	Ingestion rate for beef cattle grain	BETA(kg dry wt grain/d)	
Default value used		Lower Limit	1.69E+00
		Upper Limit	2.29E+00
		p	1.99E+00
		q	9.11E-01
QG(2):Ingestion Rate : Poultry Grain	Ingestion rate for poultry grain	BETA(kg dry wt grain/d)	
Default value used		Lower Limit	1.04E-02
		Upper Limit	8.45E-02
		p	1.51E+00
		q	1.41E+00
QG(3):Ingestion Rate : Milk Cow Grain	Ingestion rate for milk cow grain	NORMAL(kg dry wt grain/d)	
Default value used		Mean	1.71E+00
		Standard Deviation	2.62E-01
QG(4):Ingestion Rate : Layer Hen Grain	Ingestion rate for layer hen grain	BETA(kg dry wt grain/d)	
Default value used		Lower Limit	3.58E-02
		Upper Limit	6.67E-02
		p	1.43E+00
		q	7.92E-01
QH(1):Ingestion Rate : Beef Cattle Hay	Ingestion rate for beef cattle hay	BETA(kg dry wt hay/d)	
Default value used		Lower Limit	3.38E+00

		Upper Limit	4.58E+00
		p	1.99E+00
		q	9.11E-01
QH(2):Ingestion Rate : Poultry Hay	Ingestion rate for poultry hay	CONSTANT(kg dry wt hay/d)	
Default value used		Value	0.00E+00
QH(3):Ingestion Rate : Milk Cow Hay	Ingestion rate for milk cow hay	CONTINUOUS LINEAR(kg dry wt hay/d)	
Default value used		Value	Probability
		5.12E+00	0.00E+00
		5.43E+00	3.45E-02
		5.57E+00	6.91E-02
		5.68E+00	1.04E-01
		5.79E+00	1.38E-01
		5.89E+00	1.73E-01
		5.98E+00	2.07E-01
		6.06E+00	2.42E-01
		6.08E+00	2.50E-01
		6.14E+00	2.76E-01
		6.22E+00	3.11E-01
		6.30E+00	3.45E-01
		6.38E+00	3.80E-01
		6.46E+00	4.15E-01
		6.54E+00	4.49E-01
		6.63E+00	4.84E-01
		6.67E+00	4.99E-01
		6.72E+00	5.18E-01
		6.81E+00	5.53E-01
		6.92E+00	5.87E-01
		7.03E+00	6.22E-01
		7.13E+00	6.56E-01
		7.26E+00	6.91E-01
		7.39E+00	7.25E-01
		7.49E+00	7.50E-01
		7.56E+00	7.60E-01
		7.70E+00	7.94E-01
		7.89E+00	8.29E-01
		8.11E+00	8.64E-01
		8.39E+00	8.98E-01
		8.75E+00	9.33E-01
		9.44E+00	9.67E-01
		1.05E+01	9.91E-01
		1.27E+01	1.00E+00
QH(4):Ingestion Rate : Layer Hen Hay	Ingestion rate for layer hen hay	CONSTANT(kg dry wt hay/d)	
Default value used		Value	0.00E+00
QW(1):Water Rate : Beef Cattle	Water ingestion rate for beef cattle	CONSTANT(L/d)	
Default value used		Value	5.00E+01
QW(2):Water Rate : Poultry	Water ingestion rate for poultry	CONSTANT(L/d)	
Default value used		Value	3.00E-01
QW(3):Water Rate : Milk Cows	Water ingestion rate for milk cows	CONSTANT(L/d)	
Default value used		Value	6.00E+01
QW(4):Water Rate : Layer			

Hens	Water ingestion rate for layer hens	CONSTANT(L/d)
<u>Default value used</u>		<u>Value</u> 3.00E-01
QD(1):Soil Fraction : Beef Cattle	Soil intake fraction for beef cattle	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 2.00E-02
QD(2):Soil Fraction : Poultry	Soil intake fraction for poultry	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
QD(3):Soil Fraction : Milk Cows	Soil intake fraction for milk cows	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 2.00E-02
QD(4):Soil Fraction : Layer Hens	Soil intake fraction for layer hens	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLV(1):Mass-Loading : Leafy Vegetables	Mass-loading factor for leafy vegetables	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLV(2):Mass-Loading : Other Vegetables	Mass-loading factor for other vegetables	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLV(3):Mass-Loading : Fruits	Mass-loading factor for fruits	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLV(4):Mass-Loading : Grains	Mass-loading factor for grains	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
LAMBDW:Weathering Rate	Weathering rate for activity removal from plants	CONSTANT(1/d)
<u>Default value used</u>		<u>Value</u> 4.95E-02
MLF(1):Mass-Loading : Beef Cow Forage	Mass-loading factor for beef cattle forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLF(2):Mass-Loading : Poultry Forage	Mass-loading factor for poultry forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLF(3):Mass-Loading : Milk Cow Forage	Mass-loading factor for milk cow forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLF(4):Mass-Loading : Layer Hen Forage	Mass-loading factor for layer hen forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLG(1):Mass-Loading : Beef Cattle Grain	Mass-loading factor for beef cattle grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLG(2):Mass-Loading : Poultry Grain	Mass-loading factor for poultry grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01

MLG(3):Mass-Loading : Milk Cow Grain	Mass-loading factor for milk cow grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLG(4):Mass-Loading : Layer Hen Grain	Mass-loading factor for layer hen grain	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(1):Mass-Loading : Beef Cattle Hay	Mass-loading factor for beef cattle hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(2):Mass-Loading : Poultry Hay	Mass-loading factor for poultry hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(3):Mass-Loading : Milk Cow Hay	Mass-loading factor for milk cow hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
MLH(4):Mass-Loading : Layer Hen Hay	Mass-loading factor for layer hen hay	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
TFF(1):Feeding Period : Beef Cow Forage	Feeding period for beef cattle forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(2):Feeding Period : Poultry Forage	Feeding period for poultry forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(3):Feeding Period : Milk Cow Forage	Feeding period for milk cow forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFF(4):Feeding Period : Layer Hen Forage	Feeding period for layer hen forage	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(1):Feeding Period : Beef Cattle Grain	Feeding period for beef cattle grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(2):Feeding Period : Poultry Grain	Feeding period for poultry grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(3):Feeding Period : Milk Cow Grain	Feeding period for milk cow grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFG(4):Feeding Period : Layer Hen Grain	Feeding period for layer hen grain	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFH(1):Feeding Period : Beef Cattle Hay	Feeding period for beef cattle hay	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFH(2):Feeding Period : Poultry Hay	Feeding period for poultry hay	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02

TFH(3):Feeding Period : Milk Cow Hay	Feeding period for milk cow hay	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFH(4):Feeding Period : Layer Hen Hay	Feeding period for layer hen hay	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFW(1):Water Period : Beef Cattle	Water ingestion period for beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFW(2):Water Period : Poultry	Water ingestion period for poultry	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFW(3):Water Period : Milk Cows	Water ingestion period for milk cows	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
TFW(4):Water Period : Layer Hens	Water ingestion period for layer hens	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
fha(1):Hydrogen Fraction : Beef Cattle	Hydrogen fraction for beef cattle	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fha(2):Hydrogen Fraction : Poultry	Hydrogen fraction for poultry	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fha(3):Hydrogen Fraction : Milk Cows	Hydrogen fraction for milk cows	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fha(4):Hydrogen Fraction : Eggs	Hydrogen fraction for eggs	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fhv(1):Hydrogen Fraction : Leafy Vegetables	Hydrogen fraction for leafy vegetables	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fhv(2):Hydrogen Fraction : Other Vegetables	Hydrogen fraction for other vegetables	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fhv(3):Hydrogen Fraction : Fruits	Hydrogen fraction for fruits	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fhv(4):Hydrogen Fraction : Grains	Hydrogen fraction for grains	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 6.80E-02
fhf(1):Hydrogen Fraction : Beef Cow Forage	Hydrogen fraction for beef cattle forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01
fhf(2):Hydrogen Fraction : Poultry Forage	Hydrogen fraction for poultry forage	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E-01

fhf(3):Hydrogen Fraction : Milk Cow Forage	Hydrogen fraction for milk cow forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhf(4):Hydrogen Fraction : Layer Hen Forage	Hydrogen fraction for layer hen forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(1):Hydrogen Fraction : Beef Cattle Hay	Hydrogen fraction for beef cattle hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(2):Hydrogen Fraction : Poultry Hay	Hydrogen fraction for poultry hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(3):Hydrogen Fraction : Milk Cow Hay	Hydrogen fraction for milk cow hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(4):Hydrogen Fraction : Layer Hen Hay	Hydrogen fraction for layer hen hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhg(1):Hydrogen Fraction : Beef Cattle Grain	Hydrogen fraction for beef cattle grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhg(2):Hydrogen Fraction : Poultry Grain	Hydrogen fraction for poultry grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhg(3):Hydrogen Fraction : Milk Cow Grain	Hydrogen fraction for milk cow grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhg(4):Hydrogen Fraction : Layer Hen Grain	Hydrogen fraction for layer hen grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhd016:Hydrogen Fraction : Soil	Fraction of hydrogen in soil	DERIVED(none)
Default value used		
sasvh:Tritium Equivalence: Plant/Soil	Tritium equivalence: plant/soil	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
sawvh:Tritium Equivalence: Plant/Water	Tritium equivalence: plant/water	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
satah:Tritium Equivalence: Animal Products	Tritium equivalence: animal product intake	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
YA(1):Animal Product Yield : Beef Cattle	Annual yield of beef per individual animal	CONSTANT(kg/y)
Default value used		<u>Value</u> 2.09E+02
YA(2):Animal Product Yield : Poultry	Annual yield of chicken per individual animal	CONSTANT(kg/y)

Default value used		Value	1.53E+00
YA(3):Animal Product Yield : Milk Cows	Annual yield of milk per individual animal	CONSTANT(L/y)	
Default value used		Value	7.41E+03
YA(4):Animal Product Yield : Layer Hens	Annual yield of eggs per individual animal	CONSTANT(kg/y)	
Default value used		Value	1.26E+01
ARExt:External Exposure Area	Minimum surface area to which resident is exposed via external radiation during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARInh:Inhalation Exposure Area	Minimum surface area to which resident is exposed via inhalation during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARIng:Secondary Ingestion Exposure Area	Minimum surface area to which resident is exposed via secondary ingestion during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARAgr:Agricultural Exposure Area	Minimum surface area to which resident is exposed via any agricultural product during residential period	DERIVED(m**2)	
Default value used			
ARH2O:Groundwater Exposure Area	Minimum surface area to which resident is exposed via groundwater during residential period	DERIVED(m**2)	
Default value used			
ARAll:Exposure Area	Minimum surface area to which resident is exposed via any pathway during the residential period	DERIVED(m**2)	
Default value used			

Element Dependant Parameters

Parameter Name	Description	Distribution	
H:Coefficient	Partition coefficient for H	CONSTANT(mL/g)	
Default value used		Value	0.00E+00
C:Coefficient	Partition coefficient for C	CONTINUOUS LINEAR(Log10(mL/g))	
Default value used		Value	Probability
		-5.67E-01	0.00E+00
		-4.70E-01	1.03E-02
		-3.63E-01	3.44E-02
		-2.73E-01	6.71E-02
		-1.99E-01	9.98E-02
		-1.30E-01	1.33E-01
		-6.49E-02	1.65E-01
		-3.96E-03	1.98E-01
		5.94E-02	2.31E-01
		1.24E-01	2.63E-01
		1.86E-01	2.96E-01
		2.51E-01	3.29E-01

		3.18E-01	3.61E-01
		3.89E-01	3.94E-01
		4.64E-01	4.27E-01
		5.40E-01	4.60E-01
		6.19E-01	4.92E-01
		6.40E-01	5.01E-01
		7.07E-01	5.25E-01
		7.99E-01	5.58E-01
		9.00E-01	5.90E-01
		1.01E+00	6.23E-01
		1.13E+00	6.56E-01
		1.26E+00	6.88E-01
		1.41E+00	7.21E-01
		1.59E+00	7.54E-01
		1.78E+00	7.87E-01
		2.03E+00	8.19E-01
		2.32E+00	8.52E-01
		2.71E+00	8.85E-01
		3.26E+00	9.17E-01
		4.14E+00	9.50E-01
		5.03E+00	9.69E-01
		6.32E+00	9.83E-01
		8.02E+00	9.91E-01
		1.44E+01	1.00E+00
Co:Coefficient	Partition coefficient for Co	CONTINUOUS LINEAR(Log10(mL/g))	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		-2.47E+00	0.00E+00
		1.95E-01	3.45E-02
		7.70E-01	6.91E-02
		1.13E+00	1.04E-01
		1.39E+00	1.38E-01
		1.59E+00	1.73E-01
		1.77E+00	2.07E-01
		1.91E+00	2.42E-01
		1.95E+00	2.50E-01
		2.04E+00	2.76E-01
		2.16E+00	3.11E-01
		2.28E+00	3.45E-01
		2.38E+00	3.80E-01
		2.47E+00	4.15E-01
		2.56E+00	4.49E-01
		2.65E+00	4.84E-01
		2.69E+00	4.99E-01
		2.73E+00	5.18E-01
		2.82E+00	5.53E-01
		2.90E+00	5.87E-01
		2.97E+00	6.22E-01
		3.05E+00	6.56E-01
		3.13E+00	6.91E-01
		3.21E+00	7.25E-01
		3.28E+00	7.50E-01
		3.30E+00	7.60E-01
		3.39E+00	7.94E-01
		3.48E+00	8.29E-01
		3.58E+00	8.64E-01
		3.70E+00	8.98E-01
		3.84E+00	9.33E-01
		4.03E+00	9.67E-01
		4.30E+00	9.91E-01
		4.65E+00	1.00E+00

Ni:Coefficient	Partition coefficient for Ni	NORMAL(Log10(mL/g))
Default value used		Mean 1.57E+00
		Standard Deviation 1.48E+00
Sr:Coefficient	Partition coefficient for Sr	NORMAL(Log10(mL/g))
Default value used		Mean 1.50E+00
		Standard Deviation 9.20E-01
Y:Coefficient	Partition coefficient for Y	NORMAL(Log10(mL/g))
Default value used		Mean 2.90E+00
		Standard Deviation 1.40E+00
Nb:Coefficient	Partition coefficient for Nb	NORMAL(Log10(mL/g))
Default value used		Mean 2.80E+00
		Standard Deviation 1.40E+00
Tc:Coefficient	Partition coefficient for Tc	NORMAL(Log10(mL/g))
Default value used		Mean 8.70E-01
		Standard Deviation 1.33E+00
Cs:Coefficient	Partition coefficient for Cs	NORMAL(Log10(mL/g))
Default value used		Mean 2.65E+00
		Standard Deviation 1.01E+00
Ba:Coefficient	Partition coefficient for Ba	NORMAL(Log10(mL/g))
Default value used		Mean 1.65E+00
		Standard Deviation 3.53E+00
Eu:Coefficient	Partition coefficient for Eu	NORMAL(Log10(mL/g))
Default value used		Mean 2.98E+00
		Standard Deviation 1.74E+00
Gd:Coefficient	Partition coefficient for Gd	NORMAL(Log10(mL/g))
Default value used		Mean 7.00E-01
		Standard Deviation 1.40E+00
H:Leafy	Leafy plant concentration factor for H	CONSTANT(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Value 0.00E+00
C:Leafy	Leafy plant concentration factor for C	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.57E-01
		Standard Deviation of Ln 9.04E-01
Co:Leafy	Leafy plant concentration factor for Co	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -2.43E+00
		Standard Deviation of Ln 1.55E+00
Ni:Leafy	Leafy plant concentration factor for Ni	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.38E+00
		Standard Deviation of Ln 1.16E+00
Sr:Leafy	Leafy plant concentration factor for Sr	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) 5.88E-01
		Standard Deviation of Ln 1.34E+00
Y:Leafy	Leafy plant concentration factor for Y	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.20E+00
		Standard Deviation of Ln 9.04E-01
Nb:Leafy	Leafy plant concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)

		soil)
Default value used		Mean of Ln(X) -3.91E+00
		Standard Deviation of Ln 9.04E-01
Tc:Leafy	Leafy plant concentration factor for Tc	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) 2.25E+00
		Standard Deviation of Ln 9.04E-01
Cs:Leafy	Leafy plant concentration factor for Cs	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.19E+00
		Standard Deviation of Ln 1.25E+00
Ba:Leafy	Leafy plant concentration factor for Ba	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.24E+00
		Standard Deviation of Ln 1.06E+00
Eu:Leafy	Leafy plant concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.61E+00
		Standard Deviation of Ln 9.04E-01
Gd:Leafy	Leafy plant concentration factor for Gd	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -4.61E+00
		Standard Deviation of Ln 9.04E-01
H:Root	Root plant concentration factor for H	CONSTANT(pCi/kg dry-wt roots per pCi/kg soil)
Default value used		Value 0.00E+00
C:Root	Root plant concentration factor for C	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -3.57E-01
		Standard Deviation of Ln 9.04E-01
Co:Root	Root plant concentration factor for Co	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -4.20E+00
		Standard Deviation of Ln 1.19E+00
Ni:Root	Root plant concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -3.86E+00
		Standard Deviation of Ln 9.16E-01
Sr:Root	Root plant concentration factor for Sr	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -2.59E+00
		Standard Deviation of Ln 1.34E+00
Y:Root	Root plant concentration factor for Y	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -5.12E+00
		Standard Deviation of Ln 9.04E-01
Nb:Root	Root plant concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Tc:Root	Root plant concentration factor for Tc	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
Default value used		Mean of Ln(X) 4.05E-01
		Standard Deviation of Ln 9.04E-01

Cs:Root	Root plant concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 1.41E+00
Ba:Root	Root plant concentration factor for Ba	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -6.65E+00
		Standard Deviation of Ln 1.13E+00
Eu:Root	Root plant concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Gd:Root	Root plant concentration factor for Gd	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
H:Fruit	Fruit concentration factor for H	CONSTANT(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Value 0.00E+00
C:Fruit	Fruit concentration factor for C	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -3.57E-01
		Standard Deviation of Ln 9.04E-01
Co:Fruit	Fruit concentration factor for Co	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -4.20E+00
		Standard Deviation of Ln 1.19E+00
Ni:Fruit	Fruit concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -3.86E+00
		Standard Deviation of Ln 9.16E-01
Sr:Fruit	Fruit concentration factor for Sr	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -2.59E+00
		Standard Deviation of Ln 1.34E+00
Y:Fruit	Fruit concentration factor for Y	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.12E+00
		Standard Deviation of Ln 9.04E-01
Nb:Fruit	Fruit concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Tc:Fruit	Fruit concentration factor for Tc	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) 4.05E-01
		Standard Deviation of Ln 9.04E-01
Cs:Fruit	Fruit concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 1.41E+00
Ba:Fruit	Fruit concentration factor for Ba	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)

Default value used		Mean of Ln(X)	-6.65E+00
		Standard Deviation of Ln	1.13E+00
Eu:Fruit	Fruit concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Gd:Fruit	Fruit concentration factor for Gd	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
H:Grain	Grain concentration factor for H	CONSTANT(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Value	0.00E+00
C:Grain	Grain concentration factor for C	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-3.57E-01
		Standard Deviation of Ln	9.04E-01
Co:Grain	Grain concentration factor for Co	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.20E+00
		Standard Deviation of Ln	1.19E+00
Ni:Grain	Grain concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-3.86E+00
		Standard Deviation of Ln	9.16E-01
Sr:Grain	Grain concentration factor for Sr	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-2.59E+00
		Standard Deviation of Ln	1.34E+00
Y:Grain	Grain concentration factor for Y	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.12E+00
		Standard Deviation of Ln	9.04E-01
Nb:Grain	Grain concentration factor for Nb	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	9.04E-01
Tc:Grain	Grain concentration factor for Tc	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	4.05E-01
		Standard Deviation of Ln	9.04E-01
Cs:Grain	Grain concentration factor for Cs	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	1.41E+00
Ba:Grain	Grain concentration factor for Ba	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-6.65E+00
		Standard Deviation of Ln	1.13E+00
Eu:Grain	Grain concentration factor for Eu	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
		LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg	

Gd:Grain	Grain concentration factor for Gd	soil)
Default value used		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
H:Beef	Beef transfer factor for H	CONSTANT(d/kg)
Default value used		Value 0.00E+00
C:Beef	Beef transfer factor for C	CONSTANT(d/kg)
Default value used		Value 0.00E+00
Co:Beef	Beef transfer factor for Co	CONSTANT(d/kg)
Default value used		Value 2.00E-02
Ni:Beef	Beef transfer factor for Ni	CONSTANT(d/kg)
Default value used		Value 6.00E-03
Sr:Beef	Beef transfer factor for Sr	CONSTANT(d/kg)
Default value used		Value 3.00E-04
Y:Beef	Beef transfer factor for Y	CONSTANT(d/kg)
Default value used		Value 3.00E-04
Nb:Beef	Beef transfer factor for Nb	CONSTANT(d/kg)
Default value used		Value 2.50E-01
Tc:Beef	Beef transfer factor for Tc	CONSTANT(d/kg)
Default value used		Value 8.50E-03
Cs:Beef	Beef transfer factor for Cs	CONSTANT(d/kg)
Default value used		Value 2.00E-02
Ba:Beef	Beef transfer factor for Ba	CONSTANT(d/kg)
Default value used		Value 1.50E-04
Eu:Beef	Beef transfer factor for Eu	CONSTANT(d/kg)
Default value used		Value 5.00E-03
Gd:Beef	Beef transfer factor for Gd	CONSTANT(d/kg)
Default value used		Value 3.50E-03
H:Poultry	Poultry transfer factor for H	CONSTANT(d/kg)
Default value used		Value 0.00E+00
C:Poultry	Poultry transfer factor for C	CONSTANT(d/kg)
Default value used		Value 0.00E+00
Co:Poultry	Poultry transfer factor for Co	CONSTANT(d/kg)
Default value used		Value 5.00E-01
Ni:Poultry	Poultry transfer factor for Ni	CONSTANT(d/kg)
Default value used		Value 1.00E-03
Sr:Poultry	Poultry transfer factor for Sr	CONSTANT(d/kg)
Default value used		Value 3.50E-02
Y:Poultry	Poultry transfer factor for Y	CONSTANT(d/kg)
Default value used		Value 1.00E-02
Nb:Poultry	Poultry transfer factor for Nb	CONSTANT(d/kg)
Default value used		Value 3.10E-04
Tc:Poultry	Poultry transfer factor for Tc	CONSTANT(d/kg)
Default value used		Value 3.00E-02
Cs:Poultry	Poultry transfer factor for Cs	CONSTANT(d/kg)

Default value used		Value	4.40E+00
Ba:Poultry	Poultry transfer factor for Ba	CONSTANT(d/kg)	
Default value used		Value	8.10E-04
Eu:Poultry	Poultry transfer factor for Eu	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
Gd:Poultry	Poultry transfer factor for Gd	CONSTANT(d/kg)	
Default value used		Value	4.00E-03
H:Milk	Milk transfer factor for H	CONSTANT(d/L)	
Default value used		Value	0.00E+00
C:Milk	Milk transfer factor for C	CONSTANT(d/L)	
Default value used		Value	0.00E+00
Co:Milk	Milk transfer factor for Co	CONSTANT(d/L)	
Default value used		Value	2.00E-03
Ni:Milk	Milk transfer factor for Ni	CONSTANT(d/L)	
Default value used		Value	1.00E-03
Sr:Milk	Milk transfer factor for Sr	CONSTANT(d/L)	
Default value used		Value	1.50E-03
Y:Milk	Milk transfer factor for Y	CONSTANT(d/L)	
Default value used		Value	2.00E-05
Nb:Milk	Milk transfer factor for Nb	CONSTANT(d/L)	
Default value used		Value	2.00E-02
Tc:Milk	Milk transfer factor for Tc	CONSTANT(d/L)	
Default value used		Value	1.00E-02
Cs:Milk	Milk transfer factor for Cs	CONSTANT(d/L)	
Default value used		Value	7.00E-03
Ba:Milk	Milk transfer factor for Ba	CONSTANT(d/L)	
Default value used		Value	3.50E-04
Eu:Milk	Milk transfer factor for Eu	CONSTANT(d/L)	
Default value used		Value	2.00E-05
Gd:Milk	Milk transfer factor for Gd	CONSTANT(d/L)	
Default value used		Value	2.00E-05
H:Eggs	Egg transfer factor for H	CONSTANT(d/kg)	
Default value used		Value	0.00E+00
C:Eggs	Egg transfer factor for C	CONSTANT(d/kg)	
Default value used		Value	0.00E+00
Co:Eggs	Egg transfer factor for Co	CONSTANT(d/kg)	
Default value used		Value	1.00E-01
Ni:Eggs	Egg transfer factor for Ni	CONSTANT(d/kg)	
Default value used		Value	1.00E-01
Sr:Eggs	Egg transfer factor for Sr	CONSTANT(d/kg)	
Default value used		Value	3.00E-01
Y:Eggs	Egg transfer factor for Y	CONSTANT(d/kg)	
Default value used		Value	2.00E-03
	Egg transfer factor for Nb	CONSTANT(d/kg)	

Nb:Eggs		
Default value used		Value 1.30E-03
Tc:Eggs	Egg transfer factor for Tc	CONSTANT(d/kg)
Default value used		Value 3.00E+00
Cs:Eggs	Egg transfer factor for Cs	CONSTANT(d/kg)
Default value used		Value 4.90E-01
Ba:Eggs	Egg transfer factor for Ba	CONSTANT(d/kg)
Default value used		Value 1.50E+00
Eu:Eggs	Egg transfer factor for Eu	CONSTANT(d/kg)
Default value used		Value 7.00E-03
Gd:Eggs	Egg transfer factor for Gd	CONSTANT(d/kg)
Default value used		Value 7.00E-03
H:Factor	Bioaccumulation factor for H in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.00E+00
C:Factor	Bioaccumulation factor for C in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 4.60E+03
Co:Factor	Bioaccumulation factor for Co in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 3.30E+02
Ni:Factor	Bioaccumulation factor for Ni in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.00E+02
Sr:Factor	Bioaccumulation factor for Sr in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 5.00E+01
Y:Factor	Bioaccumulation factor for Y in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.50E+01
Nb:Factor	Bioaccumulation factor for Nb in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.00E+02
Tc:Factor	Bioaccumulation factor for Tc in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.50E+01
Cs:Factor	Bioaccumulation factor for Cs in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.00E+03
Ba:Factor	Bioaccumulation factor for Ba in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.00E+02
Eu:Factor	Bioaccumulation factor for Eu in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.50E+01
Gd:Factor	Bioaccumulation factor for Gd in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.50E+01

Correlation Coefficients:

Parameter One	Parameter Two	Correlation Coefficient
KSDEV:Permeability Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		
NDEV:Porosity Probability	BDEV:Parameter "b" Probability	-0.35

Summary Results:

90.00% of the 202 calculated TEDE values are < 2.70E-01 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 2.68E-01 to 2.75E-01 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Soil Concentration (pCi/g)	Water Concentration (pCi/g)
3H	3.12E-04	5.84E-03
14C	1.59E-03	5.29E-13
60Co	4.01E-02	2.56E-23
63Ni	9.48E-01	1.30E-09
90Sr	1.27E-05	1.88E-18
90Y	0.00E+00	1.86E-18
94Nb	1.38E-05	1.05E-17
99Tc	3.27E-06	8.99E-12
137Cs	1.33E-05	1.34E-23
137mBa	1.26E-05	1.27E-23
152Eu	4.39E-08	3.24E-24
152Gd	0.00E+00	5.56E-29
154Eu	9.05E-06	8.74E-25

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
2.75E-01	2.32E-02	1.73E-07	1.01E-08	2.49E-01	4.21E-06	2.21E-05	1.59E-07

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
3H	1.11E-04
14C	1.01E-03
60Co	2.66E-01
63Ni	6.47E-03
90Sr	2.07E-04
90Y	1.11E-05
94Nb	5.96E-05
99Tc	5.54E-06
137Cs	1.13E-05

137mBa	1.94E-05
152Eu	1.27E-07
152Gd	3.51E-23
154Eu	2.82E-05
All Nuclides	2.75E-01

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
3H	1.11E-04	1.73E-07	3.73E-09	0.00E+00	5.76E-12	2.75E-10	1.59E-07
14C	8.92E-04	5.10E-16	5.64E-14	1.04E-08	9.82E-10	4.70E-08	4.93E-15
60Co	1.75E-02	3.19E-25	2.39E-24	2.49E-01	2.44E-06	1.43E-05	1.31E-24
63Ni	6.14E-03	3.47E-13	8.24E-13	0.00E+00	1.76E-06	7.72E-06	9.12E-13
90Sr	2.07E-04	1.24E-19	1.40E-19	4.25E-09	4.83E-09	2.53E-08	3.78E-19
90Y	1.10E-05	9.25E-21	5.21E-21	1.35E-07	3.09E-11	1.89E-09	2.63E-20
94Nb	2.67E-06	3.48E-20	1.47E-19	5.70E-05	1.69E-09	1.39E-09	8.78E-19
99Tc	5.52E-06	6.07E-15	1.76E-15	2.00E-10	8.06E-12	6.77E-11	3.75E-14
137Cs	1.13E-05	3.10E-25	1.39E-23	4.72E-09	1.24E-10	9.30E-09	1.89E-24
137mBa	0.00E+00	0.00E+00	0.00E+00	1.94E-05	0.00E+00	0.00E+00	0.00E+00
152Eu	9.91E-10	9.68E-27	5.13E-27	1.26E-07	2.80E-12	3.92E-12	1.49E-26
152Gd	3.42E-23	4.12E-30	2.29E-30	0.00E+00	3.55E-26	8.80E-26	6.23E-30
154Eu	2.95E-07	3.85E-27	2.09E-27	2.79E-05	7.39E-10	1.18E-09	6.03E-27



DandD Residential Scenario

DandD Version: 2.1.0

Run Date/Time: 5/13/2014 11:47:53 AM

Site Name: HBPP

Description: Residential discounted

FileName: C:\Users\MxEo\Desktop\soil.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 202

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Agricultural Pathway is ON

Drinking Water Pathway is ON

Irrigation Pathway is ON

Surface Water Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
239Pu	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 5.91E-07

Chain Data:

Number of chains: 1

Chain No. 1: 239Pu

Nuclides in chain: 14

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
239Pu	1	8.79E+06					9.56E-07	1.16E-04	3.17E-14	1.31E-16
235U	2	2.57E+11	1	1	0	0	7.19E-08	3.32E-05	1.28E-11	3.24E-13
231Th	3	1.06E+00	2	1	0	0	3.65E-10	2.37E-10	1.60E-12	1.68E-14
231Pa	4	1.20E+07	3	1	0	0	2.86E-06	3.47E-04	3.52E-12	8.30E-14

227Ac	5	7.95E+03	4	1	0	0	3.80E-06	1.81E-03	1.36E-14	2.26E-16
223Fr	Implicit		5	0.0138			2.33E-09	1.68E-09	4.88E-12	8.74E-14
227Th	6	1.87E+01	5	0.9862	0	0	1.03E-08	4.37E-06	8.94E-12	2.29E-13
223Ra	7	1.14E+01	6	1	5	0.0138	1.78E-07	2.12E-06	1.11E-11	2.67E-13
219Rn	Implicit		7	1			0.00E+00	0.00E+00	4.74E-12	1.33E-13
215Po	Implicit		7	1			0.00E+00	0.00E+00	1.51E-14	4.30E-16
211Pb	Implicit		7	1			1.42E-10	2.35E-09	4.38E-12	1.26E-13
211Bi	Implicit		7	1			0.00E+00	0.00E+00	3.96E-12	1.10E-13
211Po	Implicit		7	0.0028			0.00E+00	0.00E+00	6.57E-13	1.94E-14
207Tl	Implicit		7	0.9972			0.00E+00	0.00E+00	3.25E-13	8.19E-15

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Soil Concentration (pCi/g)
239Pu	5.91E-07
235U	0.00E+00
231Th	0.00E+00
231Pa	0.00E+00
227Ac	0.00E+00
223Fr	0.00E+00
227Th	0.00E+00
223Ra	0.00E+00
219Rn	0.00E+00
215Po	0.00E+00
211Pb	0.00E+00
211Bi	0.00E+00
211Po	0.00E+00
207Tl	0.00E+00

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
Tv(1):Translocation:Leafy	Translocation factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E+00
Tv(2):Translocation:Root	Translocation factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(3):Translocation:Fruit	Translocation factor for fruit	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(4):Translocation:Grain	Translocation factor for grain	CONSTANT(none)
Default value used		

		Value	1.00E-01
Tf(1):Translocation:Beef Forage	Translocation factor for forage consumed by beef cattle	CONSTANT(none)	
Default value used		Value	1.00E+00
Tf(2):Translocation:Poultry Forage	Translocation factor for forage consumed by poultry	CONSTANT(none)	
Default value used		Value	1.00E+00
Tf(3):Translocation:Milk Cow	Translocatiion factor for forage consumed by milk cows	CONSTANT(none)	
Default value used		Value	1.00E+00
Tf(4):Translocation:Layer Hen Forage	Translocation factor for forage consumed by layer hens	CONSTANT(none)	
Default value used		Value	1.00E+00
Tg(1):Translocation:Beef Grain	Translocation factor for stored grain consumed by beef cattle	CONSTANT(none)	
Default value used		Value	1.00E-01
Tg(2):Translocation:Poultry Grain	Translocation factor for stored grain consumed by poultry	CONSTANT(none)	
Default value used		Value	1.00E-01
Tg(3):Translocation:Milk Cow Grain	Translocation factor for stored grain consumed by milk cows	CONSTANT(none)	
Default value used		Value	1.00E-01
Tg(4):Translocation:Layer Hen Grain	Translocation factor for stored grain consumed by layer hens	CONSTANT(none)	
Default value used		Value	1.00E-01
Th(1):Translocation:Beef Hay	Translocation factor for stored hay consumed by beef cattle	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(2):Translocation:Poultry Hay	Translocation factor for stored hay consumed by poultry	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(3):Translocation:Milk Cow Hay	Translocation factor for stored hay consumed by milk cows	CONSTANT(none)	
Default value used		Value	1.00E+00
Th(4):Translocation:Layer Hen Hay	Translocation factor for stored hay consumed by layer hens	CONSTANT(none)	
Default value used		Value	1.00E+00
fca(1):Beef Carbon Fraction	Mass fraction of beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	3.60E-01
fca(2):Poultry Carbon Fraction	Mass fraction of poultry that is carbon	CONSTANT(none)	
Default value used		Value	1.80E-01
fca(3):Milk Carbon Fraction	Mass fraction of milk that is carbon	CONSTANT(none)	
Default value used		Value	6.00E-02
fca(4):Eggs Carbon Fraction	Mass fraction of an egg that is carbon	CONSTANT(none)	

Default value used		Value	1.60E-01
fcf(1):Beef Forage Carbon Fraction	Mass fraction of wet forage consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(2):Poultry Forage Carbon Fraction	Mass fraction of wet forage consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(3):Milk Cow Forage Carbon Fraction	Mass fraction of wet forage consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcf(4):Layer Hen Forage Carbon Fraction	Mass fraction of wet forage consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	1.10E-01
fcg(1):Beef Grain Carbon Fraction	Mass fraction of wet stored grain consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(2):Poultry Grain Carbon Fraction	Mass fraction of wet stored grain consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(3):Milk Cow Grain Carbon Fraction	Mass fraction of wet stored grain consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fcg(4):Layer Hen Grain Carbon Fraction	Mass fraction of wet stored grain consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	4.00E-01
fch(1):Beef Hay Carbon Fraction	Mass fraction of wet stored hay consumed by beef cattle that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(2):Poultry Hay Carbon Fraction	Mass fraction of wet stored hay consumed by poultry that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(3):Milk Cow Hay Carbon Fraction	Mass fraction of wet stored hay consumed by milk cows that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fch(4):Layer Hen Hay Carbon Fraction	Mass fraction of wet stored hay consumed by layer hens that is carbon	CONSTANT(none)	
Default value used		Value	7.00E-02
fCd:Soil Carbon Fraction	Mass fraction of dry soil that is carbon	CONSTANT(none)	
Default value used		Value	3.00E-02
SATac:Animal Product Specific Activity	Specific activity equivalence of animal product and specific activity of animal feed, forage, and soil	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(1):Beef Forage Contaminated Fraction	Fraction of forage consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(2):Poultry Forage Contaminated Fraction	Fraction of forage consumed by poultry that is contaminated	CONSTANT(none)	

Default value used		Value	1.00E+00
xf(3):Milk Cow Forage Contaminated Fraction	Fraction of forage consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xf(4):Layer Hen Forage Contaminated Fraction	Fraction of forage consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(1):Beef Grain Contaminated Fraction	Fraction of stored grain consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(2):Poultry Grain Contaminated Fraction	Fraction of stored grain consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(3):Milk Cow Grain Contaminated Fraction	Fraction of stored grain consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xg(4):Layer Hen Grain Contaminated Fraction	Fraction of stored grain that is consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(1):Beef Hay Contaminated Fraction	Fraction of stored hay consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(2):Poultry Hay Contaminated Fraction	Fraction of stored hay consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(3):Milk Cow Hay Contaminated Fraction	Fraction of stored hay consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xh(4):Layer Hen Hay Contaminated Fraction	Fraction of stored hay consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(1):Beef Water Contaminated Fraction	Fraction of water that is consumed by beef cattle that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(2):Poultry Water Contaminated Fraction	Fraction of water consumed by poultry that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(3):Milk Cow Water Contaminated Fraction	Fraction of water consumed by milk cows that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
xw(4):Layer Hen Water Contaminated Fraction	Fraction of water consumed by layer hens that is contaminated	CONSTANT(none)	
Default value used		Value	1.00E+00
DIET:Garden Diet	Fraction of human diet grown onsite	CONSTANT(none)	
Default value used		Value	1.00E+00
Uv(1):Diet - Leafy	Yearly human consumption of leafy vegetables	CONSTANT(kg/y)	

Default value used		Value	2.14E+01
Uv(2):Diet - Roots	Yearly human consumption of other vegetables	CONSTANT(kg/y)	
Default value used		Value	4.46E+01
Uv(3):Diet - Fruit	Yearly human consumption of fruits	CONSTANT(kg/y)	
Default value used		Value	5.28E+01
Uv(4):Diet - Grain	Yearly human consumption of grains	CONSTANT(kg/y)	
Default value used		Value	1.44E+01
Ua(1):Diet - Beef	Yearly human consumption of beef	CONSTANT(kg/y)	
Default value used		Value	3.98E+01
Ua(2):Diet - Poultry	Yearly human consumption of poultry	CONSTANT(kg/y)	
Default value used		Value	2.53E+01
Ua(3):Diet - Milk	Yearly human consumption of milk	CONSTANT(L/y)	
Default value used		Value	2.33E+02
Ua(4):Diet - Egg	Yearly human consumption of eggs	CONSTANT(kg/y)	
Default value used		Value	1.91E+01
Uf:Diet - Fish	Yearly human consumption of fish produced from an onsite pond	CONSTANT(kg/y)	
Default value used		Value	2.06E+01
tf:Consumption Period	Consumption period for fish	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(1):Consumption Period - Leafy	Food consumption period for leafy vegetables	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(2):Consumption Period - Roots	Food consumption period for other vegetables	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(3):Consumption Period - Fruit	Food consumption period for fruits	CONSTANT(days)	
Default value used		Value	3.65E+02
tcv(4):Consumption Period - Grain	Food consumption period for grains	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(1):Consumption Period - Beef	Food consumption period for beef	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(2):Consumption Period - Poultry	Food consumption period for poultry	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(3):Consumption Period - Milk	Food consumption period for milk	CONSTANT(days)	
Default value used		Value	3.65E+02
tca(4):Consumption Period - Egg	Food consumption period for eggs	CONSTANT(days)	
Default value used		Value	3.65E+02
Nunsat:Number of Unsaturated Layers	Number of model layers used to represent the unsaturated zone	CONSTANT(none)	

Default value used		Value	1.00E+01
TstartR:Start Time	The start time of the scenario in days	CONSTANT(days)	
Default value used		Value	0.00E+00
TendR:End Time	The ending time of the scenario in days	CONSTANT(days)	
Default value used		Value	3.65E+05
dtR:Time Step Size	The time step size	CONSTANT(days)	
Default value used		Value	3.65E+02
PstepR:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)	
Default value used		Value	1.00E+00
TI:Indoor Exposure Period	The time the resident spends indoors	CONSTANT(days/year)	
Default value used		Value	2.40E+02
TX:Outdoor Exposure Period	The time the resident spends outdoors	CONSTANT(days/year)	
Default value used		Value	4.02E+01
TG:Gardening Period	The time the resident spends gardening	CONSTANT(days/year)	
Default value used		Value	2.92E+00
TTR:Total time in period	Total time in the one year exposure period	CONSTANT(days/year)	
Default value used		Value	3.65E+02
SFI:Indoor Shielding Factor	Shielding factor for the residence	CONSTANT(none)	
Default value used		Value	5.52E-01
SFO:Outdoor Shielding Factor	Shielding factor for the cover soil	CONSTANT(none)	
Default value used		Value	1.00E+00
PD:Floor dust loading	Floor dust loading	UNIFORM(g/m**2)	
Default value used		Lower Limit	2.00E-02
		Upper Limit	3.00E-01
RFR:Indoor Resuspension Factor	Resuspension factor for indoor dust	LOGUNIFORM(1/m)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	8.00E-05
CDO:Outdoor Dust Loading	Average dust loading outdoors	LOGUNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	1.00E-04
CDI:Indoor Dust Loading	Average dust loading indoors	DERIVED(g/m**3)	
Default value used			
PF:Indoor/Outdoor Penetration Factor	Fraction of outdoor dust in indoor air	UNIFORM(none)	
Default value used		Lower Limit	2.00E-01
		Upper Limit	7.00E-01
CDG:Gardening Dust Loading	Average dust loading while gardening	UNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-04
		Upper Limit	7.00E-04

VR:Indoor Breathing Rate	Breathing rate while indoors	CONSTANT(m**3/hr)
Default value used		Value 9.00E-01
VX:Outdoor Breathing Rate	Breathing rate while outdoors	CONSTANT(m**3/hr)
Default value used		Value 1.40E+00
VG:Gardening Breathing Rate	Breathing rate while gardening	CONSTANT(m**3/hr)
Default value used		Value 1.70E+00
GR:Soil Ingestion Transfer Rate	Average rate of soil ingestion	CONSTANT(g/d)
Default value used		Value 5.00E-02
UW:Diet - Water	Drinking water ingestion rate	CONSTANT(L/d)
Default value used		Value 1.26E+00
H1:Surface Soil Thickness	Thickness of the surface soil layer	CONSTANT(m)
Default value used		Value 1.50E-01
H2:Unsaturated Zone Thickness	Thickness of the unsaturated zone	CONTINUOUS LINEAR(m)
Default value used		Value Probability
		3.05E-01 0.00E+00
		6.68E-01 4.76E-03
		8.11E-01 9.52E-03
		9.21E-01 1.43E-02
		9.94E-01 1.91E-02
		1.03E+00 2.38E-02
		1.07E+00 2.86E-02
		1.14E+00 3.33E-02
		1.21E+00 3.81E-02
		1.30E+00 4.29E-02
		1.31E+00 4.76E-02
		1.32E+00 5.24E-02
		1.56E+00 5.71E-02
		1.58E+00 6.19E-02
		1.61E+00 6.67E-02
		1.69E+00 7.62E-02
		1.78E+00 8.57E-02
		1.80E+00 9.05E-02
		1.81E+00 9.52E-02
		1.84E+00 1.00E-01
		1.87E+00 1.05E-01
		1.92E+00 1.10E-01
		2.04E+00 1.14E-01
		2.10E+00 1.19E-01
		2.11E+00 1.24E-01
		2.32E+00 1.29E-01
		2.36E+00 1.33E-01
		2.37E+00 1.38E-01
		2.39E+00 1.43E-01
		2.44E+00 1.48E-01
		2.44E+00 1.52E-01
		2.45E+00 1.57E-01
		2.59E+00 1.62E-01
		2.63E+00 1.67E-01
		2.69E+00 1.71E-01
		2.79E+00 1.76E-01
		2.81E+00 1.81E-01
		2.90E+00 1.86E-01

2.95E+00	1.91E-01
3.07E+00	1.95E-01
3.18E+00	2.00E-01
3.22E+00	2.05E-01
3.30E+00	2.10E-01
3.34E+00	2.14E-01
3.37E+00	2.19E-01
3.44E+00	2.24E-01
3.58E+00	2.29E-01
3.62E+00	2.33E-01
3.66E+00	2.38E-01
3.74E+00	2.43E-01
3.86E+00	2.48E-01
3.88E+00	2.52E-01
4.17E+00	2.57E-01
4.26E+00	2.62E-01
4.44E+00	2.71E-01
4.63E+00	2.76E-01
4.87E+00	2.81E-01
5.13E+00	2.86E-01
5.18E+00	2.91E-01
5.54E+00	2.95E-01
5.83E+00	3.00E-01
5.86E+00	3.05E-01
5.86E+00	3.10E-01
5.90E+00	3.14E-01
6.06E+00	3.19E-01
6.13E+00	3.24E-01
6.17E+00	3.29E-01
6.22E+00	3.33E-01
6.31E+00	3.38E-01
6.36E+00	3.43E-01
6.40E+00	3.48E-01
6.46E+00	3.52E-01
6.51E+00	3.57E-01
6.55E+00	3.62E-01
6.60E+00	3.67E-01
6.86E+00	3.71E-01
6.93E+00	3.76E-01
6.95E+00	3.86E-01
6.97E+00	3.91E-01
7.09E+00	3.95E-01
7.18E+00	4.00E-01
7.35E+00	4.05E-01
7.36E+00	4.10E-01
7.40E+00	4.14E-01
7.43E+00	4.19E-01
7.46E+00	4.24E-01
7.59E+00	4.29E-01
7.60E+00	4.33E-01
7.64E+00	4.38E-01
7.87E+00	4.43E-01
8.10E+00	4.48E-01
8.28E+00	4.52E-01
8.35E+00	4.57E-01
8.71E+00	4.62E-01
8.71E+00	4.67E-01
8.73E+00	4.71E-01
8.79E+00	4.76E-01
8.80E+00	4.81E-01
8.82E+00	4.86E-01

8.85E+00	4.91E-01
8.89E+00	4.95E-01
8.90E+00	5.00E-01
8.99E+00	5.05E-01
9.00E+00	5.10E-01
9.13E+00	5.14E-01
9.14E+00	5.19E-01
9.21E+00	5.24E-01
9.31E+00	5.29E-01
9.55E+00	5.33E-01
9.60E+00	5.38E-01
9.63E+00	5.43E-01
9.86E+00	5.48E-01
1.05E+01	5.52E-01
1.07E+01	5.57E-01
1.13E+01	5.62E-01
1.15E+01	5.67E-01
1.17E+01	5.71E-01
1.20E+01	5.76E-01
1.26E+01	5.81E-01
1.26E+01	5.86E-01
1.28E+01	5.91E-01
1.32E+01	5.95E-01
1.32E+01	6.00E-01
1.34E+01	6.05E-01
1.34E+01	6.10E-01
1.36E+01	6.14E-01
1.37E+01	6.19E-01
1.38E+01	6.24E-01
1.41E+01	6.29E-01
1.45E+01	6.33E-01
1.51E+01	6.38E-01
1.52E+01	6.43E-01
1.61E+01	6.48E-01
1.62E+01	6.52E-01
1.65E+01	6.57E-01
1.66E+01	6.62E-01
1.69E+01	6.67E-01
1.74E+01	6.71E-01
1.82E+01	6.76E-01
1.84E+01	6.81E-01
1.84E+01	6.86E-01
1.87E+01	6.91E-01
1.95E+01	6.95E-01
2.01E+01	7.00E-01
2.07E+01	7.05E-01
2.08E+01	7.10E-01
2.17E+01	7.14E-01
2.24E+01	7.19E-01
2.27E+01	7.24E-01
2.29E+01	7.29E-01
2.29E+01	7.33E-01
2.40E+01	7.38E-01
2.47E+01	7.43E-01
2.60E+01	7.48E-01
2.65E+01	7.52E-01
2.72E+01	7.57E-01
2.73E+01	7.62E-01
2.76E+01	7.67E-01
2.77E+01	7.71E-01
2.78E+01	7.76E-01

	2.80E+01	7.81E-01
	2.86E+01	7.86E-01
	2.94E+01	7.91E-01
	3.01E+01	7.95E-01
	3.03E+01	8.00E-01
	3.06E+01	8.10E-01
	3.08E+01	8.14E-01
	3.11E+01	8.19E-01
	3.17E+01	8.24E-01
	3.17E+01	8.29E-01
	3.17E+01	8.33E-01
	3.22E+01	8.38E-01
	3.39E+01	8.43E-01
	3.48E+01	8.48E-01
	3.54E+01	8.52E-01
	3.60E+01	8.57E-01
	3.68E+01	8.62E-01
	4.03E+01	8.67E-01
	4.07E+01	8.71E-01
	4.24E+01	8.76E-01
	4.29E+01	8.81E-01
	4.42E+01	8.86E-01
	4.72E+01	8.91E-01
	4.97E+01	8.95E-01
	5.12E+01	9.00E-01
	6.13E+01	9.05E-01
	6.19E+01	9.10E-01
	6.23E+01	9.14E-01
	6.32E+01	9.19E-01
	6.59E+01	9.24E-01
	6.73E+01	9.29E-01
	7.47E+01	9.33E-01
	7.92E+01	9.38E-01
	8.12E+01	9.43E-01
	8.28E+01	9.48E-01
	8.47E+01	9.52E-01
	8.96E+01	9.57E-01
	9.47E+01	9.62E-01
	1.08E+02	9.67E-01
	1.13E+02	9.71E-01
	1.15E+02	9.76E-01
	1.42E+02	9.81E-01
	1.77E+02	9.86E-01
	1.78E+02	9.91E-01
	1.80E+02	9.95E-01
	3.16E+02	1.00E+00
N1:Surface Soil Porosity	Porosity of the surface soil layer	DERIVED(none)
Default value used		
N2:Unsaturated Zone Porosity	Porosity of the unsaturated zone	DERIVED(none)
Default value used		
F1:Surface Soil Saturation	Saturation ratio of the surface soil layer	DERIVED(none)
Default value used		
F2:Unsaturated Zone Saturation	Saturation ratio of the unsaturated zone	DERIVED(none)
Default value used		
INFIL:Infiltration Rate	Net rate of infiltration to aquifer	DERIVED(m/y)
Default value used		

SCSST:Soil Classification		SCS soil classification ID	DISCRETE CUMULATIVE(none)	
Default value used			Value	Probability
			1.00E+00	1.00E-04
			2.00E+00	1.34E-03
			3.00E+00	1.06E-02
			4.00E+00	2.51E-02
			5.00E+00	6.17E-02
			6.00E+00	1.09E-01
			7.00E+00	1.62E-01
			8.00E+00	2.12E-01
			9.00E+00	2.85E-01
			1.00E+01	5.10E-01
			1.10E+01	7.58E-01
			1.20E+01	1.00E+00
NDEV:Porosity Probability		Relative porosity value within the distribution for this soil type	UNIFORM(none)	
Default value used			Lower Limit	0.00E+00
			Upper Limit	1.00E+00
KSDEV:Permeability Probability		Relative permeability value within the distribution for this soil type	UNIFORM(none)	
Default value used			Lower Limit	0.00E+00
			Upper Limit	1.00E+00
BDEV:Parameter "b" Probability		Relative value of "b" parameter within the distribution for this soil type	UNIFORM(none)	
Default value used			Lower Limit	0.00E+00
			Upper Limit	1.00E+00
AP:Water Application Rate		Total water application rate on cultivated area	CONTINUOUS LINEAR(m/y)	
Default value used			Value	Probability
			6.07E-01	0.00E+00
			6.10E-01	4.62E-01
			6.35E-01	4.76E-01
			7.62E-01	5.40E-01
			8.89E-01	6.29E-01
			1.02E+00	7.05E-01
			1.14E+00	8.04E-01
			1.27E+00	8.79E-01
			1.40E+00	9.41E-01
			1.52E+00	9.82E-01
			1.65E+00	9.98E-01
			1.78E+00	1.00E+00
IR:Irrigation Rate		Annual average irrigation rate	CONSTANT(L/m**2-d)	
Default value used			Value	1.29E+00
RHO1:Surface Soil Density		Bulk density of soil in the surface soil layer	DERIVED(g/mL)	
Default value used				
RHO2:Unsaturated Zone Density		Bulk density of soil in the unsaturated zone	DERIVED(g/mL)	
Default value used				
Ksat1:Surface Soil Permeabiliy		Saturated permeability of the surface soil layer	DERIVED(cm/sec)	
Default value used				
VDR:Volume of Water Consumed		Volume of water withdrawn for consumptive use	CONSTANT(L)	

Default value used		Value	1.18E+05
VSW:Volume of Water in Pond	Volume of water in the pond	CONSTANT(L)	
Default value used		Value	1.30E+06
AR:Cultivated Area	Area of land cultivated	DERIVED(m**2)	
Default value used			
sh:Soil Moisture Content	Moisture content of soil	DERIVED(none)	
Default value used			
TTG:Gardening Period	Total time in gardening period	CONSTANT(days)	
Default value used		Value	9.00E+01
TD:Drinking-water consumption period	Drinking-water consumption period	CONSTANT(days)	
Default value used		Value	3.65E+02
THV(1):Holdup Period : Leafy	Holdup period for leafy vegetables	CONSTANT(days)	
Default value used		Value	1.00E+00
THV(2):Holdup Period : Other vegetables	Holdup period for other vegetables	CONSTANT(days)	
Default value used		Value	1.40E+01
THV(3):Holdup Period : Fruits	Holdup period for fruits	CONSTANT(days)	
Default value used		Value	1.40E+01
THV(4):Holdup Period : Grains	Holdup period for grains	CONSTANT(days)	
Default value used		Value	1.40E+01
THA(1):Holdup Period : Beef	Holdup period for beef	CONSTANT(days)	
Default value used		Value	2.00E+01
THA(2):Holdup Period : Poultry	Holdup period for poultry	CONSTANT(days)	
Default value used		Value	1.00E+00
THA(3):Holdup Period : Milk	Holdup period for milk	CONSTANT(days)	
Default value used		Value	1.00E+00
THA(4):Holdup Period : Eggs	Holdup period for eggs	CONSTANT(days)	
Default value used		Value	1.00E+00
TGV(1):Growing Period : Leafy	Minimum growing period for leafy vegetables	CONSTANT(days)	
Default value used		Value	4.50E+01
TGV(2):Growing Period : Other vegetables	Minimum growing period for other vegetables	CONSTANT(days)	
Default value used		Value	9.00E+01
TGV(3):Growing Period : Fruits	Minimum growing period for fruits	CONSTANT(days)	
Default value used		Value	9.00E+01
TGV(4):Growing Period :	Minimum growing period for grains	CONSTANT(days)	

Grains		
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGF(1):Growing Period : Beef Forage	Minimum growing period for forage consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.00E+01
TGF(2):Growing Period : Poultry Forage	Minimum growing period for forage consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGF(3):Growing Period : Milk Cow Forage	Minimum growing period for forage consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGF(4):Growing Period : Layer Hen Forage	Minimum growing period for forage consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
TGG(1):Growing Period : Beef Cow Grain	Minimum growing period for stored grain consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGG(2):Growing Period : Poultry Grain	Minimum growing period for stored grain consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGG(3):Growing Period : Milk Cow Grain	Minimum growing period for stored grain consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGG(4):Growing Period : Layer Hen Grain	Minimum growing period for stored grain consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
TGH(1):Growing Period : Beef Cow Hay	Minimum growing period for stored hay consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 4.50E+01
TGH(2):Growing Period : Poultry Hay	Minimum growing period for stored hay consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGH(3):Growing Period : Milk Cow Hay	Minimum growing period for stored hay consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGH(4):Growing Period : Layer Hen Hay	Minimum growing period for stored hay consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
RV(1):Interception Fraction : Leafy	Interception fraction for leafy vegetables	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01
		<u>Upper Limit</u> 6.00E-01
RV(2):Interception Fraction : Other vegetables	Interception fraction for other vegetables	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01
		<u>Upper Limit</u> 6.00E-01
RV(3):Interception Fraction : Fruits	Interception fraction for fruits	UNIFORM(none)
<u>Default value used</u>		<u>Lower Limit</u> 1.00E-01

		<u>Upper Limit</u>	6.00E-01
RV(4):Interception Fraction : Grains	Interception fraction for grains	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	1.00E-01
		<u>Upper Limit</u>	6.00E-01
RF(1):Interception Fraction : Beef Forage	Interception fraction for beef cattle forage	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	1.00E-01
		<u>Upper Limit</u>	6.00E-01
RF(2):Interception Fraction : Poultry forage	Interception fraction for poultry forage	DERIVED(none)	
<u>Default value used</u>			
RF(3):Interception Fraction : Milk Cow Forage	Interception fraction for milk cow forage	DERIVED(none)	
<u>Default value used</u>			
RF(4):Interception Fraction : Layer Hen Forage	Interception fraction for layer hen forage	DERIVED(none)	
<u>Default value used</u>			
RG(1):Interception Fraction : Beef Cow Grain	Interception fraction for beef cattle grain	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	1.00E-01
		<u>Upper Limit</u>	6.00E-01
RG(2):Interception Fraction : Poultry Grain	Interception fraction for poultry grain	DERIVED(none)	
<u>Default value used</u>			
RG(3):Interception Fraction : Milk Cow Grain	Interception fraction for milk cow grain	DERIVED(none)	
<u>Default value used</u>			
RG(4):Interception Fraction : Layer Hen Grain	Interception fraction for layer hen grain	DERIVED(none)	
<u>Default value used</u>			
RH(1):Interception Fraction : Beef Cow Hay	Interception fraction for beef cattle hay	DERIVED(none)	
<u>Default value used</u>			
RH(2):Interception Fraction : Poultry Hay	Interception fraction for poultry hay	DERIVED(none)	
<u>Default value used</u>			
RH(3):Interception Fraction : Milk Cow Hay	Interception fraction for milk cow hay	DERIVED(none)	
<u>Default value used</u>			
RH(4):Interception Fraction : Layer Hen Hay	Interception fraction for layer hen hay	DERIVED(none)	
<u>Default value used</u>			
YV(1):Crop Yield : Leafy	Crop yield for leafy vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.70E+00	0.00E+00
		2.71E+00	1.60E-03
		2.74E+00	6.00E-03
		2.76E+00	1.76E-02
		2.78E+00	4.36E-02

		2.80E+00	8.48E-02
		2.82E+00	1.56E-01
		2.85E+00	2.57E-01
		2.87E+00	3.64E-01
		2.89E+00	5.00E-01
		2.91E+00	6.39E-01
		2.93E+00	7.46E-01
		2.96E+00	8.42E-01
		2.98E+00	9.09E-01
		3.00E+00	9.60E-01
		3.02E+00	9.84E-01
		3.04E+00	9.94E-01
		3.07E+00	9.97E-01
		3.09E+00	9.99E-01
		3.11E+00	1.00E+00
		3.13E+00	1.00E+00
		3.15E+00	1.00E+00
YV(2):Crop Yield : Other	Crop yield for other vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.26E+00	0.00E+00
		2.29E+00	8.00E-04
		2.30E+00	1.20E-03
		2.31E+00	6.40E-03
		2.33E+00	1.52E-02
		2.34E+00	3.28E-02
		2.35E+00	7.44E-02
		2.36E+00	1.40E-01
		2.38E+00	2.49E-01
		2.39E+00	3.80E-01
		2.40E+00	5.30E-01
		2.42E+00	6.61E-01
		2.43E+00	7.88E-01
		2.44E+00	8.86E-01
		2.45E+00	9.42E-01
		2.47E+00	9.75E-01
		2.48E+00	9.88E-01
		2.49E+00	9.96E-01
		2.51E+00	9.97E-01
		2.52E+00	9.99E-01
		2.53E+00	1.00E+00
		2.54E+00	1.00E+00
YV(3):Crop Yield : Fruits	Crop yield for fruits	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.17E+00	0.00E+00
		2.20E+00	1.20E-03
		2.21E+00	2.40E-03
		2.23E+00	6.80E-03
		2.25E+00	1.80E-02
		2.27E+00	4.36E-02
		2.29E+00	7.64E-02
		2.31E+00	1.38E-01
		2.32E+00	2.14E-01
		2.34E+00	3.27E-01
		2.36E+00	4.50E-01
		2.38E+00	5.76E-01
		2.40E+00	6.87E-01
		2.42E+00	7.88E-01
		2.43E+00	8.68E-01
		2.45E+00	9.25E-01
		2.47E+00	9.60E-01

		2.49E+00	9.81E-01
		2.51E+00	9.92E-01
		2.53E+00	9.98E-01
		2.54E+00	1.00E+00
		2.56E+00	1.00E+00
YV(4):Crop Yield : Grains	Crop yield for grains	CONTINUOUS LINEAR(kg wet wt/m**2)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		2.85E-01	0.00E+00
		2.90E-01	6.00E-04
		3.02E-01	2.80E-03
		3.14E-01	9.40E-03
		3.26E-01	2.14E-02
		3.38E-01	5.42E-02
		3.50E-01	1.08E-01
		3.62E-01	2.02E-01
		3.74E-01	3.15E-01
		3.86E-01	4.50E-01
		3.98E-01	5.92E-01
		4.10E-01	7.20E-01
		4.23E-01	8.26E-01
		4.35E-01	9.03E-01
		4.47E-01	9.51E-01
		4.59E-01	9.77E-01
		4.71E-01	9.91E-01
		4.83E-01	9.96E-01
		4.95E-01	9.99E-01
		5.07E-01	1.00E+00
		5.19E-01	1.00E+00
		5.31E-01	1.00E+00
YF(1):Crop Yield : Beef Forage	Crop yield for beef cattle forage	BETA(kg dry wt forage/m**2)	
<u>Default value used</u>		<u>Lower Limit</u>	3.70E-01
		<u>Upper Limit</u>	5.24E-01
		<u>p</u>	2.36E+00
		<u>q</u>	1.40E+00
YF(2):Crop Yield : Poultry Forage	Crop yield for poultry forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(3):Crop Yield : Milk Cow Forage	Crop yield for milk cow forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(4):Crop Yield : Layer Hen Forage	Crop yield for layer hen forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YG(1):Crop Yield : Beef Cow Grain	Crop yield for beef cattle grain	NORMAL(kg dry wt grain /m**2)	
<u>Default value used</u>		<u>Mean</u>	5.78E-01
		<u>Standard Deviation</u>	7.77E-02
YG(2):Crop Yield : Poultry Grain	Crop yield for poultry grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YG(3):Crop Yield : Milk Cow Grain	Crop yield for milk cow grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			

YG(4):Crop Yield : Layer Hen Grain	Crop yield for layer hen grain	DERIVED(kg wet wt grain /m**2)
Default value used		
YH(1):Crop Yield : Beef Cow Hay	Crop yield for beef cattle hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(2):Crop Yield : Poultry Hay	Crop yield for poultry hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(3):Crop Yield : Milk Cow Hay	Crop yield for milk cow hay	DERIVED(kg wet wt/m**2)
Default value used		
YH(4):Crop Yield : Layer Hen Hay	Crop yield for layer hen hay	DERIVED(kg wet wt/m**2)
Default value used		
WV(1):Wet/dry : Leafy Vegetables	Wet/dry conversion factor for leafy vegetables	CONTINUOUS LINEAR(none)
Default value used		<u>Value</u> <u>Probability</u>
		3.32E-02 0.00E+00
		4.89E-02 3.45E-02
		5.47E-02 6.91E-02
		5.96E-02 1.04E-01
		6.36E-02 1.38E-01
		6.70E-02 1.73E-01
		7.05E-02 2.07E-01
		7.38E-02 2.42E-01
		7.48E-02 2.50E-01
		7.72E-02 2.76E-01
		8.03E-02 3.11E-01
		8.34E-02 3.45E-01
		8.66E-02 3.80E-01
		9.00E-02 4.15E-01
		9.36E-02 4.49E-01
		9.73E-02 4.84E-01
		9.91E-02 4.99E-01
		1.01E-01 5.18E-01
		1.05E-01 5.53E-01
		1.09E-01 5.87E-01
		1.13E-01 6.22E-01
		1.18E-01 6.56E-01
		1.23E-01 6.91E-01
		1.29E-01 7.25E-01
		1.33E-01 7.50E-01
		1.35E-01 7.60E-01
		1.42E-01 7.94E-01
		1.50E-01 8.29E-01
		1.59E-01 8.64E-01
		1.70E-01 8.98E-01
		1.85E-01 9.33E-01
		2.10E-01 9.67E-01
		2.56E-01 9.91E-01
		3.24E-01 1.00E+00
WV(2):Wet/dry : Other Vegetables	Wet/dry conversion factor for other vegetables	CONTINUOUS LINEAR(none)
Default value used		<u>Value</u> <u>Probability</u>
		3.58E-02 0.00E+00

			4.87E-02	3.45E-02
			5.46E-02	6.91E-02
			5.90E-02	1.04E-01
			6.29E-02	1.38E-01
			6.69E-02	1.73E-01
			7.02E-02	2.07E-01
			7.34E-02	2.42E-01
			7.41E-02	2.50E-01
			7.65E-02	2.76E-01
			7.99E-02	3.11E-01
			8.32E-02	3.45E-01
			8.66E-02	3.80E-01
			9.05E-02	4.15E-01
			9.41E-02	4.49E-01
			9.82E-02	4.84E-01
			9.98E-02	4.99E-01
			1.02E-01	5.18E-01
			1.06E-01	5.53E-01
			1.09E-01	5.87E-01
			1.14E-01	6.22E-01
			1.19E-01	6.56E-01
			1.24E-01	6.91E-01
			1.29E-01	7.25E-01
			1.33E-01	7.50E-01
			1.35E-01	7.60E-01
			1.42E-01	7.94E-01
			1.50E-01	8.29E-01
			1.59E-01	8.64E-01
			1.70E-01	8.98E-01
			1.87E-01	9.33E-01
			2.12E-01	9.67E-01
			2.62E-01	9.91E-01
			3.13E-01	1.00E+00
WV(3):Wet/dry : Fruit		Wet/dry conversion factor for fruits	CONTINUOUS LINEAR(none)	
<u>Default value used</u>			<u>Value</u>	<u>Probability</u>
			3.66E-02	0.00E+00
			4.87E-02	3.45E-02
			5.45E-02	6.91E-02
			5.93E-02	1.04E-01
			6.31E-02	1.38E-01
			6.72E-02	1.73E-01
			7.10E-02	2.07E-01
			7.44E-02	2.42E-01
			7.52E-02	2.50E-01
			7.78E-02	2.76E-01
			8.13E-02	3.11E-01
			8.45E-02	3.45E-01
			8.78E-02	3.80E-01
			9.11E-02	4.15E-01
			9.46E-02	4.49E-01
			9.82E-02	4.84E-01
			9.97E-02	4.99E-01
			1.02E-01	5.18E-01
			1.06E-01	5.53E-01
			1.10E-01	5.87E-01
			1.14E-01	6.22E-01
			1.19E-01	6.56E-01
			1.24E-01	6.91E-01
			1.29E-01	7.25E-01
			1.34E-01	7.50E-01

		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.49E-01	8.29E-01
		1.58E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.14E-01	9.67E-01
		2.58E-01	9.91E-01
		3.25E-01	1.00E+00
WV(4):Wet/dry : Grain	Wet/dry conversion factor for grains	CONSTANT(none)	
Default value used		<u>Value</u>	8.80E-01
WF(1):Wet/dry : Beef Cow Forage	Wet/dry conversion factor for beef cattle forage	BETA(none)	
Default value used		<u>Lower Limit</u>	1.83E-01
		<u>Upper Limit</u>	3.23E-01
		<u>p</u>	1.15E+00
		<u>q</u>	1.18E+00
WF(2):Wet/dry : Poultry Forage	Wet/dry conversion factor for poultry forage	DERIVED(none)	
Default value used			
WF(3):Wet/dry : Milk Cow Forage	Wet/dry conversion factor for milk cow forage	DERIVED(none)	
Default value used			
WF(4):Wet/dry : Layer Hen Forage	Wet/dry conversion factor for layer hen forage	DERIVED(none)	
Default value used			
WG(1):Wet/dry : Beef Cow Grain	Wet/dry conversion factor for beef cattle grain	CONSTANT(none)	
Default value used		<u>Value</u>	8.80E-01
WG(2):Wet/dry : Poultry Grain	Wet/dry conversion factor for poultry grain	DERIVED(none)	
Default value used			
WG(3):Wet/dry : Milk Cow Grain	Wet/dry conversion factor for milk cow grain	DERIVED(none)	
Default value used			
WG(4):Wet/dry : Layer Hen Grain	Wet/dry conversion factor for layer hen grain	DERIVED(none)	
Default value used			
WH(1):Wet/dry : Beef Cow Hay	Wet/dry conversion factor for beef cattle hay	DERIVED(none)	
Default value used			
WH(2):Wet/dry : Poultry Hay	Wet/dry conversion factor for poultry hay	DERIVED(none)	
Default value used			
WH(3):Wet/dry : Milk Cow Hay	Wet/dry conversion factor for milk cow hay	DERIVED(none)	
Default value used			
WH(4):Wet/dry : Layer Hen Hay	Wet/dry conversion factor for layer hen hay	DERIVED(none)	
Default value used			
QF(1):Ingestion Rate : Beef			

Cow Forage	Ingestion rate for beef cattle forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 1.69E+00
		Upper Limit 2.29E+00
		p 1.99E+00
		q 9.11E-01
QF(2):Ingestion Rate : Poultry Forage	Ingestion rate for poultry forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 3.48E-03
		Upper Limit 2.82E-02
		p 1.51E+00
		q 1.41E+00
QF(3):Ingestion Rate : Milk Cow Forage	Ingestion rate for milk cow forage	CONTINUOUS LINEAR(kg dry wt forage/d)
Default value used		Value Probability
		6.35E+00 0.00E+00
		6.77E+00 3.45E-02
		6.96E+00 6.91E-02
		7.10E+00 1.04E-01
		7.24E+00 1.38E-01
		7.35E+00 1.73E-01
		7.47E+00 2.07E-01
		7.57E+00 2.42E-01
		7.60E+00 2.50E-01
		7.67E+00 2.76E-01
		7.77E+00 3.11E-01
		7.87E+00 3.45E-01
		7.98E+00 3.80E-01
		8.08E+00 4.15E-01
		8.18E+00 4.49E-01
		8.31E+00 4.84E-01
		8.37E+00 4.99E-01
		8.42E+00 5.18E-01
		8.54E+00 5.53E-01
		8.67E+00 5.87E-01
		8.81E+00 6.22E-01
		8.95E+00 6.56E-01
		9.10E+00 6.91E-01
		9.26E+00 7.25E-01
		9.38E+00 7.50E-01
		9.45E+00 7.60E-01
		9.68E+00 7.94E-01
9.93E+00 8.29E-01		
1.02E+01 8.64E-01		
1.06E+01 8.98E-01		
1.11E+01 9.33E-01		
1.20E+01 9.67E-01		
1.33E+01 9.91E-01		
1.53E+01 1.00E+00		
QF(4):Ingestion Rate : Layer Hen Forage	Ingestion rate for layer hen forage	BETA(kg dry wt forage/d)
Default value used		Lower Limit 1.19E-02
		Upper Limit 2.22E-02
		p 1.45E+00
		q 7.92E-01
QG(1):Ingestion Rate : Beef Cattle Grain	Ingestion rate for beef cattle grain	BETA(kg dry wt grain/d)
Default value used		Lower Limit 1.69E+00

		Upper Limit	2.29E+00
		p	1.99E+00
		q	9.11E-01
QG(2):Ingestion Rate : Poultry Grain	Ingestion rate for poultry grain	BETA(kg dry wt grain/d)	
Default value used		Lower Limit	1.04E-02
		Upper Limit	8.45E-02
		p	1.51E+00
		q	1.41E+00
QG(3):Ingestion Rate : Milk Cow Grain	Ingestion rate for milk cow grain	NORMAL(kg dry wt grain/d)	
Default value used		Mean	1.71E+00
		Standard Deviation	2.62E-01
QG(4):Ingestion Rate : Layer Hen Grain	Ingestion rate for layer hen grain	BETA(kg dry wt grain/d)	
Default value used		Lower Limit	3.58E-02
		Upper Limit	6.67E-02
		p	1.43E+00
		q	7.92E-01
QH(1):Ingestion Rate : Beef Cattle Hay	Ingestion rate for beef cattle hay	BETA(kg dry wt hay/d)	
Default value used		Lower Limit	3.38E+00
		Upper Limit	4.58E+00
		p	1.99E+00
		q	9.11E-01
QH(2):Ingestion Rate : Poultry Hay	Ingestion rate for poultry hay	CONSTANT(kg dry wt hay/d)	
Default value used		Value	0.00E+00
QH(3):Ingestion Rate : Milk Cow Hay	Ingestion rate for milk cow hay	CONTINUOUS LINEAR(kg dry wt hay/d)	
Default value used		Value	Probability
		5.12E+00	0.00E+00
		5.43E+00	3.45E-02
		5.57E+00	6.91E-02
		5.68E+00	1.04E-01
		5.79E+00	1.38E-01
		5.89E+00	1.73E-01
		5.98E+00	2.07E-01
		6.06E+00	2.42E-01
		6.08E+00	2.50E-01
		6.14E+00	2.76E-01
		6.22E+00	3.11E-01
		6.30E+00	3.45E-01
		6.38E+00	3.80E-01
		6.46E+00	4.15E-01
		6.54E+00	4.49E-01
		6.63E+00	4.84E-01
		6.67E+00	4.99E-01
		6.72E+00	5.18E-01
		6.81E+00	5.53E-01
		6.92E+00	5.87E-01
		7.03E+00	6.22E-01
		7.13E+00	6.56E-01
		7.26E+00	6.91E-01
		7.39E+00	7.25E-01
		7.49E+00	7.50E-01

		7.56E+00	7.60E-01
		7.70E+00	7.94E-01
		7.89E+00	8.29E-01
		8.11E+00	8.64E-01
		8.39E+00	8.98E-01
		8.75E+00	9.33E-01
		9.44E+00	9.67E-01
		1.05E+01	9.91E-01
		1.27E+01	1.00E+00
QH(4):Ingestion Rate : Layer Hen Hay	Ingestion rate for layer hen hay	CONSTANT(kg dry wt hay/d)	
Default value used		Value	0.00E+00
QW(1):Water Rate : Beef Cattle	Water ingestion rate for beef cattle	CONSTANT(L/d)	
Default value used		Value	5.00E+01
QW(2):Water Rate : Poultry	Water ingestion rate for poultry	CONSTANT(L/d)	
Default value used		Value	3.00E-01
QW(3):Water Rate : Milk Cows	Water ingestion rate for milk cows	CONSTANT(L/d)	
Default value used		Value	6.00E+01
QW(4):Water Rate : Layer Hens	Water ingestion rate for layer hens	CONSTANT(L/d)	
Default value used		Value	3.00E-01
QD(1):Soil Fraction : Beef Cattle	Soil intake fraction for beef cattle	CONSTANT(none)	
Default value used		Value	2.00E-02
QD(2):Soil Fraction : Poultry	Soil intake fraction for poultry	CONSTANT(none)	
Default value used		Value	1.00E-01
QD(3):Soil Fraction : Milk Cows	Soil intake fraction for milk cows	CONSTANT(none)	
Default value used		Value	2.00E-02
QD(4):Soil Fraction : Layer Hens	Soil intake fraction for layer hens	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(1):Mass-Loading : Leafy Vegetables	Mass-loading factor for leafy vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(2):Mass-Loading : Other Vegetables	Mass-loading factor for other vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(3):Mass-Loading : Fruits	Mass-loading factor for fruits	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(4):Mass-Loading : Grains	Mass-loading factor for grains	CONSTANT(none)	
Default value used		Value	1.00E-01
LAMBDW:Weathering	Weathering rate for activity removal from	CONSTANT(1/d)	

Rate	plants	
Default value used		<u>Value</u> 4.95E-02
MLF(1):Mass-Loading : Beef Cow Forage	Mass-loading factor for beef cattle forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLF(2):Mass-Loading : Poultry Forage	Mass-loading factor for poultry forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLF(3):Mass-Loading : Milk Cow Forage	Mass-loading factor for milk cow forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLF(4):Mass-Loading : Layer Hen Forage	Mass-loading factor for layer hen forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLG(1):Mass-Loading : Beef Cattle Grain	Mass-loading factor for beef cattle grain	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLG(2):Mass-Loading : Poultry Grain	Mass-loading factor for poultry grain	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLG(3):Mass-Loading : Milk Cow Grain	Mass-loading factor for milk cow grain	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLG(4):Mass-Loading : Layer Hen Grain	Mass-loading factor for layer hen grain	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLH(1):Mass-Loading : Beef Cattle Hay	Mass-loading factor for beef cattle hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLH(2):Mass-Loading : Poultry Hay	Mass-loading factor for poultry hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLH(3):Mass-Loading : Milk Cow Hay	Mass-loading factor for milk cow hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
MLH(4):Mass-Loading : Layer Hen Hay	Mass-loading factor for layer hen hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
TFF(1):Feeding Period : Beef Cow Forage	Feeding period for beef cattle forage	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFF(2):Feeding Period : Poultry Forage	Feeding period for poultry forage	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02
TFF(3):Feeding Period : Milk Cow Forage	Feeding period for milk cow forage	CONSTANT(days)
Default value used		<u>Value</u> 3.65E+02

TFF(4):Feeding Period : Layer Hen Forage	Feeding period for layer hen forage	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(1):Feeding Period : Beef Cattle Grain	Feeding period for beef cattle grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(2):Feeding Period : Poultry Grain	Feeding period for poultry grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(3):Feeding Period : Milk Cow Grain	Feeding period for milk cow grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(4):Feeding Period : Layer Hen Grain	Feeding period for layer hen grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(1):Feeding Period : Beef Cattle Hay	Feeding period for beef cattle hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(2):Feeding Period : Poultry Hay	Feeding period for poultry hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(3):Feeding Period : Milk Cow Hay	Feeding period for milk cow hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(4):Feeding Period : Layer Hen Hay	Feeding period for layer hen hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(1):Water Period : Beef Cattle	Water ingestion period for beef cattle	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(2):Water Period : Poultry	Water ingestion period for poultry	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(3):Water Period : Milk Cows	Water ingestion period for milk cows	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(4):Water Period : Layer Hens	Water ingestion period for layer hens	CONSTANT(days)
Default value used		Value 3.65E+02
fha(1):Hydrogen Fraction : Beef Cattle	Hydrogen fraction for beef cattle	CONSTANT(none)
Default value used		Value 1.00E-01
fha(2):Hydrogen Fraction : Poultry	Hydrogen fraction for poultry	CONSTANT(none)
Default value used		Value 1.00E-01
fha(3):Hydrogen Fraction : Milk Cows	Hydrogen fraction for milk cows	CONSTANT(none)
Default value used		Value 1.10E-01

fha(4):Hydrogen Fraction : Eggs	Hydrogen fraction for eggs	CONSTANT(none)
Default value used		<u>Value</u> 1.10E-01
fhv(1):Hydrogen Fraction : Leafy Vegetables	Hydrogen fraction for leafy vegetables	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(2):Hydrogen Fraction : Other Vegetables	Hydrogen fraction for other vegetables	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(3):Hydrogen Fraction : Fruits	Hydrogen fraction for fruits	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhv(4):Hydrogen Fraction : Grains	Hydrogen fraction for grains	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhf(1):Hydrogen Fraction : Beef Cow Forage	Hydrogen fraction for beef cattle forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhf(2):Hydrogen Fraction : Poultry Forage	Hydrogen fraction for poultry forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhf(3):Hydrogen Fraction : Milk Cow Forage	Hydrogen fraction for milk cow forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhf(4):Hydrogen Fraction : Layer Hen Forage	Hydrogen fraction for layer hen forage	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(1):Hydrogen Fraction : Beef Cattle Hay	Hydrogen fraction for beef cattle hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(2):Hydrogen Fraction : Poultry Hay	Hydrogen fraction for poultry hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(3):Hydrogen Fraction : Milk Cow Hay	Hydrogen fraction for milk cow hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhh(4):Hydrogen Fraction : Layer Hen Hay	Hydrogen fraction for layer hen hay	CONSTANT(none)
Default value used		<u>Value</u> 1.00E-01
fhg(1):Hydrogen Fraction : Beef Cattle Grain	Hydrogen fraction for beef cattle grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhg(2):Hydrogen Fraction : Poultry Grain	Hydrogen fraction for poultry grain	CONSTANT(none)
Default value used		<u>Value</u> 6.80E-02
fhg(3):Hydrogen Fraction : Milk Cow Grain	Hydrogen fraction for milk cow grain	CONSTANT(none)

Default value used		Value	6.80E-02
fhg(4):Hydrogen Fraction : Layer Hen Grain	Hydrogen fraction for layer hen grain	CONSTANT(none)	
Default value used		Value	6.80E-02
fhd016:Hydrogen Fraction : Soil	Fraction of hydrogen in soil	DERIVED(none)	
Default value used			
sasvh:Tritium Equivalence: Plant/Soil	Tritium equivalence: plant/soil	CONSTANT(none)	
Default value used		Value	1.00E+00
sawvh:Tritium Equivalence: Plant/Water	Tritium equivalence: plant/water	CONSTANT(none)	
Default value used		Value	1.00E+00
satah:Tritium Equivalence: Animal Products	Tritium equivalence: animal product intake	CONSTANT(none)	
Default value used		Value	1.00E+00
YA(1):Animal Product Yield : Beef Cattle	Annual yield of beef per individual animal	CONSTANT(kg/y)	
Default value used		Value	2.09E+02
YA(2):Animal Product Yield : Poultry	Annual yield of chicken per individual animal	CONSTANT(kg/y)	
Default value used		Value	1.53E+00
YA(3):Animal Product Yield : Milk Cows	Annual yield of milk per individual animal	CONSTANT(L/y)	
Default value used		Value	7.41E+03
YA(4):Animal Product Yield : Layer Hens	Annual yield of eggs per individual animal	CONSTANT(kg/y)	
Default value used		Value	1.26E+01
ARExt:External Exposure Area	Minimum surface area to which resident is exposed via external radiation during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARInh:Inhalation Exposure Area	Minimum surface area to which resident is exposed via inhalation during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARIng:Secondary Ingestion Exposure Area	Minimum surface area to which resident is exposed via secondary ingestion during residential period	CONSTANT(m**2)	
Default value used		Value	1.00E+02
ARAgr:Agricultural Exposure Area	Minimum surface area to which resident is exposed via any agricultural product during residential period	DERIVED(m**2)	
Default value used			
ARH2O:Groundwater Exposure Area	Minimum surface area to which resident is exposed via groundwater during residential period	DERIVED(m**2)	
Default value used			
ARAll:Exposure Area	Minimum surface area to which resident is exposed via any pathway during the	DERIVED(m**2)	

	residential period	
Default value used		

Element Dependant Parameters

Parameter Name	Description	Distribution
Tl:Coefficient	Partition coefficient for Tl	NORMAL(Log10(mL/g))
Default value used		Mean 2.20E+00 Standard Deviation 1.40E+00
Pb:Coefficient	Partition coefficient for Pb	NORMAL(Log10(mL/g))
Default value used		Mean 3.38E+00 Standard Deviation 1.20E+00
Bi:Coefficient	Partition coefficient for Bi	NORMAL(Log10(mL/g))
Default value used		Mean 2.65E+00 Standard Deviation 1.40E+00
Po:Coefficient	Partition coefficient for Po	NORMAL(Log10(mL/g))
Default value used		Mean 2.26E+00 Standard Deviation 7.30E-01
Rn:Coefficient	Partition coefficient for Rn	CONSTANT(mL/g)
Default value used		Value 0.00E+00
Ra:Coefficient	Partition coefficient for Ra	NORMAL(Log10(mL/g))
Default value used		Mean 3.55E+00 Standard Deviation 7.40E-01
Ac:Coefficient	Partition coefficient for Ac	NORMAL(Log10(mL/g))
Default value used		Mean 3.24E+00 Standard Deviation 1.40E+00
Th:Coefficient	Partition coefficient for Th	NORMAL(Log10(mL/g))
Default value used		Mean 3.77E+00 Standard Deviation 1.57E+00
Pa:Coefficient	Partition coefficient for Pa	NORMAL(Log10(mL/g))
Default value used		Mean 3.31E+00 Standard Deviation 1.40E+00
U:Coefficient	Partition coefficient for U	NORMAL(Log10(mL/g))
Default value used		Mean 2.10E+00 Standard Deviation 1.36E+00
Pu:Coefficient	Partition coefficient for Pu	NORMAL(Log10(mL/g))
Default value used		Mean 2.98E+00 Standard Deviation 8.20E-01
Tl:Leafy	Leafy plant concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -5.52E+00 Standard Deviation of Ln 9.04E-01
Pb:Leafy	Leafy plant concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
Default value used		Mean of Ln(X) -3.10E+00 Standard Deviation of Ln 9.04E-01

Bi:Leafy	Leafy plant concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -3.35E+00
		Standard Deviation of Ln 9.04E-01
Po:Leafy	Leafy plant concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.99E+00
		Standard Deviation of Ln 9.04E-01
Rn:Leafy	Leafy plant concentration factor for Rn	CONSTANT(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Value 0.00E+00
Ra:Leafy	Leafy plant concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -4.20E+00
		Standard Deviation of Ln 9.04E-01
Ac:Leafy	Leafy plant concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.65E+00
		Standard Deviation of Ln 9.04E-01
Th:Leafy	Leafy plant concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.07E+00
		Standard Deviation of Ln 9.04E-01
Pa:Leafy	Leafy plant concentration factor for Pa	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.99E+00
		Standard Deviation of Ln 9.04E-01
U:Leafy	Leafy plant concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -4.77E+00
		Standard Deviation of Ln 9.04E-01
Pu:Leafy	Leafy plant concentration factor for Pu	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.71E+00
		Standard Deviation of Ln 9.04E-01
Tl:Root	Root plant concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Pb:Root	Root plant concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -4.71E+00
		Standard Deviation of Ln 9.04E-01
Bi:Root	Root plant concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Po:Root	Root plant concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Rn:Root	Root plant concentration factor for Rn	CONSTANT(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Value 0.00E+00

Ra:Root	Root plant concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -6.50E+00
		Standard Deviation of Ln 9.04E-01
Ac:Root	Root plant concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.96E+00
		Standard Deviation of Ln 9.04E-01
Th:Root	Root plant concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -9.37E+00
		Standard Deviation of Ln 9.04E-01
Pa:Root	Root plant concentration factor for Pa	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -8.29E+00
		Standard Deviation of Ln 9.04E-01
U:Root	Root plant concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.52E+00
		Standard Deviation of Ln 9.04E-01
Pu:Root	Root plant concentration factor for Pu	LOGNORMAL-N(pCi/kg dry-wt roots per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -1.00E+01
		Standard Deviation of Ln 9.04E-01
Tl:Fruit	Fruit concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Pb:Fruit	Fruit concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -4.71E+00
		Standard Deviation of Ln 9.04E-01
Bi:Fruit	Fruit concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -5.30E+00
		Standard Deviation of Ln 9.04E-01
Po:Fruit	Fruit concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.82E+00
		Standard Deviation of Ln 9.04E-01
Rn:Fruit	Fruit concentration factor for Rn	CONSTANT(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Value 0.00E+00
Ra:Fruit	Fruit concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -6.50E+00
		Standard Deviation of Ln 9.04E-01
Ac:Fruit	Fruit concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)
<u>Default value used</u>		Mean of Ln(X) -7.96E+00
		Standard Deviation of Ln 9.04E-01
Th:Fruit	Fruit concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)

Default value used		Mean of Ln(X)	-9.37E+00
		Standard Deviation of Ln	9.04E-01
Pa:Fruit	Fruit concentration factor for Pa	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)	
Default value used		Mean of Ln(X)	-8.29E+00
		Standard Deviation of Ln	9.04E-01
U:Fruit	Fruit concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01
Pu:Fruit	Fruit concentration factor for Pu	LOGNORMAL-N(pCi/kg dry-wt fruit per pCi/kg soil)	
Default value used		Mean of Ln(X)	-1.00E+01
		Standard Deviation of Ln	9.04E-01
Tl:Grain	Grain concentration factor for Tl	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Pb:Grain	Grain concentration factor for Pb	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-4.71E+00
		Standard Deviation of Ln	9.04E-01
Bi:Grain	Grain concentration factor for Bi	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.30E+00
		Standard Deviation of Ln	9.04E-01
Po:Grain	Grain concentration factor for Po	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.82E+00
		Standard Deviation of Ln	9.04E-01
Rn:Grain	Grain concentration factor for Rn	CONSTANT(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Value	0.00E+00
Ra:Grain	Grain concentration factor for Ra	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-6.50E+00
		Standard Deviation of Ln	9.04E-01
Ac:Grain	Grain concentration factor for Ac	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-7.96E+00
		Standard Deviation of Ln	9.04E-01
Th:Grain	Grain concentration factor for Th	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-9.37E+00
		Standard Deviation of Ln	9.04E-01
Pa:Grain	Grain concentration factor for Pa	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-8.29E+00
		Standard Deviation of Ln	9.04E-01
U:Grain	Grain concentration factor for U	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)	
Default value used		Mean of Ln(X)	-5.52E+00
		Standard Deviation of Ln	9.04E-01

Pu:Grain	Grain concentration factor for Pu	LOGNORMAL-N(pCi/kg dry-wt grain per pCi/kg soil)
Default value used		Mean of Ln(X) -1.00E+01
		Standard Deviation of Ln 9.04E-01
Tl:Beef	Beef transfer factor for Tl	CONSTANT(d/kg)
Default value used		Value 4.00E-02
Pb:Beef	Beef transfer factor for Pb	CONSTANT(d/kg)
Default value used		Value 3.00E-04
Bi:Beef	Beef transfer factor for Bi	CONSTANT(d/kg)
Default value used		Value 4.00E-04
Po:Beef	Beef transfer factor for Po	CONSTANT(d/kg)
Default value used		Value 3.00E-04
Rn:Beef	Beef transfer factor for Rn	CONSTANT(d/kg)
Default value used		Value 0.00E+00
Ra:Beef	Beef transfer factor for Ra	CONSTANT(d/kg)
Default value used		Value 2.50E-04
Ac:Beef	Beef transfer factor for Ac	CONSTANT(d/kg)
Default value used		Value 2.50E-05
Th:Beef	Beef transfer factor for Th	CONSTANT(d/kg)
Default value used		Value 6.00E-06
Pa:Beef	Beef transfer factor for Pa	CONSTANT(d/kg)
Default value used		Value 1.00E-05
U:Beef	Beef transfer factor for U	CONSTANT(d/kg)
Default value used		Value 2.00E-04
Pu:Beef	Beef transfer factor for Pu	CONSTANT(d/kg)
Default value used		Value 5.00E-07
Tl:Poultry	Poultry transfer factor for Tl	CONSTANT(d/kg)
Default value used		Value 3.00E-01
Pb:Poultry	Poultry transfer factor for Pb	CONSTANT(d/kg)
Default value used		Value 2.00E-01
Bi:Poultry	Poultry transfer factor for Bi	CONSTANT(d/kg)
Default value used		Value 1.00E-01
Po:Poultry	Poultry transfer factor for Po	CONSTANT(d/kg)
Default value used		Value 9.00E-01
Rn:Poultry	Poultry transfer factor for Rn	CONSTANT(d/kg)
Default value used		Value 0.00E+00
Ra:Poultry	Poultry transfer factor for Ra	CONSTANT(d/kg)
Default value used		Value 3.00E-02
Ac:Poultry	Poultry transfer factor for Ac	CONSTANT(d/kg)
Default value used		Value 4.00E-03
Th:Poultry	Poultry transfer factor for Th	CONSTANT(d/kg)
Default value used		Value 4.00E-03
Pa:Poultry	Poultry transfer factor for Pa	CONSTANT(d/kg)
Default value used		Value 4.00E-03

U:Poultry	Poultry transfer factor for U	CONSTANT(d/kg)
Default value used		Value 1.20E+00
Pu:Poultry	Poultry transfer factor for Pu	CONSTANT(d/kg)
Default value used		Value 1.50E-04
Tl:Milk	Milk transfer factor for Tl	CONSTANT(d/L)
Default value used		Value 2.00E-03
Pb:Milk	Milk transfer factor for Pb	CONSTANT(d/L)
Default value used		Value 2.50E-04
Bi:Milk	Milk transfer factor for Bi	CONSTANT(d/L)
Default value used		Value 5.00E-04
Po:Milk	Milk transfer factor for Po	CONSTANT(d/L)
Default value used		Value 3.50E-04
Rn:Milk	Milk transfer factor for Rn	CONSTANT(d/L)
Default value used		Value 0.00E+00
Ra:Milk	Milk transfer factor for Ra	CONSTANT(d/L)
Default value used		Value 4.50E-04
Ac:Milk	Milk transfer factor for Ac	CONSTANT(d/L)
Default value used		Value 2.00E-05
Th:Milk	Milk transfer factor for Th	CONSTANT(d/L)
Default value used		Value 5.00E-06
Pa:Milk	Milk transfer factor for Pa	CONSTANT(d/L)
Default value used		Value 5.00E-06
U:Milk	Milk transfer factor for U	CONSTANT(d/L)
Default value used		Value 6.00E-04
Pu:Milk	Milk transfer factor for Pu	CONSTANT(d/L)
Default value used		Value 1.00E-07
Tl:Eggs	Egg transfer factor for Tl	CONSTANT(d/kg)
Default value used		Value 8.00E-01
Pb:Eggs	Egg transfer factor for Pb	CONSTANT(d/kg)
Default value used		Value 8.00E-01
Bi:Eggs	Egg transfer factor for Bi	CONSTANT(d/kg)
Default value used		Value 8.00E-01
Po:Eggs	Egg transfer factor for Po	CONSTANT(d/kg)
Default value used		Value 7.00E+00
Rn:Eggs	Egg transfer factor for Rn	CONSTANT(d/kg)
Default value used		Value 0.00E+00
Ra:Eggs	Egg transfer factor for Ra	CONSTANT(d/kg)
Default value used		Value 2.00E-05
Ac:Eggs	Egg transfer factor for Ac	CONSTANT(d/kg)
Default value used		Value 2.00E-03
Th:Eggs	Egg transfer factor for Th	CONSTANT(d/kg)
Default value used		Value 2.00E-03
Pa:Eggs	Egg transfer factor for Pa	CONSTANT(d/kg)
Default value used		Value 2.00E-03

U:Eggs	Egg transfer factor for U	CONSTANT(d/kg)
Default value used		Value 9.90E-01
Pu:Eggs	Egg transfer factor for Pu	CONSTANT(d/kg)
Default value used		Value 8.00E-03
Tl:Factor	Bioaccumulation factor for Tl in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 0.00E+00
Pb:Factor	Bioaccumulation factor for Pb in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.00E+02
Bi:Factor	Bioaccumulation factor for Bi in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.50E+01
Po:Factor	Bioaccumulation factor for Po in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 5.00E+02
Rn:Factor	Bioaccumulation factor for Rn in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 0.00E+00
Ra:Factor	Bioaccumulation factor for Ra in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 7.00E+01
Ac:Factor	Bioaccumulation factor for Ac in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.50E+01
Th:Factor	Bioaccumulation factor for Th in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.00E+02
Pa:Factor	Bioaccumulation factor for Pa in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 1.10E+01
U:Factor	Bioaccumulation factor for U in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 5.00E+01
Pu:Factor	Bioaccumulation factor for Pu in fish	CONSTANT(pCi/kg wet-wt fish per pCi/L water)
Default value used		Value 2.50E+02

Correlation Coefficients:

Parameter One	Parameter Two	Correlation Coefficient
KSDEV:Permeability Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		
NDEV:Porosity Probability	BDEV:Parameter "b" Probability	-0.35
Default value used		

Summary Results:

90.00% of the 202 calculated TEDE values are < 6.57E-06 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 6.30E-06 to 6.83E-06 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Soil Concentration (pCi/g)	Water Concentration (pCi/g)
239Pu	5.91E-07	5.13E-19
235U	0.00E+00	7.37E-23
231Th	0.00E+00	6.20E-22
231Pa	0.00E+00	1.09E-21
227Ac	0.00E+00	1.68E-21
223Fr	0.00E+00	2.32E-23
227Th	0.00E+00	1.73E-21
223Ra	0.00E+00	1.71E-21
219Rn	0.00E+00	1.71E-21
215Po	0.00E+00	1.71E-21
211Pb	0.00E+00	1.71E-21
211Bi	0.00E+00	1.71E-21
211Po	0.00E+00	4.78E-24
207Tl	0.00E+00	1.70E-21

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
6.83E-06	6.60E-06	8.87E-19	4.91E-18	8.17E-11	7.44E-08	2.96E-08	1.44E-18

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
239Pu	6.83E-06
235U	5.50E-16
231Th	7.25E-18
231Pa	1.65E-19
227Ac	3.67E-20
223Fr	3.30E-25
227Th	1.65E-22
223Ra	2.56E-21
219Rn	1.40E-24
215Po	4.52E-27
211Pb	3.37E-24
211Bi	1.16E-24
211Po	5.71E-28
207Tl	8.59E-26
All Nuclides	6.83E-06

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
239Pu	6.60E-06	8.37E-19	4.65E-18	8.17E-11	7.44E-08	2.96E-08	1.39E-18
235U	4.50E-16	9.05E-24	1.03E-23	9.83E-17	1.09E-17	1.10E-18	2.34E-23
231Th	2.19E-18	3.86E-25	8.91E-25	5.06E-18	7.73E-23	5.52E-21	1.14E-25
231Pa	1.56E-19	5.32E-21	1.43E-21	1.74E-22	8.49E-22	3.03E-22	6.31E-21
227Ac	2.12E-21	1.09E-20	5.82E-21	3.74E-27	3.46E-23	3.17E-24	1.83E-20
223Fr	1.79E-26	9.23E-26	4.92E-26	2.00E-26	4.43E-31	2.68E-29	1.55E-25
227Th	4.55E-24	3.05E-23	6.74E-23	2.84E-24	6.25E-26	6.44E-27	4.74E-23
223Ra	7.04E-23	5.20E-22	8.04E-22	2.81E-24	2.57E-26	9.44E-26	8.52E-22
219Rn	0.00E+00	0.00E+00	0.00E+00	1.40E-24	0.00E+00	0.00E+00	0.00E+00
215Po	0.00E+00	0.00E+00	0.00E+00	4.52E-27	0.00E+00	0.00E+00	0.00E+00
211Pb	5.61E-26	4.15E-25	6.41E-25	1.32E-24	2.85E-29	7.53E-29	6.80E-25
211Bi	0.00E+00	0.00E+00	0.00E+00	1.16E-24	0.00E+00	0.00E+00	0.00E+00
211Po	0.00E+00	0.00E+00	0.00E+00	5.71E-28	0.00E+00	0.00E+00	0.00E+00
207Tl	0.00E+00	0.00E+00	0.00E+00	8.59E-26	0.00E+00	0.00E+00	0.00E+00

DandD Building Occupancy Scenario



DandD Version: 2.1.0

Run Date/Time: 5/13/2014 9:49:25 AM

Site Name: HBPP

Description: Soil discounted

FileName: C:\Users\MxEo\Desktop\resident discounted.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 100

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
36Cl	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.48E-02
41Ca	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.11E-04
54Mn	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 2.87E-12
65Zn	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 5.26E-17
79Se	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 2.18E-05
93Zr	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 2.19E-06
93Mo	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 7.07E-06
134Cs	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 9.63E-07
135Cs	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 5.91E-06
151Sm	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 6.17E-04

155Eu	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.26E-04
166mHo	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 5.98E-03
233U	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.50E-05
121mSn	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 7.22E-07
55Fe	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 6.08E-01
129I	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 9.18E-09

Chain Data:

Number of chains: 16

Chain No. 1: **36Cl**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
36Cl	1	1.10E+08					8.18E-10	5.93E-09	5.81E-14	1.06E-15

Chain No. 2: **41Ca**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
41Ca	1	5.11E+07					3.44E-10	3.64E-10	0.00E+00	0.00E+00

Chain No. 3: **54Mn**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
54Mn	1	3.13E+02					7.48E-10	1.81E-09	7.01E-11	2.07E-12

Chain No. 4: **55Fe**

Nuclides in chain: 1

Nuclide	Chain	Half	First	Fractional	Second	Fractional	Ingestion CEDE	Inhalation CEDE	Surface Dose Rate	15 cm Dose Rate
---------	-------	------	-------	------------	--------	------------	----------------	-----------------	-------------------	-----------------

	Position	Life	Parent	Yield	Parent	Yield	Factor (Sv/Bq)	Factor (Sv/Bq)	Factor ((Sv/d)/(Bq/m ²))	Factor ((Sv/d)/(Bq/m ³))
55Fe	1	9.86E+02					1.64E-10	7.26E-10	0.00E+00	0.00E+00

Chain No. 5: **65Zn**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
65Zn	1	2.44E+02					3.90E-09	5.51E-09	4.78E-11	1.45E-12

Chain No. 6: **79Se**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
79Se	1	2.37E+07					2.35E-09	2.66E-09	1.79E-15	8.60E-18

Chain No. 7: **93Zr**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
93Zr	1	5.59E+08					4.48E-10	8.67E-08	0.00E+00	0.00E+00
93mNb	2	4.97E+03	1	1	0	0	1.41E-10	7.90E-09	8.11E-14	4.80E-17

Chain No. 8: **93Mo**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
93Mo	1	1.28E+06					3.64E-10	7.68E-09	4.61E-13	2.73E-16
93mNb	2	4.97E+03	1	1	0	0	1.41E-10	7.90E-09	8.11E-14	4.80E-17

Chain No. 9: **121mSn**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
121mSn	1	2.01E+04					4.19E-10	3.11E-09	4.22E-13	9.11E-16
121Sn	2	1.13E+00	1	0.776	0	0	2.44E-10	1.38E-10	9.07E-15	9.02E-17

Chain No. 10: **129I**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
129I	1	5.73E+09					7.46E-08	4.69E-08	2.23E-12	5.98E-15

Chain No. 11: **134Cs**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
134Cs	1	7.53E+02					1.98E-08	1.25E-08	1.31E-10	3.86E-12

Chain No. 12: **135Cs**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
135Cs	1	8.40E+08					1.91E-09	1.23E-09	2.87E-15	1.77E-17

Chain No. 13: **151Sm**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
151Sm	1	3.29E+04					1.05E-10	8.10E-09	4.34E-16	4.55E-19

Chain No. 14: **155Eu**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
155Eu	1	1.81E+03					4.13E-10	1.12E-08	5.10E-12	8.42E-14

Chain No. 15: **166mHo**

Nuclides in chain: **1**

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor	Inhalation CEDE Factor	Surface Dose Rate Factor	15 cm Dose Rate Factor
---------	----------------	-----------	--------------	------------------	---------------	------------------	-----------------------	------------------------	--------------------------	------------------------

							(Sv/Bq)	(Sv/Bq)	((Sv/d)/(Bq/m ²))	((Sv/d)/(Bq/m ³))
166mHo	1	4.38E+05					2.18E-09	2.09E-07	1.47E-10	4.23E-12

Chain No. 16: 233U

Nuclides in chain: 10

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
233U	1	5.79E+07					7.81E-08	3.66E-05	6.18E-14	6.25E-16
229Th	2	2.68E+06	1	1	0	0	9.54E-07	5.80E-04	7.38E-12	1.47E-13
225Ra	3	1.48E+01	2	1	0	0	1.04E-07	2.10E-06	1.15E-12	5.09E-15
225Ac	4	1.00E+01	3	1	0	0	3.00E-08	2.92E-06	1.37E-12	2.89E-14
221Fr	Implicit		4	1			0.00E+00	0.00E+00	2.57E-12	6.82E-14
217At	Implicit		4	1			0.00E+00	0.00E+00	2.61E-14	7.43E-16
213Bi	Implicit		4	1			1.95E-10	4.63E-09	1.14E-11	3.24E-13
213Po	Implicit		4	0.9784			0.00E+00	0.00E+00	0.00E+00	0.00E+00
209Tl	Implicit		4	0.0216			0.00E+00	0.00E+00	1.64E-10	4.99E-12
209Pb	Implicit		4	1			5.75E-11	2.56E-11	2.60E-14	3.52E-16

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Surface Concentration (dpm/100 cm**2)
36Cl	3.48E-02
41Ca	3.11E-04
54Mn	2.87E-12
65Zn	5.26E-17
79Se	2.18E-05
93Zr	2.19E-06
93mNb	0.00E+00
93Mo	7.07E-06
134Cs	9.63E-07
135Cs	5.91E-06
151Sm	6.17E-04
155Eu	3.26E-04
166mHo	5.98E-03
233U	3.50E-05
229Th	0.00E+00
225Ra	0.00E+00
225Ac	0.00E+00
221Fr	0.00E+00
217At	0.00E+00
213Bi	0.00E+00

213Po	0.00E+00
209Tl	0.00E+00
209Pb	0.00E+00
121mSn	7.22E-07
121Sn	0.00E+00
55Fe	6.08E-01
129I	9.18E-09

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
To:Time In Building	The time in the building during the occupancy period	CONSTANT(hr/week)
<u>Default value used</u>		<u>Value</u> 4.50E+01
Tto:Occupancy Period	The duration of the occupancy exposure period	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
Vo:Breathing Rate	The average volumetric breathing rate during building occupancy for an 8-hour work day	CONSTANT(m**3/hr)
<u>Default value used</u>		<u>Value</u> 1.40E+00
RFo*:Resuspension Factor	Effective resuspension factor during the occupancy period = RFo * FI	DERIVED(1/m)
<u>Default value used</u>		
GO*:Ingestion Rate	Effective secondary ingestion transfer rate of removable surface activity from building surfaces to the mouth during building occupancy = GO * FI	DERIVED(m**2/hr)
<u>Default value used</u>		
Tstart:Start Time	The start time of the scenario in days	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 0.00E+00
Tend:End Time	The ending time of the scenario in days	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
dt:Time Step Size	The time step size	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.65E+02
Pstep:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
AOExt:External Exposure Area	Minimum surface area to which occupant is exposed via external radiation during occupancy period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+01
AOInh:Inhalation Exposure Area	Minimum surface area to which occupant is exposed via inhalation during occupancy period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+01

AOIng:Secondary Ingestion Exposure Area		Minimum surface area to which occupant is exposed via secondary ingestion during occupancy period	CONSTANT(m**2)
Default value used			Value1.00E+01
AO:Exposure Area		Minimum surface area to which occupant is exposed during the occupancy period	DERIVED(m**2)
Default value used			
Fl:Loose Fraction		Fraction of surface contamination available for resuspension and ingestion	CONSTANT(none)
Default value used			Value1.00E-01
Rfo:Loose Resuspension Factor		Resuspension factor for loose contamination	CONTINUOUS LOGARITHMIC(1/m)
Default value used			ValueProbability 9.12E-060.00E+00 1.10E-047.67E-01 1.46E-049.09E-01 1.62E-049.50E-01 1.85E-049.90E-01 1.90E-041.00E+00
GO:Loose Ingestion Rate		The secondary ingestion transfer rate of loose removable surface activity from building surfaces to the mouth during building occupancy	CONSTANT(m**2/hr)
Default value used			Value1.10E-04

Correlation Coefficients:

None

Summary Results:

90.00% of the 100 calculated TEDE values are < 3.91E-05 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 3.65E-05 to 4.25E-05 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Surface Concentration (dpm/100 cm**2)
36Cl	3.48E-02
41Ca	3.11E-04
54Mn	1.97E-12
65Zn	3.27E-17
79Se	2.18E-05
93Zr	2.19E-06
93mNb	2.32E-07
93Mo	7.07E-06
134Cs	8.18E-07
135Cs	5.91E-06

151Sm	6.15E-04
155Eu	3.04E-04
166mHo	5.98E-03
233U	3.50E-05
229Th	1.65E-09
225Ra	1.47E-09
225Ac	1.35E-09
221Fr	1.35E-09
217At	1.35E-09
213Bi	1.35E-09
213Po	1.32E-09
209Tl	2.92E-11
209Pb	1.35E-09
121mSn	7.17E-07
121Sn	5.54E-07
55Fe	5.36E-01
129I	9.18E-09

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	External	Inhalation	Secondary Ingestion
4.25E-05	1.43E-05	2.76E-05	5.69E-07

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
36Cl	1.97E-06
41Ca	1.46E-09
54Mn	2.28E-15
65Zn	2.76E-20
79Se	7.31E-10
93Zr	1.68E-09
93mNb	1.66E-11
93Mo	5.42E-10
134Cs	1.90E-09
135Cs	1.13E-10
151Sm	4.41E-08
155Eu	5.57E-08
166mHo	2.53E-05
233U	1.13E-05
229Th	8.45E-09
225Ra	2.79E-11
225Ac	3.50E-11

221Fr	5.65E-14
217At	5.74E-16
213Bi	3.07E-13
213Po	0.00E+00
209Tl	7.79E-14
209Pb	1.21E-15
121mSn	2.58E-11
121Sn	1.34E-12
55Fe	3.80E-06
129I	7.06E-12
All Nuclides	4.25E-05

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	External	Inhalation	Secondary Ingestion
36Cl	3.29E-08	1.82E-06	1.22E-07
41Ca	0.00E+00	9.96E-10	4.59E-10
54Mn	2.24E-15	3.14E-17	6.32E-18
65Zn	2.54E-20	1.59E-21	5.48E-22
79Se	6.34E-13	5.10E-10	2.20E-10
93Zr	0.00E+00	1.67E-09	4.21E-12
93mNb	3.06E-13	1.61E-11	1.40E-13
93Mo	5.30E-11	4.78E-10	1.10E-11
134Cs	1.74E-09	9.00E-11	6.95E-11
135Cs	2.76E-13	6.40E-11	4.84E-11
151Sm	4.33E-12	4.38E-08	2.77E-10
155Eu	2.52E-08	3.00E-08	5.39E-10
166mHo	1.43E-05	1.10E-05	5.59E-08
233U	3.51E-11	1.13E-05	1.17E-08
229Th	1.98E-13	8.44E-09	6.77E-12
225Ra	2.75E-14	2.72E-11	6.56E-13
225Ac	3.01E-14	3.48E-11	1.74E-13
221Fr	5.65E-14	0.00E+00	0.00E+00
217At	5.74E-16	0.00E+00	0.00E+00
213Bi	2.51E-13	5.52E-14	1.13E-15
213Po	0.00E+00	0.00E+00	0.00E+00
209Tl	7.79E-14	0.00E+00	0.00E+00
209Pb	5.72E-16	3.05E-16	3.34E-16
121mSn	4.92E-12	1.96E-11	1.29E-12
121Sn	8.17E-14	6.73E-13	5.80E-13
55Fe	0.00E+00	3.43E-06	3.77E-07
129I	3.33E-13	3.79E-12	2.94E-12

DandD Building Occupancy Scenario



DandD Version: 2.1.0

Run Date/Time: 5/13/2014 10:19:06 AM

Site Name: HBPP

Description: Occupancy nondiscounted

FileName: C:\Users\MxEo\Desktop\occupancy nondiscounted.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 100

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
3H	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.12E-01
14C	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 1.59E-01
60Co	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 4.01E+01
63Ni	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 9.48E+02
90Sr	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 1.27E-02
94Nb	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 1.38E-02
99Tc	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 3.27E-03
137Cs	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 1.33E-02
152Eu	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 4.39E-05
154Eu	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 9.05E-03

239Pu	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific	Value	5.91E-04

Chain Data:

Number of chains: 11

Chain No. 1: **3H**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
3H	1	4.51E+03					1.73E-11	1.73E-11	0.00E+00	0.00E+00

Chain No. 2: **14C**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
14C	1	2.09E+06					5.64E-10	5.64E-10	1.39E-15	6.22E-18

Chain No. 3: **60Co**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
60Co	1	1.93E+03					7.28E-09	5.91E-08	2.03E-10	6.26E-12

Chain No. 4: **63Ni**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
63Ni	1	3.51E+04					1.56E-10	1.70E-09	0.00E+00	0.00E+00

Chain No. 5: **90Sr**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
90Sr	1	1.06E+04					3.85E-08	3.51E-07	2.46E-14	3.21E-16

90Y	2	2.67E+00	1	1	0	0	2.91E-09	2.28E-09	4.60E-13	1.03E-14
------------	---	----------	---	---	---	---	----------	----------	----------	----------

Chain No. 6: **94Nb**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
94Nb	1	7.41E+06					1.93E-09	1.12E-07	1.32E-10	3.91E-12

Chain No. 7: **99Tc**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
99Tc	1	7.78E+07					3.95E-10	2.25E-09	6.73E-15	5.79E-17

Chain No. 8: **137Cs**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
137Cs	1	1.10E+04					1.35E-08	8.63E-09	2.46E-14	3.40E-16
137mBa	Implicit		1	0.946			0.00E+00	0.00E+00	5.06E-11	1.48E-12

Chain No. 9: **152Eu**

Nuclides in chain: 2

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
152Eu	1	4.87E+03					1.75E-09	5.97E-08	9.53E-11	2.78E-12
152Gd	2	3.94E+16	1	0.2792			4.34E-08	1.01E-06	0.00E+00	0.00E+00

Chain No. 10: **154Eu**

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
154Eu	1	3.21E+03					2.58E-09	7.73E-08	1.02E-10	3.04E-12

Chain No. 11: **239Pu**

Nuclides in chain: 14

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
239Pu	1	8.79E+06					9.56E-07	1.16E-04	3.17E-14	1.31E-16
235U	2	2.57E+11	1	1	0	0	7.19E-08	3.32E-05	1.28E-11	3.24E-13
231Th	3	1.06E+00	2	1	0	0	3.65E-10	2.37E-10	1.60E-12	1.68E-14
231Pa	4	1.20E+07	3	1	0	0	2.86E-06	3.47E-04	3.52E-12	8.30E-14
227Ac	5	7.95E+03	4	1	0	0	3.80E-06	1.81E-03	1.36E-14	2.26E-16
223Fr	Implicit		5	0.0138			2.33E-09	1.68E-09	4.88E-12	8.74E-14
227Th	6	1.87E+01	5	0.9862	0	0	1.03E-08	4.37E-06	8.94E-12	2.29E-13
223Ra	7	1.14E+01	6	1	5	0.0138	1.78E-07	2.12E-06	1.11E-11	2.67E-13
219Rn	Implicit		7	1			0.00E+00	0.00E+00	4.74E-12	1.33E-13
215Po	Implicit		7	1			0.00E+00	0.00E+00	1.51E-14	4.30E-16
211Pb	Implicit		7	1			1.42E-10	2.35E-09	4.38E-12	1.26E-13
211Bi	Implicit		7	1			0.00E+00	0.00E+00	3.96E-12	1.10E-13
211Po	Implicit		7	0.0028			0.00E+00	0.00E+00	6.57E-13	1.94E-14
207Tl	Implicit		7	0.9972			0.00E+00	0.00E+00	3.25E-13	8.19E-15

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Surface Concentration (dpm/100 cm**2)
3H	3.12E-01
14C	1.59E-01
60Co	4.01E+01
63Ni	9.48E+02
90Sr	1.27E-02
90Y	0.00E+00
94Nb	1.38E-02
99Tc	3.27E-03
137Cs	1.33E-02
137mBa	1.26E-02
152Eu	4.39E-05
152Gd	0.00E+00
154Eu	9.05E-03
239Pu	5.91E-04
235U	0.00E+00
231Th	0.00E+00
231Pa	0.00E+00
227Ac	0.00E+00
223Fr	0.00E+00
227Th	0.00E+00

223Ra	0.00E+00
219Rn	0.00E+00
215Po	0.00E+00
211Pb	0.00E+00
211Bi	0.00E+00
211Po	0.00E+00
207Tl	0.00E+00

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
To:Time In Building	The time in the building during the occupancy period	CONSTANT(hr/week)
Default value used		Value 4.50E+01
Tto:Occupancy Period	The duration of the occupancy exposure period	CONSTANT(days)
Default value used		Value 3.65E+02
Vo:Breathing Rate	The average volumetric breathing rate during building occupancy for an 8-hour work day	CONSTANT(m**3/hr)
Default value used		Value 1.40E+00
RFo*:Resuspension Factor	Effective resuspension factor during the occupancy period = RFo * FI	DERIVED(1/m)
Default value used		
GO*:Ingestion Rate	Effective secondary ingestion transfer rate of removable surface activity from building surfaces to the mouth during building occupancy = GO * FI	DERIVED(m**2/hr)
Default value used		
Tstart:Start Time	The start time of the scenario in days	CONSTANT(days)
Default value used		Value 0.00E+00
Tend:End Time	The ending time of the scenario in days	CONSTANT(days)
Default value used		Value 3.65E+02
dt:Time Step Size	The time step size	CONSTANT(days)
Default value used		Value 3.65E+02
Pstep:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
Default value used		Value 1.00E+00
AOExt:External Exposure Area	Minimum surface area to which occupant is exposed via external radiation during occupancy period	CONSTANT(m**2)
Default value used		Value 1.00E+01
AOInh:Inhalation Exposure Area	Minimum surface area to which occupant is exposed via inhalation during occupancy period	CONSTANT(m**2)
Default value used		Value 1.00E+01

AOIng:Secondary Ingestion Exposure Area	Minimum surface area to which occupant is exposed via secondary ingestion during occupancy period	CONSTANT(m**2)														
Default value used		<u>Value</u> 1.00E+01														
AO:Exposure Area	Minimum surface area to which occupant is exposed during the occupancy period	DERIVED(m**2)														
Default value used																
Fl:Loose Fraction	Fraction of surface contamination available for resuspension and ingestion	CONSTANT(none)														
Default value used		<u>Value</u> 1.00E-01														
Rfo:Loose Resuspension Factor	Resuspension factor for loose contamination	CONTINUOUS LOGARITHMIC(1/m)														
Default value used		<table><tr><td><u>Value</u></td><td><u>Probability</u></td></tr><tr><td>9.12E-06</td><td>0.00E+00</td></tr><tr><td>1.10E-04</td><td>7.67E-01</td></tr><tr><td>1.46E-04</td><td>9.09E-01</td></tr><tr><td>1.62E-04</td><td>9.50E-01</td></tr><tr><td>1.85E-04</td><td>9.90E-01</td></tr><tr><td>1.90E-04</td><td>1.00E+00</td></tr></table>	<u>Value</u>	<u>Probability</u>	9.12E-06	0.00E+00	1.10E-04	7.67E-01	1.46E-04	9.09E-01	1.62E-04	9.50E-01	1.85E-04	9.90E-01	1.90E-04	1.00E+00
<u>Value</u>	<u>Probability</u>															
9.12E-06	0.00E+00															
1.10E-04	7.67E-01															
1.46E-04	9.09E-01															
1.62E-04	9.50E-01															
1.85E-04	9.90E-01															
1.90E-04	1.00E+00															
GO:Loose Ingestion Rate	The secondary ingestion transfer rate of loose removable surface activity from building surfaces to the mouth during building occupancy	CONSTANT(m**2/hr)														
Default value used		<u>Value</u> 1.10E-04														

Correlation Coefficients:

None

Summary Results:

90.00% of the 100 calculated TEDE values are < 1.56E-01 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 1.53E-01 to 1.60E-01 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Surface Concentration (dpm/100 cm**2)
3H	3.03E-01
14C	1.59E-01
60Co	3.76E+01
63Ni	9.45E+02
90Sr	1.25E-02
90Y	1.24E-02
94Nb	1.38E-02
99Tc	3.27E-03
137Cs	1.31E-02
137mBa	1.24E-02

152Eu	4.28E-05
152Gd	3.87E-20
154Eu	8.70E-03
239Pu	5.91E-04
235U	2.91E-13
231Th	2.89E-13
231Pa	2.02E-18
227Ac	1.59E-20
223Fr	2.20E-22
227Th	1.19E-20
223Ra	1.01E-20
219Rn	1.01E-20
215Po	1.01E-20
211Pb	1.01E-20
211Bi	1.01E-20
211Po	2.84E-23
207Tl	1.01E-20

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	External	Inhalation	Secondary Ingestion
1.60E-01	1.24E-01	3.43E-02	1.81E-03

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
3H	6.87E-08
14C	1.18E-06
60Co	1.45E-01
63Ni	1.48E-02
90Sr	4.08E-05
90Y	4.97E-07
94Nb	4.33E-05
99Tc	7.07E-08
137Cs	1.77E-06
137mBa	1.02E-05
152Eu	8.90E-08
152Gd	3.51E-22
154Eu	2.04E-05
239Pu	6.06E-04
235U	8.52E-14
231Th	8.56E-18
231Pa	6.20E-18

227Ac	2.54E-19
223Fr	2.29E-26
227Th	4.61E-22
223Ra	1.99E-22
219Rn	7.81E-25
215Po	2.49E-27
211Pb	9.37E-25
211Bi	6.52E-25
211Po	3.03E-28
207Tl	5.34E-26
All Nuclides	1.60E-01

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	External	Inhalation	Secondary Ingestion
3H	0.00E+00	4.62E-08	2.25E-08
14C	3.59E-09	7.89E-07	3.85E-07
60Co	1.24E-01	1.95E-02	1.17E-03
63Ni	0.00E+00	1.41E-02	6.32E-04
90Sr	5.02E-09	3.88E-05	2.07E-06
90Y	9.28E-08	2.49E-07	1.55E-07
94Nb	2.96E-05	1.36E-05	1.14E-07
99Tc	3.58E-10	6.48E-08	5.54E-09
137Cs	5.26E-09	9.99E-07	7.62E-07
137mBa	1.02E-05	0.00E+00	0.00E+00
152Eu	6.62E-08	2.25E-08	3.21E-10
152Gd	0.00E+00	3.44E-22	7.21E-24
154Eu	1.44E-05	5.92E-06	9.63E-08
239Pu	3.04E-10	6.03E-04	2.42E-06
235U	6.05E-17	8.51E-14	8.98E-17
231Th	7.50E-18	6.02E-19	4.52E-19
231Pa	1.16E-22	6.17E-18	2.48E-20
227Ac	3.52E-27	2.54E-19	2.60E-22
223Fr	1.74E-26	3.25E-27	2.20E-27
227Th	1.73E-24	4.59E-22	5.27E-25
223Ra	1.83E-24	1.89E-22	7.74E-24
219Rn	7.81E-25	0.00E+00	0.00E+00
215Po	2.49E-27	0.00E+00	0.00E+00
211Pb	7.21E-25	2.10E-25	6.18E-27
211Bi	6.52E-25	0.00E+00	0.00E+00
211Po	3.03E-28	0.00E+00	0.00E+00
207Tl	5.34E-26	0.00E+00	0.00E+00

DandD Building Occupancy Scenario



DandD Version: 2.1.0

Run Date/Time: 7/3/2014 8:02:48 AM

Site Name: HBPP

Description: Ni 59

FileName: C:\Users\MxEo\Desktop\SONGS TBD\HBPP Ni59.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 100

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
59Ni	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: Site specific		Value 9.39E+00

Chain Data:

Number of chains: 1

Chain No. 1: 59Ni

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
59Ni	1	2.74E+07					5.67E-11	7.31E-10	0.00E+00	0.00E+00

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Surface Concentration (dpm/100 cm**2)
59Ni	9.39E+00

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
To:Time In Building	The time in the building during the occupancy period	CONSTANT(hr/week)
Default value used		Value 4.50E+01
Tto:Occupancy Period	The duration of the occupancy exposure period	CONSTANT(days)
Default value used		Value 3.65E+02
Vo:Breathing Rate	The average volumetric breathing rate during building occupancy for an 8-hour work day	CONSTANT(m**3/hr)
Default value used		Value 1.40E+00
RFo*:Resuspension Factor	Effective resuspension factor during the occupancy period = $RFo * FI$	DERIVED(1/m)
Default value used		
GO*:Ingestion Rate	Effective secondary ingestion transfer rate of removable surface activity from building surfaces to the mouth during building occupancy = $GO * FI$	DERIVED(m**2/hr)
Default value used		
Tstart:Start Time	The start time of the scenario in days	CONSTANT(days)
Default value used		Value 0.00E+00
Tend:End Time	The ending time of the scenario in days	CONSTANT(days)
Default value used		Value 3.65E+02
dt:Time Step Size	The time step size	CONSTANT(days)
Default value used		Value 3.65E+02
Pstep:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
Default value used		Value 1.00E+00
AOExt:External Exposure Area	Minimum surface area to which occupant is exposed via external radiation during occupancy period	CONSTANT(m**2)
Default value used		Value 1.00E+01
AOInh:Inhalation Exposure Area	Minimum surface area to which occupant is exposed via inhalation during occupancy period	CONSTANT(m**2)
Default value used		Value 1.00E+01
AOIng:Secondary Ingestion Exposure Area	Minimum surface area to which occupant is exposed via secondary ingestion during occupancy period	CONSTANT(m**2)
Default value used		Value 1.00E+01
AO:Exposure Area	Minimum surface area to which occupant is exposed during the occupancy period	DERIVED(m**2)
Default value used		
FI:Loose Fraction	Fraction of surface contamination available	CONSTANT(none)

	for resuspension and ingestion	
Default value used		Value 1.00E-01
Rfo:Loose Resuspension Factor	Resuspension factor for loose contamination	CONTINUOUS LOGARITHMIC(1/m)
Default value used		Value Probability
		9.12E-06 0.00E+00
		1.10E-04 7.67E-01
		1.46E-04 9.09E-01
		1.62E-04 9.50E-01
		1.85E-04 9.90E-01
		1.90E-04 1.00E+00
GO:Loose Ingestion Rate	The secondary ingestion transfer rate of loose removable surface activity from building surfaces to the mouth during building occupancy	CONSTANT(m**2/hr)
Default value used		Value 1.10E-04

Correlation Coefficients:

None

Summary Results:

90.00% of the 100 calculated TEDE values are < 5.53E-05 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 4.95E-05 to 6.27E-05 mrem/year

Detailed Results:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Concentration at Time of Peak Dose:

Nuclide	Surface Concentration (dpm/100 cm**2)
59Ni	9.39E+00

Pathway Dose from All Nuclides (mrem)

All Pathways Dose	External	Inhalation	Secondary Ingestion
6.27E-05	0.00E+00	6.04E-05	2.28E-06

Radionuclide Dose through All Active Pathways (mrem)

Nuclide	All Pathways Dose
59Ni	6.27E-05
All Nuclides	6.27E-05

Dose from Each Nuclide through Each Active Pathway (mrem)

Nuclide	External	Inhalation	Secondary
---------	----------	------------	-----------

			Ingestion
⁵⁹ Ni	0.00E+00	6.04E-05	2.28E-06



DandD Residential Scenario

DandD Version: 2.1.0

Run Date/Time: 7/3/2014 7:57:40 AM

Site Name: HBPP

Description: Ni 59

FileName: C:\Users\MxEo\Desktop\SONGS TBD\HBPP Ni59.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 100

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Agricultural Pathway is ON

Drinking Water Pathway is ON

Irrigation Pathway is ON

Surface Water Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
59Ni	UNLIMITED	CONSTANT(pCi/g)
Justification for concentration: Site specific		Value 9.39E-03

Chain Data:

Number of chains: 1

Chain No. 1: 59Ni

Nuclides in chain: 1

Nuclide	Chain Position	Half Life	First Parent	Fractional Yield	Second Parent	Fractional Yield	Ingestion CEDE Factor (Sv/Bq)	Inhalation CEDE Factor (Sv/Bq)	Surface Dose Rate Factor ((Sv/d)/(Bq/m ²))	15 cm Dose Rate Factor ((Sv/d)/(Bq/m ³))
59Ni	1	2.74E+07					5.67E-11	7.31E-10	0.00E+00	0.00E+00

Initial Concentrations:

Note: All reported values are the upper bound of the symmetric 95% confidence interval for the 0.9 quantile value

Nuclide	Soil Concentration (pCi/g)
59Ni	9.39E-03

Model Parameters:

General Parameters:

Parameter Name	Description	Distribution
Tv(1):Translocation:Leafy	Translocation factor for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E+00
Tv(2):Translocation:Root	Translocation factor for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(3):Translocation:Fruit	Translocation factor for fruit	CONSTANT(none)
Default value used		Value 1.00E-01
Tv(4):Translocation:Grain	Translocation factor for grain	CONSTANT(none)
Default value used		Value 1.00E-01
Tf(1):Translocation:Beef Forage	Translocation factor for forage consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(2):Translocation:Poultry Forage	Translocation factor for forage consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(3):Translocation:Milk Cow	Translocation factor for forage consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E+00
Tf(4):Translocation:Layer Hen Forage	Translocation factor for forage consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E+00
Tg(1):Translocation:Beef Grain	Translocation factor for stored grain consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(2):Translocation:Poultry Grain	Translocation factor for stored grain consumed by poultry	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(3):Translocation:Milk Cow Grain	Translocation factor for stored grain consumed by milk cows	CONSTANT(none)
Default value used		Value 1.00E-01
Tg(4):Translocation:Layer Hen Grain	Translocation factor for stored grain consumed by layer hens	CONSTANT(none)
Default value used		Value 1.00E-01
Th(1):Translocation:Beef Hay	Translocation factor for stored hay consumed by beef cattle	CONSTANT(none)
Default value used		Value 1.00E+00
Th(2):Translocation:Poultry	Translocation factor for stored hay	CONSTANT(none)

Hay	consumed by poultry	
<u>Default value used</u>		<u>Value</u> 1.00E+00
Th(3):Translocation:Milk Cow Hay	Translocation factor for stored hay consumed by milk cows	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
Th(4):Translocation:Layer Hen Hay	Translocation factor for stored hay consumed by layer hens	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.00E+00
fca(1):Beef Carbon Fraction	Mass fraction of beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 3.60E-01
fca(2):Poultry Carbon Fraction	Mass fraction of poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.80E-01
fca(3):Milk Carbon Fraction	Mass fraction of milk that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 6.00E-02
fca(4):Eggs Carbon Fraction	Mass fraction of an egg that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.60E-01
fcf(1):Beef Forage Carbon Fraction	Mass fraction of wet forage consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(2):Poultry Forage Carbon Fraction	Mass fraction of wet forage consumed by poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(3):Milk Cow Forage Carbon Fraction	Mass fraction of wet forage consumed by milk cows that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcf(4):Layer Hen Forage Carbon Fraction	Mass fraction of wet forage consumed by layer hens that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 1.10E-01
fcg(1):Beef Grain Carbon Fraction	Mass fraction of wet stored grain consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(2):Poultry Grain Carbon Fraction	Mass fraction of wet stored grain consumed by poultry that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(3):Milk Cow Grain Carbon Fraction	Mass fraction of wet stored grain consumed by milk cows that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fcg(4):Layer Hen Grain Carbon Fraction	Mass fraction of wet stored grain consumed by layer hens that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 4.00E-01
fch(1):Beef Hay Carbon Fraction	Mass fraction of wet stored hay consumed by beef cattle that is carbon	CONSTANT(none)
<u>Default value used</u>		<u>Value</u> 7.00E-02
fch(2):Poultry Hay Carbon	Mass fraction of wet stored hay consumed	CONSTANT(none)

Fraction	by poultry that is carbon	
Default value used		<u>Value</u> 7.00E-02
fch(3):Milk Cow Hay Carbon Fraction	Mass fraction of wet stored hay consumed by milk cows that is carbon	CONSTANT(none)
Default value used		<u>Value</u> 7.00E-02
fch(4):Layer Hen Hay Carbon Fraction	Mass fraction of wet stored hay consumed by layer hens that is carbon	CONSTANT(none)
Default value used		<u>Value</u> 7.00E-02
fCd:Soil Carbon Fraction	Mass fraction of dry soil that is carbon	CONSTANT(none)
Default value used		<u>Value</u> 3.00E-02
SATac:Animal Product Specific Activity	Specific activity equivalence of animal product and specific activity of animal feed, forage, and soil	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xf(1):Beef Forage Contaminated Fraction	Fraction of forage consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xf(2):Poultry Forage Contaminated Fraction	Fraction of forage consumed by poultry that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xf(3):Milk Cow Forage Contaminated Fraction	Fraction of forage consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xf(4):Layer Hen Forage Contaminated Fraction	Fraction of forage consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xg(1):Beef Grain Contaminated Fraction	Fraction of stored grain consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xg(2):Poultry Grain Contaminated Fraction	Fraction of stored grain consumed by poultry that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xg(3):Milk Cow Grain Contaminated Fraction	Fraction of stored grain consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xg(4):Layer Hen Grain Contaminated Fraction	Fraction of stored grain that is consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xh(1):Beef Hay Contaminated Fraction	Fraction of stored hay consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xh(2):Poultry Hay Contaminated Fraction	Fraction of stored hay consumed by poultry that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00
xh(3):Milk Cow Hay Contaminated Fraction	Fraction of stored hay consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		<u>Value</u> 1.00E+00

xh(4):Layer Hen Hay Contaminated Fraction	Fraction of stored hay consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(1):Beef Water Contaminated Fraction	Fraction of water that is consumed by beef cattle that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(2):Poultry Water Contaminated Fraction	Fraction of water consumed by poultry that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(3):Milk Cow Water Contaminated Fraction	Fraction of water consumed by milk cows that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
xw(4):Layer Hen Water Contaminated Fraction	Fraction of water consumed by layer hens that is contaminated	CONSTANT(none)
Default value used		Value 1.00E+00
DIET:Garden Diet	Fraction of human diet grown onsite	CONSTANT(none)
Default value used		Value 1.00E+00
Uv(1):Diet - Leafy	Yearly human consumption of leafy vegetables	CONSTANT(kg/y)
Default value used		Value 2.14E+01
Uv(2):Diet - Roots	Yearly human consumption of other vegetables	CONSTANT(kg/y)
Default value used		Value 4.46E+01
Uv(3):Diet - Fruit	Yearly human consumption of fruits	CONSTANT(kg/y)
Default value used		Value 5.28E+01
Uv(4):Diet - Grain	Yearly human consumption of grains	CONSTANT(kg/y)
Default value used		Value 1.44E+01
Ua(1):Diet - Beef	Yearly human consumption of beef	CONSTANT(kg/y)
Default value used		Value 3.98E+01
Ua(2):Diet - Poultry	Yearly human consumption of poultry	CONSTANT(kg/y)
Default value used		Value 2.53E+01
Ua(3):Diet - Milk	Yearly human consumption of milk	CONSTANT(L/y)
Default value used		Value 2.33E+02
Ua(4):Diet - Egg	Yearly human consumption of eggs	CONSTANT(kg/y)
Default value used		Value 1.91E+01
Uf:Diet - Fish	Yearly human consumption of fish produced from an onsite pond	CONSTANT(kg/y)
Default value used		Value 2.06E+01
tf:Consumption Period	Consumption period for fish	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(1):Consumption Period - Leafy	Food consumption period for leafy vegetables	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(2):Consumption Period - Roots	Food consumption period for other vegetables	CONSTANT(days)
Default value used		Value 3.65E+02

tcv(3):Consumption Period - Fruit	Food consumption period for fruits	CONSTANT(days)
Default value used		Value 3.65E+02
tcv(4):Consumption Period - Grain	Food consumption period for grains	CONSTANT(days)
Default value used		Value 3.65E+02
tca(1):Consumption Period - Beef	Food consumption period for beef	CONSTANT(days)
Default value used		Value 3.65E+02
tca(2):Consumption Period - Poultry	Food consumption period for poultry	CONSTANT(days)
Default value used		Value 3.65E+02
tca(3):Consumption Period - Milk	Food consumption period for milk	CONSTANT(days)
Default value used		Value 3.65E+02
tca(4):Consumption Period - Egg	Food consumption period for eggs	CONSTANT(days)
Default value used		Value 3.65E+02
Nunsat:Number of Unsaturated Layers	Number of model layers used to represent the unsaturated zone	CONSTANT(none)
Default value used		Value 1.00E+01
TstartR:Start Time	The start time of the scenario in days	CONSTANT(days)
Default value used		Value 0.00E+00
TendR:End Time	The ending time of the scenario in days	CONSTANT(days)
Default value used		Value 3.65E+05
dtR:Time Step Size	The time step size	CONSTANT(days)
Default value used		Value 3.65E+02
PstepR:Print Step Size	The time steps for the history file. Doses will be written to the history file every n time steps	CONSTANT(none)
Default value used		Value 1.00E+00
TI:Indoor Exposure Period	The time the resident spends indoors	CONSTANT(days/year)
Default value used		Value 2.40E+02
TX:Outdoor Exposure Period	The time the resident spends outdoors	CONSTANT(days/year)
Default value used		Value 4.02E+01
TG:Gardening Period	The time the resident spends gardening	CONSTANT(days/year)
Default value used		Value 2.92E+00
TTR:Total time in period	Total time in the one year exposure period	CONSTANT(days/year)
Default value used		Value 3.65E+02
SFI:Indoor Shielding Factor	Shielding factor for the residence	CONSTANT(none)
Default value used		Value 5.52E-01
SFO:Outdoor Shielding Factor	Shielding factor for the cover soil	CONSTANT(none)
Default value used		Value 1.00E+00
PD:Floor dust loading	Floor dust loading	UNIFORM(g/m**2)

Default value used		Lower Limit	2.00E-02
		Upper Limit	3.00E-01
RFR:Indoor Resuspension Factor	Resuspension factor for indoor dust	LOGUNIFORM(1/m)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	8.00E-05
CDO:Outdoor Dust Loading	Average dust loading outdoors	LOGUNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-07
		Upper Limit	1.00E-04
CDI:Indoor Dust Loading	Average dust loading indoors	DERIVED(g/m**3)	
Default value used			
PF:Indoor/Outdoor Penetration Factor	Fraction of outdoor dust in indoor air	UNIFORM(none)	
Default value used		Lower Limit	2.00E-01
		Upper Limit	7.00E-01
CDG:Gardening Dust Loading	Average dust loading while gardening	UNIFORM(g/m**3)	
Default value used		Lower Limit	1.00E-04
		Upper Limit	7.00E-04
VR:Indoor Breathing Rate	Breathing rate while indoors	CONSTANT(m**3/hr)	
Default value used		Value	9.00E-01
VX:Outdoor Breathing Rate	Breathing rate while outdoors	CONSTANT(m**3/hr)	
Default value used		Value	1.40E+00
VG:Gardening Breathing Rate	Breathing rate while gardening	CONSTANT(m**3/hr)	
Default value used		Value	1.70E+00
GR:Soil Ingestion Transfer Rate	Average rate of soil ingestion	CONSTANT(g/d)	
Default value used		Value	5.00E-02
UW:Diet - Water	Drinking water ingestion rate	CONSTANT(L/d)	
Default value used		Value	1.26E+00
H1:Surface Soil Thickness	Thickness of the surface soil layer	CONSTANT(m)	
Default value used		Value	1.50E-01
H2:Unsaturated Zone Thickness	Thickness of the unsaturated zone	CONTINUOUS LINEAR(m)	
Default value used		Value	Probability
		3.05E-01	0.00E+00
		6.68E-01	4.76E-03
		8.11E-01	9.52E-03
		9.21E-01	1.43E-02
		9.94E-01	1.91E-02
		1.03E+00	2.38E-02
		1.07E+00	2.86E-02
		1.14E+00	3.33E-02
		1.21E+00	3.81E-02
		1.30E+00	4.29E-02
		1.31E+00	4.76E-02
		1.32E+00	5.24E-02
		1.56E+00	5.71E-02

1.58E+00	6.19E-02
1.61E+00	6.67E-02
1.69E+00	7.62E-02
1.78E+00	8.57E-02
1.80E+00	9.05E-02
1.81E+00	9.52E-02
1.84E+00	1.00E-01
1.87E+00	1.05E-01
1.92E+00	1.10E-01
2.04E+00	1.14E-01
2.10E+00	1.19E-01
2.11E+00	1.24E-01
2.32E+00	1.29E-01
2.36E+00	1.33E-01
2.37E+00	1.38E-01
2.39E+00	1.43E-01
2.44E+00	1.48E-01
2.44E+00	1.52E-01
2.45E+00	1.57E-01
2.59E+00	1.62E-01
2.63E+00	1.67E-01
2.69E+00	1.71E-01
2.79E+00	1.76E-01
2.81E+00	1.81E-01
2.90E+00	1.86E-01
2.95E+00	1.91E-01
3.07E+00	1.95E-01
3.18E+00	2.00E-01
3.22E+00	2.05E-01
3.30E+00	2.10E-01
3.34E+00	2.14E-01
3.37E+00	2.19E-01
3.44E+00	2.24E-01
3.58E+00	2.29E-01
3.62E+00	2.33E-01
3.66E+00	2.38E-01
3.74E+00	2.43E-01
3.86E+00	2.48E-01
3.88E+00	2.52E-01
4.17E+00	2.57E-01
4.26E+00	2.62E-01
4.44E+00	2.71E-01
4.63E+00	2.76E-01
4.87E+00	2.81E-01
5.13E+00	2.86E-01
5.18E+00	2.91E-01
5.54E+00	2.95E-01
5.83E+00	3.00E-01
5.86E+00	3.05E-01
5.86E+00	3.10E-01
5.90E+00	3.14E-01
6.06E+00	3.19E-01
6.13E+00	3.24E-01
6.17E+00	3.29E-01
6.22E+00	3.33E-01
6.31E+00	3.38E-01
6.36E+00	3.43E-01
6.40E+00	3.48E-01
6.46E+00	3.52E-01
6.51E+00	3.57E-01
6.55E+00	3.62E-01

6.60E+00	3.67E-01
6.86E+00	3.71E-01
6.93E+00	3.76E-01
6.95E+00	3.86E-01
6.97E+00	3.91E-01
7.09E+00	3.95E-01
7.18E+00	4.00E-01
7.35E+00	4.05E-01
7.36E+00	4.10E-01
7.40E+00	4.14E-01
7.43E+00	4.19E-01
7.46E+00	4.24E-01
7.59E+00	4.29E-01
7.60E+00	4.33E-01
7.64E+00	4.38E-01
7.87E+00	4.43E-01
8.10E+00	4.48E-01
8.28E+00	4.52E-01
8.35E+00	4.57E-01
8.71E+00	4.62E-01
8.71E+00	4.67E-01
8.73E+00	4.71E-01
8.79E+00	4.76E-01
8.80E+00	4.81E-01
8.82E+00	4.86E-01
8.85E+00	4.91E-01
8.89E+00	4.95E-01
8.90E+00	5.00E-01
8.99E+00	5.05E-01
9.00E+00	5.10E-01
9.13E+00	5.14E-01
9.14E+00	5.19E-01
9.21E+00	5.24E-01
9.31E+00	5.29E-01
9.55E+00	5.33E-01
9.60E+00	5.38E-01
9.63E+00	5.43E-01
9.86E+00	5.48E-01
1.05E+01	5.52E-01
1.07E+01	5.57E-01
1.13E+01	5.62E-01
1.15E+01	5.67E-01
1.17E+01	5.71E-01
1.20E+01	5.76E-01
1.26E+01	5.81E-01
1.26E+01	5.86E-01
1.28E+01	5.91E-01
1.32E+01	5.95E-01
1.32E+01	6.00E-01
1.34E+01	6.05E-01
1.34E+01	6.10E-01
1.36E+01	6.14E-01
1.37E+01	6.19E-01
1.38E+01	6.24E-01
1.41E+01	6.29E-01
1.45E+01	6.33E-01
1.51E+01	6.38E-01
1.52E+01	6.43E-01
1.61E+01	6.48E-01
1.62E+01	6.52E-01
1.65E+01	6.57E-01

1.66E+01	6.62E-01
1.69E+01	6.67E-01
1.74E+01	6.71E-01
1.82E+01	6.76E-01
1.84E+01	6.81E-01
1.84E+01	6.86E-01
1.87E+01	6.91E-01
1.95E+01	6.95E-01
2.01E+01	7.00E-01
2.07E+01	7.05E-01
2.08E+01	7.10E-01
2.17E+01	7.14E-01
2.24E+01	7.19E-01
2.27E+01	7.24E-01
2.29E+01	7.29E-01
2.29E+01	7.33E-01
2.40E+01	7.38E-01
2.47E+01	7.43E-01
2.60E+01	7.48E-01
2.65E+01	7.52E-01
2.72E+01	7.57E-01
2.73E+01	7.62E-01
2.76E+01	7.67E-01
2.77E+01	7.71E-01
2.78E+01	7.76E-01
2.80E+01	7.81E-01
2.86E+01	7.86E-01
2.94E+01	7.91E-01
3.01E+01	7.95E-01
3.03E+01	8.00E-01
3.06E+01	8.10E-01
3.08E+01	8.14E-01
3.11E+01	8.19E-01
3.17E+01	8.24E-01
3.17E+01	8.29E-01
3.17E+01	8.33E-01
3.22E+01	8.38E-01
3.39E+01	8.43E-01
3.48E+01	8.48E-01
3.54E+01	8.52E-01
3.60E+01	8.57E-01
3.68E+01	8.62E-01
4.03E+01	8.67E-01
4.07E+01	8.71E-01
4.24E+01	8.76E-01
4.29E+01	8.81E-01
4.42E+01	8.86E-01
4.72E+01	8.91E-01
4.97E+01	8.95E-01
5.12E+01	9.00E-01
6.13E+01	9.05E-01
6.19E+01	9.10E-01
6.23E+01	9.14E-01
6.32E+01	9.19E-01
6.59E+01	9.24E-01
6.73E+01	9.29E-01
7.47E+01	9.33E-01
7.92E+01	9.38E-01
8.12E+01	9.43E-01
8.28E+01	9.48E-01
8.47E+01	9.52E-01

		8.96E+01	9.57E-01
		9.47E+01	9.62E-01
		1.08E+02	9.67E-01
		1.13E+02	9.71E-01
		1.15E+02	9.76E-01
		1.42E+02	9.81E-01
		1.77E+02	9.86E-01
		1.78E+02	9.91E-01
		1.80E+02	9.95E-01
		3.16E+02	1.00E+00
N1:Surface Soil Porosity	Porosity of the surface soil layer	DERIVED(none)	
<u>Default value used</u>			
N2:Unsaturated Zone Porosity	Porosity of the unsaturated zone	DERIVED(none)	
<u>Default value used</u>			
F1:Surface Soil Saturation	Saturation ratio of the surface soil layer	DERIVED(none)	
<u>Default value used</u>			
F2:Unsaturated Zone Saturation	Saturation ratio of the unsaturated zone	DERIVED(none)	
<u>Default value used</u>			
INFIL:Infiltration Rate	Net rate of infiltration to aquifer	DERIVED(m/y)	
<u>Default value used</u>			
SCSST:Soil Classification	SCS soil classification ID	DISCRETE CUMULATIVE(none)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		1.00E+00	1.00E-04
		2.00E+00	1.34E-03
		3.00E+00	1.06E-02
		4.00E+00	2.51E-02
		5.00E+00	6.17E-02
		6.00E+00	1.09E-01
		7.00E+00	1.62E-01
		8.00E+00	2.12E-01
		9.00E+00	2.85E-01
		1.00E+01	5.10E-01
		1.10E+01	7.58E-01
		1.20E+01	1.00E+00
NDEV:Porosity Probability	Relative porosity value within the distribution for this soil type	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	0.00E+00
		<u>Upper Limit</u>	1.00E+00
KSDEV:Permeability Probability	Relative permeability value within the distribution for this soil type	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	0.00E+00
		<u>Upper Limit</u>	1.00E+00
BDEV:Parameter "b" Probability	Relative value of "b" parameter within the distribution for this soil type	UNIFORM(none)	
<u>Default value used</u>		<u>Lower Limit</u>	0.00E+00
		<u>Upper Limit</u>	1.00E+00
AP:Water Application Rate	Total water application rate on cultivated area	CONTINUOUS LINEAR(m/y)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		6.07E-01	0.00E+00
		6.10E-01	4.62E-01
		6.35E-01	4.76E-01

		7.62E-01	5.40E-01
		8.89E-01	6.29E-01
		1.02E+00	7.05E-01
		1.14E+00	8.04E-01
		1.27E+00	8.79E-01
		1.40E+00	9.41E-01
		1.52E+00	9.82E-01
		1.65E+00	9.98E-01
		1.78E+00	1.00E+00
IR:Irrigation Rate	Annual average irrigation rate	CONSTANT(L/m**2-d)	
Default value used		Value	1.29E+00
RHO1:Surface Soil Density	Bulk density of soil in the surface soil layer	DERIVED(g/mL)	
Default value used			
RHO2:Unsaturated Zone Density	Bulk density of soil in the unsaturated zone	DERIVED(g/mL)	
Default value used			
Ksat1:Surface Soil Permeability	Saturated permeability of the surface soil layer	DERIVED(cm/sec)	
Default value used			
VDR:Volume of Water Consumed	Volume of water withdrawn for consumptive use	CONSTANT(L)	
Default value used		Value	1.18E+05
VSU:Volume of Water in Pond	Volume of water in the pond	CONSTANT(L)	
Default value used		Value	1.30E+06
AR:Cultivated Area	Area of land cultivated	DERIVED(m**2)	
Default value used			
sh:Soil Moisture Content	Moisture content of soil	DERIVED(none)	
Default value used			
TTG:Gardening Period	Total time in gardening period	CONSTANT(days)	
Default value used		Value	9.00E+01
TD:Drinking-water consumption period	Drinking-water consumption period	CONSTANT(days)	
Default value used		Value	3.65E+02
THV(1):Holdup Period : Leafy	Holdup period for leafy vegetables	CONSTANT(days)	
Default value used		Value	1.00E+00
THV(2):Holdup Period : Other vegetables	Holdup period for other vegetables	CONSTANT(days)	
Default value used		Value	1.40E+01
THV(3):Holdup Period : Fruits	Holdup period for fruits	CONSTANT(days)	
Default value used		Value	1.40E+01
THV(4):Holdup Period : Grains	Holdup period for grains	CONSTANT(days)	
Default value used		Value	1.40E+01
THA(1):Holdup Period : Beef	Holdup period for beef	CONSTANT(days)	

<u>Default value used</u>		<u>Value</u> 2.00E+01
THA(2):Holdup Period : Poultry	Holdup period for poultry	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 1.00E+00
THA(3):Holdup Period : Milk	Holdup period for milk	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 1.00E+00
THA(4):Holdup Period : Eggs	Holdup period for eggs	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 1.00E+00
TGV(1):Growing Period : Leafy	Minimum growing period for leafy vegetables	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 4.50E+01
TGV(2):Growing Period : Other vegetables	Minimum growing period for other vegetables	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGV(3):Growing Period : Fruits	Minimum growing period for fruits	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGV(4):Growing Period : Grains	Minimum growing period for grains	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGF(1):Growing Period : Beef Forage	Minimum growing period for forage consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 3.00E+01
TGF(2):Growing Period : Poultry Forage	Minimum growing period for forage consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGF(3):Growing Period : Milk Cow Forage	Minimum growing period for forage consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGF(4):Growing Period : Layer Hen Forage	Minimum growing period for forage consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
TGG(1):Growing Period : Beef Cow Grain	Minimum growing period for stored grain consumed by beef cattle	CONSTANT(days)
<u>Default value used</u>		<u>Value</u> 9.00E+01
TGG(2):Growing Period : Poultry Grain	Minimum growing period for stored grain consumed by poultry	DERIVED(days)
<u>Default value used</u>		
TGG(3):Growing Period : Milk Cow Grain	Minimum growing period for stored grain consumed by milk cows	DERIVED(days)
<u>Default value used</u>		
TGG(4):Growing Period : Layer Hen Grain	Minimum growing period for stored grain consumed by layer hens	DERIVED(days)
<u>Default value used</u>		
TGH(1):Growing Period : Beef Cow Hay	Minimum growing period for stored hay consumed by beef cattle	CONSTANT(days)

Default value used		Value	4.50E+01
TGH(2):Growing Period : Poultry Hay	Minimum growing period for stored hay consumed by poultry	DERIVED(days)	
Default value used			
TGH(3):Growing Period : Milk Cow Hay	Minimum growing period for stored hay consumed by milk cows	DERIVED(days)	
Default value used			
TGH(4):Growing Period : Layer Hen Hay	Minimum growing period for stored hay consumed by layer hens	DERIVED(days)	
Default value used			
RV(1):Interception Fraction : Leafy	Interception fraction for leafy vegetables	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RV(2):Interception Fraction : Other vegetables	Interception fraction for other vegetables	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RV(3):Interception Fraction : Fruits	Interception fraction for fruits	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RV(4):Interception Fraction : Grains	Interception fraction for grains	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RF(1):Interception Fraction : Beef Forage	Interception fraction for beef cattle forage	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RF(2):Interception Fraction : Poultry forage	Interception fraction for poultry forage	DERIVED(none)	
Default value used			
RF(3):Interception Fraction : Milk Cow Forage	Interception fraction for milk cow forage	DERIVED(none)	
Default value used			
RF(4):Interception Fraction : Layer Hen Forage	Interception fraction for layer hen forage	DERIVED(none)	
Default value used			
RG(1):Interception Fraction : Beef Cow Grain	Interception fraction for beef cattle grain	UNIFORM(none)	
Default value used		Lower Limit	1.00E-01
		Upper Limit	6.00E-01
RG(2):Interception Fraction : Poultry Grain	Interception fraction for poultry grain	DERIVED(none)	
Default value used			
RG(3):Interception Fraction : Milk Cow Grain	Interception fraction for milk cow grain	DERIVED(none)	
Default value used			

RG(4):Interception Fraction : Layer Hen Grain	Interception fraction for layer hen grain	DERIVED(none)
Default value used		
RH(1):Interception Fraction : Beef Cow Hay	Interception fraction for beef cattle hay	DERIVED(none)
Default value used		
RH(2):Interception Fraction : Poultry Hay	Interception fraction for poultry hay	DERIVED(none)
Default value used		
RH(3):Interception Fraction : Milk Cow Hay	Interception fraction for milk cow hay	DERIVED(none)
Default value used		
RH(4):Interception Fraction : Layer Hen Hay	Interception fraction for layer hen hay	DERIVED(none)
Default value used		
YV(1):Crop Yield : Leafy	Crop yield for leafy vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)
Default value used		Value
		Probability
		2.70E+00
		0.00E+00
		2.71E+00
		1.60E-03
		2.74E+00
		6.00E-03
		2.76E+00
		1.76E-02
		2.78E+00
		4.36E-02
		2.80E+00
		8.48E-02
		2.82E+00
		1.56E-01
		2.85E+00
		2.57E-01
		2.87E+00
		3.64E-01
		2.89E+00
		5.00E-01
		2.91E+00
		6.39E-01
		2.93E+00
		7.46E-01
		2.96E+00
		8.42E-01
		2.98E+00
		9.09E-01
		3.00E+00
		9.60E-01
		3.02E+00
		9.84E-01
		3.04E+00
		9.94E-01
		3.07E+00
		9.97E-01
		3.09E+00
		9.99E-01
		3.11E+00
		1.00E+00
		3.13E+00
		1.00E+00
		3.15E+00
		1.00E+00
YV(2):Crop Yield : Other	Crop yield for other vegetables	CONTINUOUS LINEAR(kg wet wt/m**2)
Default value used		Value
		Probability
		2.26E+00
		0.00E+00
		2.29E+00
		8.00E-04
		2.30E+00
		1.20E-03
		2.31E+00
		6.40E-03
		2.33E+00
		1.52E-02
		2.34E+00
		3.28E-02
		2.35E+00
		7.44E-02
		2.36E+00
		1.40E-01
		2.38E+00
		2.49E-01
		2.39E+00
		3.80E-01
		2.40E+00
		5.30E-01
		2.42E+00
		6.61E-01
		2.43E+00
		7.88E-01
		2.44E+00
		8.86E-01
		2.45E+00
		9.42E-01

		2.47E+00	9.75E-01
		2.48E+00	9.88E-01
		2.49E+00	9.96E-01
		2.51E+00	9.97E-01
		2.52E+00	9.99E-01
		2.53E+00	1.00E+00
		2.54E+00	1.00E+00
YV(3):Crop Yield : Fruits	Crop yield for fruits	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.17E+00	0.00E+00
		2.20E+00	1.20E-03
		2.21E+00	2.40E-03
		2.23E+00	6.80E-03
		2.25E+00	1.80E-02
		2.27E+00	4.36E-02
		2.29E+00	7.64E-02
		2.31E+00	1.38E-01
		2.32E+00	2.14E-01
		2.34E+00	3.27E-01
		2.36E+00	4.50E-01
		2.38E+00	5.76E-01
		2.40E+00	6.87E-01
		2.42E+00	7.88E-01
		2.43E+00	8.68E-01
		2.45E+00	9.25E-01
		2.47E+00	9.60E-01
		2.49E+00	9.81E-01
		2.51E+00	9.92E-01
		2.53E+00	9.98E-01
		2.54E+00	1.00E+00
		2.56E+00	1.00E+00
YV(4):Crop Yield : Grains	Crop yield for grains	CONTINUOUS LINEAR(kg wet wt/m**2)	
Default value used		<u>Value</u>	<u>Probability</u>
		2.85E-01	0.00E+00
		2.90E-01	6.00E-04
		3.02E-01	2.80E-03
		3.14E-01	9.40E-03
		3.26E-01	2.14E-02
		3.38E-01	5.42E-02
		3.50E-01	1.08E-01
		3.62E-01	2.02E-01
		3.74E-01	3.15E-01
		3.86E-01	4.50E-01
		3.98E-01	5.92E-01
		4.10E-01	7.20E-01
		4.23E-01	8.26E-01
		4.35E-01	9.03E-01
		4.47E-01	9.51E-01
		4.59E-01	9.77E-01
		4.71E-01	9.91E-01
		4.83E-01	9.96E-01
		4.95E-01	9.99E-01
		5.07E-01	1.00E+00
		5.19E-01	1.00E+00
		5.31E-01	1.00E+00
YF(1):Crop Yield : Beef Forage	Crop yield for beef cattle forage	BETA(kg dry wt forage/m**2)	
Default value used		<u>Lower Limit</u>	3.70E-01
		<u>Upper Limit</u>	5.24E-01

		<u>p</u>	2.36E+00
		<u>q</u>	1.40E+00
YF(2):Crop Yield : Poultry Forage	Crop yield for poultry forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(3):Crop Yield : Milk Cow Forage	Crop yield for milk cow forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YF(4):Crop Yield : Layer Hen Forage	Crop yield for layer hen forage	DERIVED(kg wet wt forage/m**2)	
<u>Default value used</u>			
YG(1):Crop Yield : Beef Cow Grain	Crop yield for beef cattle grain	NORMAL(kg dry wt grain /m**2)	
<u>Default value used</u>		<u>Mean</u>	5.78E-01
		<u>Standard Deviation</u>	7.77E-02
YG(2):Crop Yield : Poultry Grain	Crop yield for poultry grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YG(3):Crop Yield : Milk Cow Grain	Crop yield for milk cow grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YG(4):Crop Yield : Layer Hen Grain	Crop yield for layer hen grain	DERIVED(kg wet wt grain /m**2)	
<u>Default value used</u>			
YH(1):Crop Yield : Beef Cow Hay	Crop yield for beef cattle hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(2):Crop Yield : Poultry Hay	Crop yield for poultry hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(3):Crop Yield : Milk Cow Hay	Crop yield for milk cow hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
YH(4):Crop Yield : Layer Hen Hay	Crop yield for layer hen hay	DERIVED(kg wet wt/m**2)	
<u>Default value used</u>			
WV(1):Wet/dry : Leafy Vegetables	Wet/dry conversion factor for leafy vegetables	CONTINUOUS LINEAR(none)	
<u>Default value used</u>		<u>Value</u>	<u>Probability</u>
		3.32E-02	0.00E+00
		4.89E-02	3.45E-02
		5.47E-02	6.91E-02
		5.96E-02	1.04E-01
		6.36E-02	1.38E-01
		6.70E-02	1.73E-01
		7.05E-02	2.07E-01
		7.38E-02	2.42E-01
		7.48E-02	2.50E-01
		7.72E-02	2.76E-01
		8.03E-02	3.11E-01
		8.34E-02	3.45E-01
		8.66E-02	3.80E-01

			9.00E-02	4.15E-01
			9.36E-02	4.49E-01
			9.73E-02	4.84E-01
			9.91E-02	4.99E-01
			1.01E-01	5.18E-01
			1.05E-01	5.53E-01
			1.09E-01	5.87E-01
			1.13E-01	6.22E-01
			1.18E-01	6.56E-01
			1.23E-01	6.91E-01
			1.29E-01	7.25E-01
			1.33E-01	7.50E-01
			1.35E-01	7.60E-01
			1.42E-01	7.94E-01
			1.50E-01	8.29E-01
			1.59E-01	8.64E-01
			1.70E-01	8.98E-01
			1.85E-01	9.33E-01
			2.10E-01	9.67E-01
			2.56E-01	9.91E-01
			3.24E-01	1.00E+00
WV(2):Wet/dry : Other Vegetables		Wet/dry conversion factor for other vegetables	CONTINUOUS LINEAR(none)	
<u>Default value used</u>			<u>Value</u>	<u>Probability</u>
			3.58E-02	0.00E+00
			4.87E-02	3.45E-02
			5.46E-02	6.91E-02
			5.90E-02	1.04E-01
			6.29E-02	1.38E-01
			6.69E-02	1.73E-01
			7.02E-02	2.07E-01
			7.34E-02	2.42E-01
			7.41E-02	2.50E-01
			7.65E-02	2.76E-01
			7.99E-02	3.11E-01
			8.32E-02	3.45E-01
			8.66E-02	3.80E-01
			9.05E-02	4.15E-01
			9.41E-02	4.49E-01
			9.82E-02	4.84E-01
			9.98E-02	4.99E-01
			1.02E-01	5.18E-01
			1.06E-01	5.53E-01
			1.09E-01	5.87E-01
			1.14E-01	6.22E-01
			1.19E-01	6.56E-01
			1.24E-01	6.91E-01
			1.29E-01	7.25E-01
			1.33E-01	7.50E-01
			1.35E-01	7.60E-01
			1.42E-01	7.94E-01
			1.50E-01	8.29E-01
			1.59E-01	8.64E-01
			1.70E-01	8.98E-01
			1.87E-01	9.33E-01
			2.12E-01	9.67E-01
			2.62E-01	9.91E-01
			3.13E-01	1.00E+00
WV(3):Wet/dry : Fruit		Wet/dry conversion factor for fruits	CONTINUOUS LINEAR(none)	
<u>Default value used</u>				

		Value	Probability
		3.66E-02	0.00E+00
		4.87E-02	3.45E-02
		5.45E-02	6.91E-02
		5.93E-02	1.04E-01
		6.31E-02	1.38E-01
		6.72E-02	1.73E-01
		7.10E-02	2.07E-01
		7.44E-02	2.42E-01
		7.52E-02	2.50E-01
		7.78E-02	2.76E-01
		8.13E-02	3.11E-01
		8.45E-02	3.45E-01
		8.78E-02	3.80E-01
		9.11E-02	4.15E-01
		9.46E-02	4.49E-01
		9.82E-02	4.84E-01
		9.97E-02	4.99E-01
		1.02E-01	5.18E-01
		1.06E-01	5.53E-01
		1.10E-01	5.87E-01
		1.14E-01	6.22E-01
		1.19E-01	6.56E-01
		1.24E-01	6.91E-01
		1.29E-01	7.25E-01
		1.34E-01	7.50E-01
		1.35E-01	7.60E-01
		1.42E-01	7.94E-01
		1.49E-01	8.29E-01
		1.58E-01	8.64E-01
		1.70E-01	8.98E-01
		1.87E-01	9.33E-01
		2.14E-01	9.67E-01
2.58E-01	9.91E-01		
3.25E-01	1.00E+00		
WV(4):Wet/dry : Grain	Wet/dry conversion factor for grains	CONSTANT(none)	
Default value used		Value	8.80E-01
WF(1):Wet/dry : Beef Cow Forage	Wet/dry conversion factor for beef cattle forage	BETA(none)	
Default value used		Lower Limit	1.83E-01
		Upper Limit	3.23E-01
		p	1.15E+00
		q	1.18E+00
WF(2):Wet/dry : Poultry Forage	Wet/dry conversion factor for poultry forage	DERIVED(none)	
Default value used			
WF(3):Wet/dry : Milk Cow Forage	Wet/dry conversion factor for milk cow forage	DERIVED(none)	
Default value used			
WF(4):Wet/dry : Layer Hen Forage	Wet/dry conversion factor for layer hen forage	DERIVED(none)	
Default value used			
WG(1):Wet/dry : Beef Cow Grain	Wet/dry conversion factor for beef cattle grain	CONSTANT(none)	
Default value used		Value	8.80E-01
WG(2):Wet/dry : Poultry	Wet/dry conversion factor for poultry		

Grain	grain	DERIVED(none)
<u>Default value used</u>		
WG(3):Wet/dry : Milk Cow Grain	Wet/dry conversion factor for milk cow grain	DERIVED(none)
<u>Default value used</u>		
WG(4):Wet/dry : Layer Hen Grain	Wet/dry conversion factor for layer hen grain	DERIVED(none)
<u>Default value used</u>		
WH(1):Wet/dry : Beef Cow Hay	Wet/dry conversion factor for beef cattle hay	DERIVED(none)
<u>Default value used</u>		
WH(2):Wet/dry : Poultry Hay	Wet/dry conversion factor for poultry hay	DERIVED(none)
<u>Default value used</u>		
WH(3):Wet/dry : Milk Cow Hay	Wet/dry conversion factor for milk cow hay	DERIVED(none)
<u>Default value used</u>		
WH(4):Wet/dry : Layer Hen Hay	Wet/dry conversion factor for layer hen hay	DERIVED(none)
<u>Default value used</u>		
QF(1):Ingestion Rate : Beef Cow Forage	Ingestion rate for beef cattle forage	BETA(kg dry wt forage/d)
<u>Default value used</u>		<u>Lower Limit</u> 1.69E+00
		<u>Upper Limit</u> 2.29E+00
		<u>p</u> 1.99E+00
		<u>q</u> 9.11E-01
QF(2):Ingestion Rate : Poultry Forage	Ingestion rate for poultry forage	BETA(kg dry wt forage/d)
<u>Default value used</u>		<u>Lower Limit</u> 3.48E-03
		<u>Upper Limit</u> 2.82E-02
		<u>p</u> 1.51E+00
		<u>q</u> 1.41E+00
QF(3):Ingestion Rate : Milk Cow Forage	Ingestion rate for milk cow forage	CONTINUOUS LINEAR(kg dry wt forage/d)
<u>Default value used</u>		<u>Value</u> <u>Probability</u>
		6.35E+00 0.00E+00
		6.77E+00 3.45E-02
		6.96E+00 6.91E-02
		7.10E+00 1.04E-01
		7.24E+00 1.38E-01
		7.35E+00 1.73E-01
		7.47E+00 2.07E-01
		7.57E+00 2.42E-01
		7.60E+00 2.50E-01
		7.67E+00 2.76E-01
		7.77E+00 3.11E-01
		7.87E+00 3.45E-01
		7.98E+00 3.80E-01
		8.08E+00 4.15E-01
		8.18E+00 4.49E-01
		8.31E+00 4.84E-01
		8.37E+00 4.99E-01
		8.42E+00 5.18E-01

		8.54E+00	5.53E-01
		8.67E+00	5.87E-01
		8.81E+00	6.22E-01
		8.95E+00	6.56E-01
		9.10E+00	6.91E-01
		9.26E+00	7.25E-01
		9.38E+00	7.50E-01
		9.45E+00	7.60E-01
		9.68E+00	7.94E-01
		9.93E+00	8.29E-01
		1.02E+01	8.64E-01
		1.06E+01	8.98E-01
		1.11E+01	9.33E-01
		1.20E+01	9.67E-01
		1.33E+01	9.91E-01
		1.53E+01	1.00E+00
QF(4):Ingestion Rate : Layer Hen Forage	Ingestion rate for layer hen forage	BETA(kg dry wt forage/d)	
Default value used		<u>Lower Limit</u>	1.19E-02
		<u>Upper Limit</u>	2.22E-02
		<u>p</u>	1.45E+00
		<u>q</u>	7.92E-01
QG(1):Ingestion Rate : Beef Cattle Grain	Ingestion rate for beef cattle grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	1.69E+00
		<u>Upper Limit</u>	2.29E+00
		<u>p</u>	1.99E+00
		<u>q</u>	9.11E-01
QG(2):Ingestion Rate : Poultry Grain	Ingestion rate for poultry grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	1.04E-02
		<u>Upper Limit</u>	8.45E-02
		<u>p</u>	1.51E+00
		<u>q</u>	1.41E+00
QG(3):Ingestion Rate : Milk Cow Grain	Ingestion rate for milk cow grain	NORMAL(kg dry wt grain/d)	
Default value used		<u>Mean</u>	1.71E+00
		<u>Standard Deviation</u>	2.62E-01
QG(4):Ingestion Rate : Layer Hen Grain	Ingestion rate for layer hen grain	BETA(kg dry wt grain/d)	
Default value used		<u>Lower Limit</u>	3.58E-02
		<u>Upper Limit</u>	6.67E-02
		<u>p</u>	1.43E+00
		<u>q</u>	7.92E-01
QH(1):Ingestion Rate : Beef Cattle Hay	Ingestion rate for beef cattle hay	BETA(kg dry wt hay/d)	
Default value used		<u>Lower Limit</u>	3.38E+00
		<u>Upper Limit</u>	4.58E+00
		<u>p</u>	1.99E+00
		<u>q</u>	9.11E-01
QH(2):Ingestion Rate : Poultry Hay	Ingestion rate for poultry hay	CONSTANT(kg dry wt hay/d)	
Default value used		<u>Value</u>	0.00E+00
QH(3):Ingestion Rate : Milk Cow Hay	Ingestion rate for milk cow hay	CONTINUOUS LINEAR(kg dry wt hay/d)	

Default value used		<table><tr><th>Value</th><th>Probability</th></tr><tr><td>5.12E+00</td><td>0.00E+00</td></tr><tr><td>5.43E+00</td><td>3.45E-02</td></tr><tr><td>5.57E+00</td><td>6.91E-02</td></tr><tr><td>5.68E+00</td><td>1.04E-01</td></tr><tr><td>5.79E+00</td><td>1.38E-01</td></tr><tr><td>5.89E+00</td><td>1.73E-01</td></tr><tr><td>5.98E+00</td><td>2.07E-01</td></tr><tr><td>6.06E+00</td><td>2.42E-01</td></tr><tr><td>6.08E+00</td><td>2.50E-01</td></tr><tr><td>6.14E+00</td><td>2.76E-01</td></tr><tr><td>6.22E+00</td><td>3.11E-01</td></tr><tr><td>6.30E+00</td><td>3.45E-01</td></tr><tr><td>6.38E+00</td><td>3.80E-01</td></tr><tr><td>6.46E+00</td><td>4.15E-01</td></tr><tr><td>6.54E+00</td><td>4.49E-01</td></tr><tr><td>6.63E+00</td><td>4.84E-01</td></tr><tr><td>6.67E+00</td><td>4.99E-01</td></tr><tr><td>6.72E+00</td><td>5.18E-01</td></tr><tr><td>6.81E+00</td><td>5.53E-01</td></tr><tr><td>6.92E+00</td><td>5.87E-01</td></tr><tr><td>7.03E+00</td><td>6.22E-01</td></tr><tr><td>7.13E+00</td><td>6.56E-01</td></tr><tr><td>7.26E+00</td><td>6.91E-01</td></tr><tr><td>7.39E+00</td><td>7.25E-01</td></tr><tr><td>7.49E+00</td><td>7.50E-01</td></tr><tr><td>7.56E+00</td><td>7.60E-01</td></tr><tr><td>7.70E+00</td><td>7.94E-01</td></tr><tr><td>7.89E+00</td><td>8.29E-01</td></tr><tr><td>8.11E+00</td><td>8.64E-01</td></tr><tr><td>8.39E+00</td><td>8.98E-01</td></tr><tr><td>8.75E+00</td><td>9.33E-01</td></tr><tr><td>9.44E+00</td><td>9.67E-01</td></tr><tr><td>1.05E+01</td><td>9.91E-01</td></tr><tr><td>1.27E+01</td><td>1.00E+00</td></tr></table>	Value	Probability	5.12E+00	0.00E+00	5.43E+00	3.45E-02	5.57E+00	6.91E-02	5.68E+00	1.04E-01	5.79E+00	1.38E-01	5.89E+00	1.73E-01	5.98E+00	2.07E-01	6.06E+00	2.42E-01	6.08E+00	2.50E-01	6.14E+00	2.76E-01	6.22E+00	3.11E-01	6.30E+00	3.45E-01	6.38E+00	3.80E-01	6.46E+00	4.15E-01	6.54E+00	4.49E-01	6.63E+00	4.84E-01	6.67E+00	4.99E-01	6.72E+00	5.18E-01	6.81E+00	5.53E-01	6.92E+00	5.87E-01	7.03E+00	6.22E-01	7.13E+00	6.56E-01	7.26E+00	6.91E-01	7.39E+00	7.25E-01	7.49E+00	7.50E-01	7.56E+00	7.60E-01	7.70E+00	7.94E-01	7.89E+00	8.29E-01	8.11E+00	8.64E-01	8.39E+00	8.98E-01	8.75E+00	9.33E-01	9.44E+00	9.67E-01	1.05E+01	9.91E-01	1.27E+01	1.00E+00
Value	Probability																																																																							
5.12E+00	0.00E+00																																																																							
5.43E+00	3.45E-02																																																																							
5.57E+00	6.91E-02																																																																							
5.68E+00	1.04E-01																																																																							
5.79E+00	1.38E-01																																																																							
5.89E+00	1.73E-01																																																																							
5.98E+00	2.07E-01																																																																							
6.06E+00	2.42E-01																																																																							
6.08E+00	2.50E-01																																																																							
6.14E+00	2.76E-01																																																																							
6.22E+00	3.11E-01																																																																							
6.30E+00	3.45E-01																																																																							
6.38E+00	3.80E-01																																																																							
6.46E+00	4.15E-01																																																																							
6.54E+00	4.49E-01																																																																							
6.63E+00	4.84E-01																																																																							
6.67E+00	4.99E-01																																																																							
6.72E+00	5.18E-01																																																																							
6.81E+00	5.53E-01																																																																							
6.92E+00	5.87E-01																																																																							
7.03E+00	6.22E-01																																																																							
7.13E+00	6.56E-01																																																																							
7.26E+00	6.91E-01																																																																							
7.39E+00	7.25E-01																																																																							
7.49E+00	7.50E-01																																																																							
7.56E+00	7.60E-01																																																																							
7.70E+00	7.94E-01																																																																							
7.89E+00	8.29E-01																																																																							
8.11E+00	8.64E-01																																																																							
8.39E+00	8.98E-01																																																																							
8.75E+00	9.33E-01																																																																							
9.44E+00	9.67E-01																																																																							
1.05E+01	9.91E-01																																																																							
1.27E+01	1.00E+00																																																																							
QH(4):Ingestion Rate : Layer Hen Hay	Ingestion rate for layer hen hay	CONSTANT(kg dry wt hay/d)																																																																						
Default value used		<table><tr><th>Value</th><td>0.00E+00</td></tr></table>	Value	0.00E+00																																																																				
Value	0.00E+00																																																																							
QW(1):Water Rate : Beef Cattle	Water ingestion rate for beef cattle	CONSTANT(L/d)																																																																						
Default value used		<table><tr><th>Value</th><td>5.00E+01</td></tr></table>	Value	5.00E+01																																																																				
Value	5.00E+01																																																																							
QW(2):Water Rate : Poultry	Water ingestion rate for poultry	CONSTANT(L/d)																																																																						
Default value used		<table><tr><th>Value</th><td>3.00E-01</td></tr></table>	Value	3.00E-01																																																																				
Value	3.00E-01																																																																							
QW(3):Water Rate : Milk Cows	Water ingestion rate for milk cows	CONSTANT(L/d)																																																																						
Default value used		<table><tr><th>Value</th><td>6.00E+01</td></tr></table>	Value	6.00E+01																																																																				
Value	6.00E+01																																																																							
QW(4):Water Rate : Layer Hens	Water ingestion rate for layer hens	CONSTANT(L/d)																																																																						
Default value used		<table><tr><th>Value</th><td>3.00E-01</td></tr></table>	Value	3.00E-01																																																																				
Value	3.00E-01																																																																							
QD(1):Soil Fraction : Beef Cattle	Soil intake fraction for beef cattle	CONSTANT(none)																																																																						
Default value used		<table><tr><th>Value</th><td>2.00E-02</td></tr></table>	Value	2.00E-02																																																																				
Value	2.00E-02																																																																							
QD(2):Soil Fraction : Poultry	Soil intake fraction for poultry	CONSTANT(none)																																																																						

Default value used		Value	1.00E-01
QD(3):Soil Fraction : Milk Cows	Soil intake fraction for milk cows	CONSTANT(none)	
Default value used		Value	2.00E-02
QD(4):Soil Fraction : Layer Hens	Soil intake fraction for layer hens	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(1):Mass-Loading : Leafy Vegetables	Mass-loading factor for leafy vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(2):Mass-Loading : Other Vegetables	Mass-loading factor for other vegetables	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(3):Mass-Loading : Fruits	Mass-loading factor for fruits	CONSTANT(none)	
Default value used		Value	1.00E-01
MLV(4):Mass-Loading : Grains	Mass-loading factor for grains	CONSTANT(none)	
Default value used		Value	1.00E-01
LAMBDW:Weathering Rate	Weathering rate for activity removal from plants	CONSTANT(1/d)	
Default value used		Value	4.95E-02
MLF(1):Mass-Loading : Beef Cow Forage	Mass-loading factor for beef cattle forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLF(2):Mass-Loading : Poultry Forage	Mass-loading factor for poultry forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLF(3):Mass-Loading : Milk Cow Forage	Mass-loading factor for milk cow forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLF(4):Mass-Loading : Layer Hen Forage	Mass-loading factor for layer hen forage	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(1):Mass-Loading : Beef Cattle Grain	Mass-loading factor for beef cattle grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(2):Mass-Loading : Poultry Grain	Mass-loading factor for poultry grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(3):Mass-Loading : Milk Cow Grain	Mass-loading factor for milk cow grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLG(4):Mass-Loading : Layer Hen Grain	Mass-loading factor for layer hen grain	CONSTANT(none)	
Default value used		Value	1.00E-01
MLH(1):Mass-Loading :	Mass-loading factor for beef cattle hay	CONSTANT(none)	

Beef Cattle Hay		
Default value used		Value 1.00E-01
MLH(2):Mass-Loading : Poultry Hay	Mass-loading factor for poultry hay	CONSTANT(none)
Default value used		Value 1.00E-01
MLH(3):Mass-Loading : Milk Cow Hay	Mass-loading factor for milk cow hay	CONSTANT(none)
Default value used		Value 1.00E-01
MLH(4):Mass-Loading : Layer Hen Hay	Mass-loading factor for layer hen hay	CONSTANT(none)
Default value used		Value 1.00E-01
TFF(1):Feeding Period : Beef Cow Forage	Feeding period for beef cattle forage	CONSTANT(days)
Default value used		Value 3.65E+02
TFF(2):Feeding Period : Poultry Forage	Feeding period for poultry forage	CONSTANT(days)
Default value used		Value 3.65E+02
TFF(3):Feeding Period : Milk Cow Forage	Feeding period for milk cow forage	CONSTANT(days)
Default value used		Value 3.65E+02
TFF(4):Feeding Period : Layer Hen Forage	Feeding period for layer hen forage	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(1):Feeding Period : Beef Cattle Grain	Feeding period for beef cattle grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(2):Feeding Period : Poultry Grain	Feeding period for poultry grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(3):Feeding Period : Milk Cow Grain	Feeding period for milk cow grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFG(4):Feeding Period : Layer Hen Grain	Feeding period for layer hen grain	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(1):Feeding Period : Beef Cattle Hay	Feeding period for beef cattle hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(2):Feeding Period : Poultry Hay	Feeding period for poultry hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(3):Feeding Period : Milk Cow Hay	Feeding period for milk cow hay	CONSTANT(days)
Default value used		Value 3.65E+02
TFH(4):Feeding Period : Layer Hen Hay	Feeding period for layer hen hay	CONSTANT(days)
Default value used		Value 3.65E+02

TFW(1):Water Period : Beef Cattle	Water ingestion period for beef cattle	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(2):Water Period : Poultry	Water ingestion period for poultry	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(3):Water Period : Milk Cows	Water ingestion period for milk cows	CONSTANT(days)
Default value used		Value 3.65E+02
TFW(4):Water Period : Layer Hens	Water ingestion period for layer hens	CONSTANT(days)
Default value used		Value 3.65E+02
fha(1):Hydrogen Fraction : Beef Cattle	Hydrogen fraction for beef cattle	CONSTANT(none)
Default value used		Value 1.00E-01
fha(2):Hydrogen Fraction : Poultry	Hydrogen fraction for poultry	CONSTANT(none)
Default value used		Value 1.00E-01
fha(3):Hydrogen Fraction : Milk Cows	Hydrogen fraction for milk cows	CONSTANT(none)
Default value used		Value 1.10E-01
fha(4):Hydrogen Fraction : Eggs	Hydrogen fraction for eggs	CONSTANT(none)
Default value used		Value 1.10E-01
fhv(1):Hydrogen Fraction : Leafy Vegetables	Hydrogen fraction for leafy vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
fhv(2):Hydrogen Fraction : Other Vegetables	Hydrogen fraction for other vegetables	CONSTANT(none)
Default value used		Value 1.00E-01
fhv(3):Hydrogen Fraction : Fruits	Hydrogen fraction for fruits	CONSTANT(none)
Default value used		Value 1.00E-01
fhv(4):Hydrogen Fraction : Grains	Hydrogen fraction for grains	CONSTANT(none)
Default value used		Value 6.80E-02
fhf(1):Hydrogen Fraction : Beef Cow Forage	Hydrogen fraction for beef cattle forage	CONSTANT(none)
Default value used		Value 1.00E-01
fhf(2):Hydrogen Fraction : Poultry Forage	Hydrogen fraction for poultry forage	CONSTANT(none)
Default value used		Value 1.00E-01
fhf(3):Hydrogen Fraction : Milk Cow Forage	Hydrogen fraction for milk cow forage	CONSTANT(none)
Default value used		Value 1.00E-01
fhf(4):Hydrogen Fraction : Layer Hen Forage	Hydrogen fraction for layer hen forage	CONSTANT(none)
Default value used		Value 1.00E-01

fhh(1):Hydrogen Fraction : Beef Cattle Hay	Hydrogen fraction for beef cattle hay	CONSTANT(none)
Default value used		Value 1.00E-01
fhh(2):Hydrogen Fraction : Poultry Hay	Hydrogen fraction for poultry hay	CONSTANT(none)
Default value used		Value 1.00E-01
fhh(3):Hydrogen Fraction : Milk Cow Hay	Hydrogen fraction for milk cow hay	CONSTANT(none)
Default value used		Value 1.00E-01
fhh(4):Hydrogen Fraction : Layer Hen Hay	Hydrogen fraction for layer hen hay	CONSTANT(none)
Default value used		Value 1.00E-01
fhg(1):Hydrogen Fraction : Beef Cattle Grain	Hydrogen fraction for beef cattle grain	CONSTANT(none)
Default value used		Value 6.80E-02
fhg(2):Hydrogen Fraction : Poultry Grain	Hydrogen fraction for poultry grain	CONSTANT(none)
Default value used		Value 6.80E-02
fhg(3):Hydrogen Fraction : Milk Cow Grain	Hydrogen fraction for milk cow grain	CONSTANT(none)
Default value used		Value 6.80E-02
fhg(4):Hydrogen Fraction : Layer Hen Grain	Hydrogen fraction for layer hen grain	CONSTANT(none)
Default value used		Value 6.80E-02
fhd016:Hydrogen Fraction : Soil	Fraction of hydrogen in soil	DERIVED(none)
Default value used		
sasvh:Tritium Equivalence: Plant/Soil	Tritium equivalence: plant/soil	CONSTANT(none)
Default value used		Value 1.00E+00
sawvh:Tritium Equivalence: Plant/Water	Tritium equivalence: plant/water	CONSTANT(none)
Default value used		Value 1.00E+00
satah:Tritium Equivalence: Animal Products	Tritium equivalence: animal product intake	CONSTANT(none)
Default value used		Value 1.00E+00
YA(1):Animal Product Yield : Beef Cattle	Annual yield of beef per individual animal	CONSTANT(kg/y)
Default value used		Value 2.09E+02
YA(2):Animal Product Yield : Poultry	Annual yield of chicken per individual animal	CONSTANT(kg/y)
Default value used		Value 1.53E+00
YA(3):Animal Product Yield : Milk Cows	Annual yield of milk per individual animal	CONSTANT(L/y)
Default value used		Value 7.41E+03
YA(4):Animal Product Yield : Layer Hens	Annual yield of eggs per individual animal	CONSTANT(kg/y)

<u>Default value used</u>		<u>Value</u> 1.26E+01
ARExt:External Exposure Area	Minimum surface area to which resident is exposed via external radiation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARInh:Inhalation Exposure Area	Minimum surface area to which resident is exposed via inhalation during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARIng:Secondary Ingestion Exposure Area	Minimum surface area to which resident is exposed via secondary ingestion during residential period	CONSTANT(m**2)
<u>Default value used</u>		<u>Value</u> 1.00E+02
ARAgr:Agricultural Exposure Area	Minimum surface area to which resident is exposed via any agricultural product during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARH2O:Groundwater Exposure Area	Minimum surface area to which resident is exposed via groundwater during residential period	DERIVED(m**2)
<u>Default value used</u>		
ARAll:Exposure Area	Minimum surface area to which resident is exposed via any pathway during the residential period	DERIVED(m**2)
<u>Default value used</u>		

Element Dependant Parameters

Parameter Name	Description	Distribution
Ni:Coefficient	Partition coefficient for Ni	NORMAL(Log10(mL/g))
<u>Default value used</u>		<u>Mean</u> 1.57E+00 <u>Standard Deviation</u> 1.48E+00
Ni:Leafy	Leafy plant concentration factor for Ni	LOGNORMAL-N(pCi/kg dry-wt leafy per pCi/kg soil)
<u>Default value used</u>		<u>Mean of Ln(X)</u> -3.38E+00 <u>Standard Deviation of Ln</u> 1.16E+00
Ni:Root	Root plant concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt roots per pCi/kg soil)
<u>Default value used</u>		<u>Mean of Ln(X)</u> -3.86E+00 <u>Standard Deviation of Ln</u> 9.16E-01
Ni:Fruit	Fruit concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt fruit per pCi/kg soil)
<u>Default value used</u>		<u>Mean of Ln(X)</u> -3.86E+00 <u>Standard Deviation of Ln</u> 9.16E-01
Ni:Grain	Grain concentration factor for Ni	LOGNORMAL-N(pCi/kg wet-wt grain per pCi/kg soil)
<u>Default value used</u>		<u>Mean of Ln(X)</u> -3.86E+00 <u>Standard Deviation of Ln</u> 9.16E-01
Ni:Beef	Beef transfer factor for Ni	CONSTANT(d/kg)
<u>Default value used</u>		<u>Value</u> 6.00E-03

Nuclide	Agricultural	Drinking Water	Surface Water	External	Inhalation	Secondary Ingestion	Irrigation
59Ni	2.24E-05	2.72E-05	5.90E-05	0.00E+00	5.67E-09	2.79E-08	7.37E-05