



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460**

Date: October 26, 2004

Chemical: 2,4-D

PC Code: 030001

DP Barcode: D308627

Subject: Tier II Aquatic Exposure Assessment for Selected 2,4-D Uses (Pasture, Turf, and Wheat) in the California, Oregon, and Idaho: Endangered Species (ES) Consultation Package

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Tier II aquatic exposure assessments for 2,4-D were requested by the Field and External Affairs Division (FEAD) to support an endangered species consultation package for salmon in California, Oregon, Washington, and Idaho. Selected 2,4-D use scenarios included pasture in California and Oregon, turf in California and Oregon, and wheat in California.

Tier II PRZM/EXAMS modeling was conducted to estimate the impacts of runoff and spray drift of 2,4-D from a 10 ha field on estimated environmental concentrations (EECs) in a small, static water body. Standard PRZM/EXAMS exposure scenarios were selected to best represent specific crops in California and Oregon. The selected scenarios for 2,4-D are shown in Table 1.

Table 1. Requested and Available PRZM/EXAMS Scenarios Used in Tier II Modeling for Endangered Species Evaluation of 2,4-D in the Pacific Northwest		
Requested Scenario	Current Scenario	Surrogate
California Pasture	CA alfalfa	NA
Oregon Pasture	NA	OR wheat
Oregon Turf	NA	OR grass seed & FL/PA turf
California Turf	NA	OR grass seed & FL/PA turf
California Wheat	NA	CA alfalfa

Surrogate exposure scenarios were selected to represent either the major crop grouping (e.g, alfalfa in CA to represent pasture in CA) in a specific state or to represent a regionally-conservative exposure scenario. In addition, for the turf scenarios no currently approved turf scenarios exist for either California or Oregon. In this case EFED used the Oregon grass seed scenario for both locations (with meteorological data relevant to Oregon and California) and bounded these estimates by running the Florida and Pennsylvania turf scenarios to provide context to the predicted EEC for the surrogate scenario (grass seed) relative to more vulnerable sites.

The environmental fate modeling was conducted to assess relative impact of runoff and spray drift on 2,4-D loading into the standard water body. This process was accomplished using a fixed exposure scenario except for spray drift assumptions. The drift scenarios include a no drift scenario (assumes 100 application efficiency and zero drift) and an aerial application drift scenario (assumes 95% application efficiency and a drift of 5% of the application rate). No ground application scenario was run but EECs would be expected to be between the two scenarios described above. A summary of the modeling assumptions is presented in Table 2. Tier II PRZM/EXAMS modeling was conducted using the PE4v01.pl shell (August 13, 2003). Environmental fate input parameters for 2,4-D were obtained from the 2,4-D RED and registrant-submitted environmental fate studies (Table 3).

Table 2. Summary of 2,4-D Model Scenarios					
State & Crop	Scenario	Application Rate (lbs/acre)	# of Applications	Application Interval (days)¹	First Application²
California Pasture	CA alfalfa	2.88	4	30	April 15
Oregon Pasture	OR wheat	2.88	2	30	April 15
Oregon Turf	OR grass seed	2.85	2	30	May 1
Oregon Turf	FL turf	2.85	2	30	May 1
Oregon Turf	PA turf	2.85	2	30	May 1
California Turf	OR grass seed	2.85	2	30	May 1
California Turf	PA turf	2.85	2	30	May 1
California Turf	FL turf	2.85	2	30	May 1
California Wheat	CA alfalfa	2.88	1	NA	April 15

¹ Number of applications and application intervals supplied by FEAD and based on information provided in BEAD Quantitative Usage Analysis (QUA).

² Applications timing based on open literature web search including University of California Integrated Pest Management website (<http://www.ipm.ucdavis.edu/PMG/crops-agriculture.html>) and USDA Crop Profiles website (<http://pestdata.ncsu.edu/cropprofiles/>)

Table 3. PRZM/EXAMS Input Parameters for 2,4-D			
MODEL PARAMETER	VALUE	COMMENTS	SOURCE
Aerobic Soil Metabolism $t_{1/2}$	6.2 days ¹	estimated upper 90 th percentile	MRID 00116625 MRID 43167501
Aerobic Aquatic Degradation $t_{1/2}$ (KBACW)	45 days ²	estimated upper 90 th percentile	MRID 42045301 MRID 42979201 MRID 44188601
Anaerobic Aquatic Degradation $t_{1/2}$ (KBACS)	231 days ³	estimated upper 90 th percentile (3 x anaerobic aquatic metabolism half-life)	MRID 43356001
Aqueous Photolysis $t_{1/2}$	13 days		MRID 41125306
Hydrolysis $t_{1/2}$	Stable		MRID 41007301
Koc	61.7 ml/g ⁴	Average Koc using all acceptable and supplemental Koc ⁵	MRID 42045302 MRID 00112937 MRID 44117901
Molecular Weight	221		Product Chemistry
Water Solubility	569 mg/l	10 x solubility	Product Chemistry
Foliar Extraction (FEXTRC)	0.5	Default Value ⁵	

1 - Upper 90th Percentile based on acceptable aerobic metabolism half lives of 1.44, 2.92, 4.5, 12.4, 4.38, 1.99, and 1.7 days.

2 - Upper 90th Percentile based on three times a single half life of 15 days from whole system data.

3 - Upper 90th Percentile based on acceptable anaerobic aquatic metabolism half lives of 333, 6.39, and 41 days.

4 - From all acceptable and supplemental adsorption/desorption data including Koc values of 29.62, 20.22, 52.68, 72.91, 13.23, 104.96, 76.60, 70.83, 116.67, and 59.09

5- From "Guidance for Chemistry and Management Practice Input Parameters for Use in Modeling the Environmental Fate and Transport of Pesticides" dated February 28, 2002.

EECs of 2,4-D are shown in Table 4. The highest regionally specific EECs are associated with the pasture use with a peak concentration of 23.9 µg/L for Oregon. Lower EECs were found for turf and wheat. 2,4-D loading among the tested scenarios can be explained solely on differences in maximum label application rates. Additionally, the predicted EECs for the California and Oregon turf surrogate scenarios are lower, but not significantly lower, than the EECs for the Florida and Pennsylvania turf scenarios suggesting that the two scenarios provide representative exposure values for this assessment for this use pattern. For the California turf scenario (surrogate with Oregon grass seed and California meteorological file) the contribution from spray drift was nearly 100%. For all other regional scenarios, inclusion of runoff and aerial spray drift appears to result in EECs which are 2 to 4 times higher than the scenario when no spray drift is included (runoff only) suggesting that spray drift is a major contributor to total loadings in these scenarios.

Table 4. Summary of Predicted EECs				
State & Crop	Scenario Modeled	1/10 Year Peak (ppb)	1/10 Year 21-Day Average (ppb)	1/10 Year 60-Day Average (ppb)
California Pasture	CA alfalfa	23.0	19.7	18.5
Oregon Pasture	OR wheat	23.9	22.4	19.2
Oregon Turf	OR grass seed	19.3	18.1	15.6
California Turf ¹	OR grass seed	14.2	12.1	9.4
California Wheat	CA alfalfa	3.7	3.5	3.0

¹California turf scenario run using Oregon grass seed scenario with metfile w93193.dvf (California)

²Pennsylvania and Florida turf scenarios run for bounding of Oregon and California turf surrogate scenarios

APPENDIX

stored as CApastureES.out

Chemical: 2,4-D

PRZM modified Saturday, 12 October 2002 at 16:27:56

environment:

CAalfalfalC.txt

EXAMS modified Thursday, 29 August 2002 at 16:33:29

environment:

pond298.exv

Metfile: modified Wednesday, 3 July 2002 at

w93193.dvf 09:04:24

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	18.02	17.31	14.69	13.5	12.96	5.602
1962	18.97	18.26	15.63	14.46	13.89	6.738
1963	20.42	19.72	17.11	15.92	15.37	7.484
1964	19.45	18.72	16.09	14.91	14.32	7.059
1965	19.66	18.95	16.34	15.08	14.28	7.06
1966	18.71	18.06	15.61	14.19	13.53	6.699
1967	23.03	22.36	19.75	18.47	18.04	8.28
1968	18.38	17.66	15.01	13.9	13.42	6.621
1969	19.26	18.54	15.86	14.68	13.96	6.864
1970	18.4	17.65	15.07	13.85	13.36	6.535
1971	25.83	25.05	22.79	21.24	20.7	9.565
1972	18.67	17.96	15.33	14.17	13.66	6.911
1973	18.22	17.54	15.03	13.73	13.2	6.606
1974	18.49	17.79	15.2	13.99	13.47	6.515
1975	19.2	18.53	16.05	14.71	14.02	6.932
1976	19.4	18.71	16.13	14.91	14.18	7.283
1977	18.36	17.64	15.1	13.89	13.57	6.633
1978	18.48	17.74	15.12	13.93	13.44	6.36
1979	18.09	17.38	14.77	13.57	13.06	6.18
1980	18.84	18.06	15.6	14.25	13.65	6.33
1981	18.06	17.33	14.66	13.44	13.24	6.255
1982	19.18	18.46	15.8	14.6	13.86	6.631
1983	19.31	18.63	16.09	14.8	14.33	6.767
1984	17.43	16.62	14.27	12.82	12.4	5.686
1985	17.07	16.34	13.86	12.57	12.3	5.768
1986	17.77	17.07	14.49	13.23	12.76	5.965
1987	30.09	29.25	26	22.61	21.4	8.944
1988	22.88	22.17	19.6	18.28	17.78	8.253
1989	18.33	17.59	14.97	13.8	13.3	6.423
1990	20.43	19.77	17.22	15.72	14.98	6.909

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	30.09	29.25	26	22.61	21.4	9.565
0.064516	25.83	25.05	22.79	21.24	20.7	8.944
0.096774	23.03	22.36	19.75	18.47	18.04	8.28
0.129032	22.88	22.17	19.6	18.28	17.78	8.253

0.16129	20.43	19.77	17.22	15.92	15.37	7.484
0.193548	20.42	19.72	17.11	15.72	14.98	7.283
0.225806	19.66	18.95	16.34	15.08	14.33	7.06
0.258065	19.45	18.72	16.13	14.91	14.32	7.059
0.290323	19.4	18.71	16.09	14.91	14.28	6.932
0.322581	19.31	18.63	16.09	14.8	14.18	6.911
0.354839	19.26	18.54	16.05	14.71	14.02	6.909
0.387097	19.2	18.53	15.86	14.68	13.96	6.864
0.419355	19.18	18.46	15.8	14.6	13.89	6.767
0.451613	18.97	18.26	15.63	14.46	13.86	6.738
0.483871	18.84	18.06	15.61	14.25	13.66	6.699
0.516129	18.71	18.06	15.6	14.19	13.65	6.633
0.548387	18.67	17.96	15.33	14.17	13.57	6.631
0.580645	18.49	17.79	15.2	13.99	13.53	6.621
0.612903	18.48	17.74	15.12	13.93	13.47	6.606
0.645161	18.4	17.66	15.1	13.9	13.44	6.535
0.677419	18.38	17.65	15.07	13.89	13.42	6.515
0.709677	18.36	17.64	15.03	13.85	13.36	6.423
0.741935	18.33	17.59	15.01	13.8	13.3	6.36
0.774194	18.22	17.54	14.97	13.73	13.24	6.33
0.806452	18.09	17.38	14.77	13.57	13.2	6.255
0.83871	18.06	17.33	14.69	13.5	13.06	6.18
0.870968	18.02	17.31	14.66	13.44	12.96	5.965
0.903226	17.77	17.07	14.49	13.23	12.76	5.768
0.935484	17.43	16.62	14.27	12.82	12.4	5.686
0.967742	17.07	16.34	13.86	12.57	12.3	5.602
0.1	23.01	22.341	19.735	18.451	18.014	8.2773
	5					
					Average of yearly averages:	6.861933

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: CApastureES

Metfile: w931

93.dvf

PRZM CAalfalfaIC.txt

scenario:

EXAMS pond298.exv

environment
file:

Chemical 2,4-D

Name:

Description	Variab	Value	Units	Comment
	le			s

Molecular Name

weight mwt 221.04 g/mol

Henry's Law henry 1.02E-08 atm-m³/mol

Const.

Vapor vapor torr

Pressure			
Solubility	sol	569 mg/L	
Kd	Kd	mg/L	
Koc	Koc	61.7 mg/L	
Photolysis half-life	kdp	13 days	Half-life
Aerobic Aquatic Metabolism	kbacw	45 days	Halfife
Anaerobic Aquatic Metabolism	kbacs	231 days	Halfife
Aerobic Soil Metabolism	asm	6.2 days	Halfife
Hydrolysis: pH 5		0 days	Half-life
Hydrolysis: pH 7		0 days	Half-life
Hydrolysis: pH 9		0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	3.23 kg/ha	
Application Efficiency:	APPE FF	0.95 fraction	
Spray Drift	DRFT	0.05 fraction of application rate applied to pond	
Application Date	Date 15-4	dd/mm or dd/mmm or dd-mm or dd-mmm	
Interval 1	interv al	30 days	Set to 0 or delete line for single app.
Interval 2	interv al	30 days	Set to 0 or delete line for single app.
Interval 3	interv al	30 days	Set to 0 or delete line for single app.
Record 17:	FILTR A IPSC ND UPTK F	1	
Record 18:	PLVK RT PLDK RT FEXT RC	0.07875 0.5	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUN OFF	none	none, monthly or total(average of entire run)

stored as OR pastureES.out

Chemical: 2,4-D

PRZM modified Saturday, 12 October 2002 at 17:22:28

environment:

ORwheatC.txt
EXAMS modified Thursday, 29 August 2002 at 16:33:29
environment:
pond298.exv
Metfile: modified Wednesday, 3 July 2002 at
w24232.dvf 09:06:10
Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	22.03	21.7	21.05	18.04	16.64	7.261
1962	20.97	20.68	19.53	16.77	15.5	7.928
1963	18.26	17.98	16.84	14.43	13.05	6.906
1964	16.54	16.29	15.3	13.23	11.96	6.255
1965	23.25	22.92	21.59	18.85	17.79	8.492
1966	16.88	16.62	15.57	13.21	12.09	6.374
1967	16.52	16.26	15.27	12.85	11.65	5.666
1968	24.02	23.65	22.5	19.24	17.03	8.114
1969	17.83	17.52	16.26	13.62	12.62	6.792
1970	16.56	16.3	15.27	12.79	11.66	5.937
1971	16.69	16.44	15.49	13.36	11.99	6.097
1972	52.02	51.41	48.05	40.67	35.51	15.38
1973	23.04	22.68	21.76	18.91	17.99	10.2
1974	17.18	16.94	15.95	13.55	12.4	6.566
1975	17.2	16.94	15.88	13.58	12.3	6.275
1976	16.51	16.27	15.29	13.19	11.91	6.229
1977	22.67	22.35	21.05	17.86	15.71	7.681
1978	17.61	17.33	16.22	13.56	12.45	6.337
1979	16.72	16.44	15.32	12.93	11.74	5.914
1980	18.06	17.79	17.12	15.02	13.68	6.864
1981	18.28	18	16.95	14.92	13.24	6.847
1982	16.6	16.34	15.28	12.8	11.7	6.018
1983	16.25	15.97	14.88	12.74	11.5	5.839
1984	18.32	18.05	17.46	15.31	13.79	6.836
1985	16.76	16.54	15.33	14.52	12.91	6.825
1986	17.61	17.33	16.21	13.61	12.4	6.372
1987	25.11	24.68	23.31	20.9	19.58	9.114
1988	21.82	21.55	20.35	17.69	16.66	8.286
1989	16.53	16.27	15.21	12.81	11.71	6.161
1990	17.44	17.17	16.62	14.22	12.78	6.239

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	52.02	51.41	48.05	40.67	35.51	15.38
0.064516	25.11	24.68	23.31	20.9	19.58	10.2
0.096774	24.02	23.65	22.5	19.24	17.99	9.114
0.129032	23.25	22.92	21.76	18.91	17.79	8.492
0.16129	23.04	22.68	21.59	18.85	17.03	8.286
0.193548	22.67	22.35	21.05	18.04	16.66	8.114
0.225806	22.03	21.7	21.05	17.86	16.64	7.928
0.258065	21.82	21.55	20.35	17.69	15.71	7.681
0.290323	20.97	20.68	19.53	16.77	15.5	7.261
0.322581	18.32	18.05	17.46	15.31	13.79	6.906

0.354839	18.28	18	17.12	15.02	13.68	6.864
0.387097	18.26	17.98	16.95	14.92	13.24	6.847
0.419355	18.06	17.79	16.84	14.52	13.05	6.836
0.451613	17.83	17.52	16.62	14.43	12.91	6.825
0.483871	17.61	17.33	16.26	14.22	12.78	6.792
0.516129	17.61	17.33	16.22	13.62	12.62	6.566
0.548387	17.44	17.17	16.21	13.61	12.45	6.374
0.580645	17.2	16.94	15.95	13.58	12.4	6.372
0.612903	17.18	16.94	15.88	13.56	12.4	6.337
0.645161	16.88	16.62	15.57	13.55	12.3	6.275
0.677419	16.76	16.54	15.49	13.36	12.09	6.255
0.709677	16.72	16.44	15.33	13.23	11.99	6.239
0.741935	16.69	16.44	15.32	13.21	11.96	6.229
0.774194	16.6	16.34	15.3	13.19	11.91	6.161
0.806452	16.56	16.3	15.29	12.93	11.74	6.097
0.83871	16.54	16.29	15.28	12.85	11.71	6.018
0.870968	16.53	16.27	15.27	12.81	11.7	5.937
0.903226	16.52	16.27	15.27	12.8	11.66	5.914
0.935484	16.51	16.26	15.21	12.79	11.65	5.839
0.967742	16.25	15.97	14.88	12.74	11.5	5.666

0.1	23.94	23.577	22.426	19.207	17.97	9.0518
	3					

Average
of yearly
averages:

7.1935

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: OR pasture ES

Metfile: w242
32.dvf

PRZM OR wheat C.txt

scenario:

EXAMS pond298.exv

environment
file:

Chemical 2,4-D

Name:

Description	Variab	Value	Units	Comments
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Molecular weight	mwt	221.04	g/mol	
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Henry's Law Const.	henry	1.02E-08	atm-m ³ /mol	
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Vapor Pressure	vapr		torr	
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Solubility	sol	569	mg/L	
------------	-----	-----	------	--

Kd	Kd		mg/L	
----	----	--	------	--

Koc	Koc	61.7	mg/L	
-----	-----	------	------	--

Photolysis	kdp	13	days	Half-life
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half-life			
Aerobic	kbacw	45 days	Halfife
Aquatic			
Metabolism			
Anaerobic	kbacs	231 days	Halfife
Aquatic			
Metabolism			
Aerobic Soil	asm	6.2 days	Halfife
Metabolism			
Hydrolysis:	pH 5	0 days	Half-life
Hydrolysis:	pH 7	0 days	Half-life
Hydrolysis:	pH 9	0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation	DEPI	0 cm	
Depth:			
Application	TAPP	3.23 kg/ha	
Rate:			
Application	APPE	0.95 fraction	
Efficiency:	FF		
Spray Drift	DRFT	0.05 fraction of application rate applied to pond	
Application	Date	15-4	dd/mm or dd/mmm or dd-mm or dd-mmm
Date			
Interval 1	interv	30 days	Set to 0 or delete line for single app.
	al		
Record 17:	FILTR		
	A		
	IPSC	1	
	ND		
	UPTK		
	F		
Record 18:	PLVK		
	RT		
	PLDK	0.07875	
	RT		
	FEXT	0.5	
	RC		
Flag for Index	IR	Pond	
Res. Run			
Flag for runoff	RUN	none	none, monthly or total(average of entire run)
calc.	OFF		
stored as	CAgrassES.out		
Chemical:	2,4-D		
PRZM	modified Saturday, 12 October 2002 at 17:18:50		
environment			
:			
ORgrasssee			
dC.txt			
EXAMS	modified Thursday, 29 August 2002 at 16:33:29		
environment			
:			
pond298.exv			
Metfile:	modified Wednesday, 3 July 2002 at		
w93193.dvf	09:04:24		
Water segment concentrations (ppb)			

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	13.74	13.34	11.53	8.748	7.872	2.744
1962	14.08	13.7	11.99	9.229	8.377	3.227
1963	13.98	13.61	12.08	9.338	8.566	3.377
1964	14.15	13.78	12.18	9.414	8.576	3.364
1965	13.9	13.54	12.08	9.353	8.57	3.405
1966	13.68	13.27	11.57	8.921	8.115	3.188
1967	13.85	13.47	11.9	9.161	8.304	3.096
1968	13.8	13.38	11.61	8.916	8.023	3.065
1969	13.7	13.32	11.84	9.13	8.355	3.267
1970	13.64	13.23	11.56	8.9	8.023	3.082
1971	14.18	13.8	12.15	9.364	8.492	3.247
1972	13.71	13.29	11.55	8.894	8.023	3.109
1973	13.52	13.08	11.31	8.715	7.848	3.056
1974	13.74	13.33	11.58	8.91	8.042	3.061
1975	13.79	13.4	11.77	9.051	8.283	3.261
1976	13.81	13.42	11.89	9.171	8.405	3.421
1977	14.25	13.82	11.88	9.184	8.197	3.141
1978	13.62	13.21	11.52	8.841	7.981	2.974
1979	13.55	13.13	11.36	8.731	7.848	2.918
1980	13.86	13.49	11.94	9.17	8.313	3.076
1981	13.62	13.15	11.11	8.575	7.532	2.751
1982	13.67	13.3	11.81	9.08	8.299	3.157
1983	13.75	13.34	11.65	8.968	8.164	3.103
1984	13.2	12.77	11.08	8.499	7.566	2.702
1985	13.59	13.13	11.14	8.561	7.519	2.712
1986	13.46	13.02	11.18	8.583	7.677	2.805
1987	13.47	13.04	11.27	8.642	7.847	2.977
1988	13.89	13.5	11.84	9.093	8.169	2.997
1989	13.66	13.25	11.54	8.851	7.976	2.993
1990	14.43	14.01	12.21	9.261	8.338	3.103

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	14.43	14.01	12.21	9.414	8.576	3.421
0.064516	14.25	13.82	12.18	9.364	8.57	3.405
0.096774	14.18	13.8	12.15	9.353	8.566	3.377
0.129032	14.15	13.78	12.08	9.338	8.492	3.364
0.16129	14.08	13.7	12.08	9.261	8.405	3.267
0.193548	13.98	13.61	11.99	9.229	8.377	3.261
0.225806	13.9	13.54	11.94	9.184	8.355	3.247
0.258065	13.89	13.5	11.9	9.171	8.338	3.227
0.290323	13.86	13.49	11.89	9.17	8.313	3.188
0.322581	13.85	13.47	11.88	9.161	8.304	3.157
0.354839	13.81	13.42	11.84	9.13	8.299	3.141
0.387097	13.8	13.4	11.84	9.093	8.283	3.109
0.419355	13.79	13.38	11.81	9.08	8.197	3.103
0.451613	13.75	13.34	11.77	9.051	8.169	3.103
0.483871	13.74	13.34	11.65	8.968	8.164	3.096
0.516129	13.74	13.33	11.61	8.921	8.115	3.082
0.548387	13.71	13.32	11.58	8.916	8.042	3.076

0.580645	13.7	13.3	11.57	8.91	8.023	3.065
0.612903	13.68	13.29	11.56	8.9	8.023	3.061
0.645161	13.67	13.27	11.55	8.894	8.023	3.056
0.677419	13.66	13.25	11.54	8.851	7.981	2.997
0.709677	13.64	13.23	11.53	8.841	7.976	2.993
0.741935	13.62	13.21	11.52	8.748	7.872	2.977
0.774194	13.62	13.15	11.36	8.731	7.848	2.974
0.806452	13.59	13.13	11.31	8.715	7.848	2.918
0.83871	13.55	13.13	11.27	8.642	7.847	2.805
0.870968	13.52	13.08	11.18	8.583	7.677	2.751
0.903226	13.47	13.04	11.14	8.575	7.566	2.744
0.935484	13.46	13.02	11.11	8.561	7.532	2.712
0.967742	13.2	12.77	11.08	8.499	7.519	2.702

0.1	14.177	13.798	12.143	9.3515	8.5586	3.3757
					Average of yearly averages:	3.0793

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: CAggrassES

Metfile: w93193.

dvf

PRZM OR grassseedC.txt

scenario:

EXAMS pond298.exv

environment

file:

Chemical 2,4-D

Name:

Description	Variable Name	Value	Units	Comment
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Molecular weight	mwt	221.04	g/mol	
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Henry's Law Const.	henry	1.02E-08	atm-m ³ /mol	
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Vapor Pressure	vapr		torr	
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Solubility	sol	569	mg/L	
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Kd	Kd		mg/L	
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Koc	Koc	61.7	mg/L	
-----	-----	------	------	--

Photolysis half-life	kdp	13 days		Half-life
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Aerobic Aquatic Metabolism	kbacw	45 days		Halfife
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Anaerobic Aquatic Metabolism	kbacs	231 days		Halfife
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Aerobic Soil Metabolism	asm	6.2 days		Halfife
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Hydrolysis:	pH 5	0 days		Half-life
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Hydrolysis:	pH 7	0 days	Half-life
Hydrolysis:	pH 9	0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	3.19 kg/ha	
Application Efficiency:	APPEF	0.95 fraction	
Spray Drift	DRFT	0.05 fraction of application rate applied to pond	
Application Date	Date	5-Jan dd/mm or dd/mmm or dd-mm or dd-mmm	
Interval 1	interval	30 days	Set to 0 or delete line for single app.
Record 17:	FILTRA		
	IPSCND	1	
	UPTKF		
Record 18:	PLVKR		
	T		
	PLDKR	0.07875	
	T		
	FEXTR	0.5	
	C		
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUNOF	none	none, monthly or total(average of entire run)
	F		

stored as ORgrassES.out

Chemical: 2,4-D

PRZM modified Saturday, 12 October 2002 at 17:18:50

environment:

ORgrasseed

C.txt

EXAMS modified Thursday, 29 August 2002 at 16:33:29

environment:

pond298.exv

Metfile: modified Wednesday, 3 July 2002 at

w24232.dvf 09:06:10

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	14.29		14.03	12.88	10.72	9.508
1962	15.91		15.65	14.51	12.23	11.08
1963	31.18		30.66	28.48	26.39	24.34
1964	17.59		17.3	16.04	13.47	12.56
1965	16.27		16	14.91	12.56	11.45
1966	15.87		15.59	14.38	12.03	10.98
1967	15.82		15.53	14.24	11.73	10.75
1968	16.57		16.26	15.13	12.67	11.3
1969	15.75		15.44	14.13	12.09	11.02
1970	15.95		15.65	14.34	11.79	10.85
1971	16.01		15.76	14.69	12.48	11.31
1972	17.07		16.77	15.53	12.97	11.83
1973	15.91		15.63	14.46	12.07	11.04
1974	16.02		15.75	14.52	12.14	11.08
1975	16.45		16.17	15.01	12.63	11.58
1976	16.07		15.82	14.76	12.55	11.38
1977	16.35		16.07	14.81	12.38	11.32
1978	18.9		18.54	16.95	14.17	12.85
1979	17.14		16.83	15.51	12.87	11.98
1980	15.94		15.69	14.8	12.67	11.42
1981	17.76		17.54	16.38	14.32	12.61
1982	16.17		15.87	14.52	12	11.07
1983	15.81		15.53	14.38	12.1	11.01
1984	19.32		18.99	18.25	15.7	14.57
1985	24.09		23.77	21.97	18.3	15.98
1986	17.24		16.92	15.52	13.02	12.15
1987	15.71		15.41	14.12	11.78	10.79
1988	15.81		15.57	14.45	12.1	10.99
1989	15.66		15.37	14.12	11.75	10.72
1990	15.75		15.47	14.27	11.8	10.77

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	31.18		30.66	28.48	26.39	24.34
0.064516	24.09		23.77	21.97	18.3	15.98
0.096774	19.32		18.99	18.25	15.7	14.57
0.129032	18.9		18.54	16.95	14.32	12.85
0.16129	17.76		17.54	16.38	14.17	12.61

0.193548	17.59	17.3	16.04	13.47	12.56	6.514
0.225806	17.24	16.92	15.53	13.02	12.15	6.308
0.258065	17.14	16.83	15.52	12.97	11.98	6.111
0.290323	17.07	16.77	15.51	12.87	11.83	6.014
0.322581	16.57	16.26	15.13	12.67	11.58	5.99
0.354839	16.45	16.17	15.01	12.67	11.45	5.983
0.387097	16.35	16.07	14.91	12.63	11.42	5.944
0.419355	16.27	16	14.81	12.56	11.38	5.91
0.451613	16.17	15.87	14.8	12.55	11.32	5.879
0.483871	16.07	15.82	14.76	12.48	11.31	5.845
0.516129	16.02	15.76	14.69	12.38	11.3	5.821
0.548387	16.01	15.75	14.52	12.23	11.08	5.797
0.580645	15.95	15.69	14.52	12.14	11.08	5.787
0.612903	15.94	15.65	14.51	12.1	11.07	5.714
0.645161	15.91	15.65	14.46	12.1	11.04	5.667
0.677419	15.91	15.63	14.45	12.09	11.02	5.661
0.709677	15.87	15.59	14.38	12.07	11.01	5.632
0.741935	15.82	15.57	14.38	12.03	10.99	5.62
0.774194	15.81	15.53	14.34	12	10.98	5.616
0.806452	15.81	15.53	14.27	11.8	10.85	5.613
0.83871	15.75	15.47	14.24	11.79	10.79	5.541
0.870968	15.75	15.44	14.13	11.78	10.77	5.498
0.903226	15.71	15.41	14.12	11.75	10.75	5.35
0.935484	15.66	15.37	14.12	11.73	10.72	5.269
0.967742	14.29	14.03	12.88	10.72	9.508	4.176

0.1	19.27	18.945	18.12	15.562	14.398	7.2421
	8					

Average
of yearly
averages: 6.120433

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: ORgrassES

Metfile: w242
32.dvf

PRZM ORgrassseedC.txt

scenario:

EXAMS pond298.exv

environment

file:

Chemical 2,4-D

Name:

Description	Variab	Value	Units	Comment
	le			s

Name

Molecular mwt 221.04 g/mol

weight

Henry's Law henry 1.02E-08 atm-m^3/mol

Const.

Vapor vapor torr

Pressure			
Solubility	sol	569 mg/L	
Kd	Kd	mg/L	
Koc	Koc	61.7 mg/L	
Photolysis half-life	kdp	13 days	Half-life
Aerobic Aquatic Metabolism	kbacw	45 days	Halfife
Anaerobic Aquatic Metabolism	kbacs	231 days	Halfife
Aerobic Soil Metabolism	asm	6.2 days	Halfife
Hydrolysis: pH 5	pH 5	0 days	Half-life
Hydrolysis: pH 7	pH 7	0 days	Half-life
Hydrolysis: pH 9	pH 9	0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	3.19 kg/ha	
Application Efficiency:	APPE FF	0.95 fraction	
Spray Drift	DRFT	0.05 fraction of application rate applied to pond	
Application Date	Date	5-Jan dd/mm or dd/mm or dd-mm or dd-mmm	
Interval 1	interv al	30 days	Set to 0 or delete line for single app.
Record 17:	FILTR A		
	IPSC ND	1	
	UPTK F		
Record 18:	PLVK RT		
	PLDK RT	0.07875	
	FEXT RC	0.5	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUN OFF	none	none, monthly or total(average of entire run)

stored as PAturfES.out

Chemical: 2,4-D

PRZM modified Saturday, 12 October 2002 at 17:27:02

environment:

PAturfC.txt

EXAMS modified Thursday, 29 August 2002 at 16:33:29

environment:

pond298.exv

Metfile: modified Wednesday, 3 July 2002 at

w14737.dvf 09:06:12

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	14.1	13.79	12.41	9.846	8.892	3.552
1962	14.87	14.52	13.61	11.53	10.37	4.964
1963	15.6	15.26	13.75	10.98	10.17	4.934
1964	15.08	14.73	13.35	10.68	9.884	4.71
1965	15	14.66	13.25	10.59	9.808	4.67
1966	15.5	15.16	13.57	10.75	9.893	4.567
1967	22.63	22.03	19.75	17.1	15.28	7.419
1968	17.03	16.7	15.17	12.3	11.41	5.876
1969	15.14	14.79	13.32	10.64	9.874	4.765
1970	15.29	14.96	13.55	10.85	10.04	4.706
1971	19.42	18.99	17.05	13.48	12.01	5.518
1972	44.22	43.27	39.32	31.52	26.65	11.24
1973	18.05	17.65	15.81	13.17	12.34	6.844
1974	17.26	16.9	15.6	12.98	11.87	5.645
1975	17.92	17.48	15.94	13.05	11.57	5.613
1976	15.48	15.12	13.5	10.72	9.951	4.817
1977	14.93	14.58	13.6	10.93	10.01	4.692
1978	17.27	16.87	15.1	12.3	11.14	5.102
1979	16.21	15.86	14.35	11.57	10.55	4.984
1980	15.37	15.03	13.6	10.85	9.981	4.473
1981	18.15	17.71	15.9	13.16	11.8	5.283
1982	16.69	16.42	15.83	13.64	11.99	5.914
1983	15.76	15.41	13.85	11.17	10.33	4.904
1984	19.12	18.67	16.66	14.17	12.91	5.63
1985	21.75	21.27	19.87	17.49	15.99	7.01
1986	16.1	15.72	14.16	11.34	10.47	5.219
1987	15.18	14.81	13.23	10.56	9.771	4.629
1988	16.02	15.66	14.12	11.28	10.28	4.663
1989	20.22	19.77	18.22	14.85	13.64	6.143
1990	16.7	16.33	14.68	11.85	10.9	5.223

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	44.22	43.27	39.32	31.52	26.65	11.24
0.064516	22.63	22.03	19.87	17.49	15.99	7.419
0.096774	21.75	21.27	19.75	17.1	15.28	7.01
0.129032	20.22	19.77	18.22	14.85	13.64	6.844
0.16129	19.42	18.99	17.05	14.17	12.91	6.143
0.193548	19.12	18.67	16.66	13.64	12.34	5.914

0.225806	18.15	17.71	15.94	13.48	12.01	5.876
0.258065	18.05	17.65	15.9	13.17	11.99	5.645
0.290323	17.92	17.48	15.83	13.16	11.87	5.63
0.322581	17.27	16.9	15.81	13.05	11.8	5.613
0.354839	17.26	16.87	15.6	12.98	11.57	5.518
0.387097	17.03	16.7	15.17	12.3	11.41	5.283
0.419355	16.7	16.42	15.1	12.3	11.14	5.223
0.451613	16.69	16.33	14.68	11.85	10.9	5.219
0.483871	16.21	15.86	14.35	11.57	10.55	5.102
0.516129	16.1	15.72	14.16	11.53	10.47	4.984
0.548387	16.02	15.66	14.12	11.34	10.37	4.964
0.580645	15.76	15.41	13.85	11.28	10.33	4.934
0.612903	15.6	15.26	13.75	11.17	10.28	4.904
0.645161	15.5	15.16	13.61	10.98	10.17	4.817
0.677419	15.48	15.12	13.6	10.93	10.04	4.765
0.709677	15.37	15.03	13.6	10.85	10.01	4.71
0.741935	15.29	14.96	13.57	10.85	9.981	4.706
0.774194	15.18	14.81	13.55	10.75	9.951	4.692
0.806452	15.14	14.79	13.5	10.72	9.893	4.67
0.83871	15.08	14.73	13.35	10.68	9.884	4.663
0.870968	15	14.66	13.32	10.64	9.874	4.629
0.903226	14.93	14.58	13.25	10.59	9.808	4.567
0.935484	14.87	14.52	13.23	10.56	9.771	4.473
0.967742	14.1	13.79	12.41	9.846	8.892	3.552

0.1	21.597	21.12	19.597	16.875	15.116	6.9934
				Average		5.456967
				of yearly		
				averages:		

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: PAturfES

Metfile: w1473

7.dvf

PRZM PAturf

scenario: C.txt

EXAMS pond298.exv

environment

file:

Chemical 2,4-D

Name:

Description	Variable	Value	Units	Comments
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Molecular weight

mwt 221.04 g/mol

Henry's Law Const.

henry 1.02E-08 atm-m³/mol

Vapor Pressure

vapr torr

Solubility

sol 569 mg/L

Kd	Kd	mg/L	
Koc	Koc	61.7 mg/L	
Photolysis half-life	kdp	13 days	Half-life
Aerobic Aquatic Metabolism	kbacw	45 days	Halfife
Anaerobic Aquatic Metabolism	kbacs	231 days	Halfife
Aerobic Soil Metabolism	asm	6.2 days	Halfife
Hydrolysis: pH 5		0 days	Half-life
Hydrolysis: pH 7		0 days	Half-life
Hydrolysis: pH 9		0 days	Half-life
Method: CAM		2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	3.19 kg/ha	
Application Efficiency:	APPEF F	0.95 fraction	
Spray Drift Application Date	DRFT Date	0.05 fraction of application rate applied to pond 5-Jan dd/mm or dd/mm or dd-mm or dd-mmm	
Interval 1	interval	30 days	Set to 0 or delete line for single app.
Record 17:	FILTR A		
	IPSCN D	1	
Record 18:	UPTKF PLVKR T		
	PLDKR T	0.07875	
	FEXTR C	0.5	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUNO FF	none	none, monthly or total(average of entire run)

stored as FLturfES.out

Chemical: 2,4-D

PRZM modified Monday, 16 June 2003 at

environment: 14:48:06

FLturfC.txt

EXAMS modified Thursday, 29 August 2002 at 16:33:29

environment:

pond298.exv

Metfile: modified Wednesday, 3 July 2002 at

w12834.dvf 09:04:28

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	13.66	13.24	11.69	9.078	8.289	2.909
1962	13.07	12.64	11.92	9.577	8.567	3.242
1963	23.12	22.32	19.13	14.45	12.41	4.644
1964	18.45	17.83	15.35	13.68	11.93	4.304
1965	16.41	15.89	14.42	11.91	10.2	4.041
1966	28.56	27.63	24.21	18.82	16.42	6.201
1967	22.69	22.01	19.43	14.79	12.23	4.935
1968	46.75	45.18	39.78	29.59	24.21	8.632
1969	22.34	21.52	18.47	14.03	12.13	4.94
1970	13.36	12.9	11.09	8.501	7.654	2.843
1971	15.08	14.61	12.74	10.23	9.23	3.398
1972	14.46	13.99	12.4	10.39	9.371	3.53
1973	13.22	12.79	11.07	8.469	7.657	2.819
1974	18.59	17.97	15.63	12.02	10.18	3.811
1975	13.24	12.93	11.4	8.615	7.888	2.966
1976	30.97	29.97	26.98	20.52	16.97	6.317
1977	13.96	13.48	11.54	8.872	7.927	3.138
1978	21.24	20.44	17.65	13.26	10.99	4.04
1979	21.24	20.55	17.83	15.81	13.5	4.759
1980	15.47	14.97	12.97	10.5	9.34	3.406
1981	13.75	13.28	11.36	8.632	7.751	2.84
1982	16.1	15.58	13.74	10.82	9.47	3.574
1983	24.38	23.59	20.59	15.88	13.11	4.977
1984	16.96	16.45	14.41	11.28	9.932	3.814
1985	13.2	12.74	11.26	8.629	7.924	2.939
1986	13.22	12.79	11.07	8.455	7.666	2.775
1987	13.83	13.37	11.54	8.957	8.074	2.887
1988	15.81	15.26	13.55	10.44	9.208	3.393
1989	14.29	13.81	11.92	9.563	8.511	3.044
1990	12.93	12.49	10.77	8.218	7.419	2.664

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	46.75	45.18	39.78	29.59	24.21	8.632
0.064516	30.97	29.97	26.98	20.52	16.97	6.317
0.096774	28.56	27.63	24.21	18.82	16.42	6.201
0.129032	24.38	23.59	20.59	15.88	13.5	4.977
0.16129	23.12	22.32	19.43	15.81	13.11	4.94
0.193548	22.69	22.01	19.13	14.79	12.41	4.935

0.225806	22.34	21.52	18.47	14.45	12.23	4.759
0.258065	21.24	20.55	17.83	14.03	12.13	4.644
0.290323	21.24	20.44	17.65	13.68	11.93	4.304
0.322581	18.59	17.97	15.63	13.26	10.99	4.041
0.354839	18.45	17.83	15.35	12.02	10.2	4.04
0.387097	16.96	16.45	14.42	11.91	10.18	3.814
0.419355	16.41	15.89	14.41	11.28	9.932	3.811
0.451613	16.1	15.58	13.74	10.82	9.47	3.574
0.483871	15.81	15.26	13.55	10.5	9.371	3.53
0.516129	15.47	14.97	12.97	10.44	9.34	3.406
0.548387	15.08	14.61	12.74	10.39	9.23	3.398
0.580645	14.46	13.99	12.4	10.23	9.208	3.393
0.612903	14.29	13.81	11.92	9.577	8.567	3.242
0.645161	13.96	13.48	11.92	9.563	8.511	3.138
0.677419	13.83	13.37	11.69	9.078	8.289	3.044
0.709677	13.75	13.28	11.54	8.957	8.074	2.966
0.741935	13.66	13.24	11.54	8.872	7.927	2.939
0.774194	13.36	12.93	11.4	8.632	7.924	2.909
0.806452	13.24	12.9	11.36	8.629	7.888	2.887
0.83871	13.22	12.79	11.26	8.615	7.751	2.843
0.870968	13.22	12.79	11.09	8.501	7.666	2.84
0.903226	13.2	12.74	11.07	8.469	7.657	2.819
0.935484	13.07	12.64	11.07	8.455	7.654	2.775
0.967742	12.93	12.49	10.77	8.218	7.419	2.664

0.1	28.14	27.226	23.848	18.526	16.128	6.0786
	2					

Average
of yearly
averages: 3.926067

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: FLturfES

Metfile: w128
34.dvf

PRZM FLturf

scenario: C.txt

EXAMS pond298.exv

environment
file:

Chemical 2,4-D

Name:

Description	Variab	Value	Units	Comment
	le			s

Name

Molecular weight	mwt	221.04	g/mol
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Henry's Law Const.	henry	1.02E-08	atm-m^3/mol
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Vapor Pressure	vapr		torr
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Solubility	sol	569 mg/L	
Kd	Kd	mg/L	
Koc	Koc	61.7 mg/L	
Photolysis half-life	kdp	13 days	Half-life
Aerobic Aquatic Metabolism	kbacw	45 days	Halfife
Anaerobic Aquatic Metabolism	kbacs	231 days	Halfife
Aerobic Soil Metabolism	asm	6.2 days	Halfife
Hydrolysis: pH 5	pH 5	0 days	Half-life
Hydrolysis: pH 7	pH 7	0 days	Half-life
Hydrolysis: pH 9	pH 9	0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	3.19 kg/ha	
Application Efficiency:	APPE FF	0.95 fraction	
Spray Drift	DRFT	0.05 fraction of application rate applied to pond	
Application Date	Date	5-Jan dd/mm or dd/mmm or dd-mm or dd-mmm	
Interval 1	interv al	30 days	Set to 0 or delete line for single app.
Record 17:	FILTR A IPSC ND UPTK F	1	
Record 18:	PLVK RT PLDK RT FEXT RC	0.07875 0.5	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUN OFF	none	none, monthly or total(average of entire run)

stored as CAwheatES.out

Chemical: 2,4-D

PRZM modified Saturday, 12 October 2002 at 16:27:56

environment:

CAalfalfaC.txt

EXAMS modified Thursday, 29 August 2002 at 16:33:29

environment:

pond298.exv

Metfile: modified Wednesday, 3 July 2002 at

w23232.dvf 09:04:22

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	2.8	2.733	2.53	2.118	1.81	0.6326
1962	2.922	2.866	2.645	2.212	1.913	0.7443
1963	2.944	2.9	2.722	2.306	2.007	0.7893
1964	2.952	2.899	2.692	2.261	1.965	0.7709
1965	2.993	2.943	2.741	2.293	2.003	0.7958
1966	2.956	2.896	2.663	2.198	1.89	0.7441
1967	3.178	3.136	2.99	2.551	2.221	0.8392
1968	2.936	2.882	2.667	2.218	1.905	0.7411
1969	2.945	2.896	2.8	2.349	2.039	0.7864
1970	2.932	2.884	2.687	2.206	1.895	0.7287
1971	2.932	2.883	2.695	2.289	1.992	0.7703
1972	2.94	2.888	2.722	2.267	1.951	0.7593
1973	2.945	2.889	2.665	2.164	1.837	0.7068
1974	2.925	2.876	2.678	2.245	1.948	0.7627
1975	2.952	2.91	2.734	2.251	1.926	0.7304
1976	2.913	2.863	2.657	2.156	1.832	0.6902
1977	2.917	2.861	2.654	2.273	1.976	0.7742
1978	5.422	5.333	4.987	4.116	3.547	1.334
1979	3.058	3.006	2.799	2.309	1.982	0.8083
1980	2.932	2.878	2.663	2.242	1.958	0.7797
1981	3.095	3.042	2.881	2.418	2.071	0.8009
1982	2.941	2.893	2.7	2.259	1.976	0.8005
1983	3.805	3.765	3.531	3.089	2.706	1.05
1984	2.966	2.913	2.698	2.182	1.861	0.7129
1985	2.914	2.857	2.633	2.189	1.871	0.7134
1986	2.923	2.871	2.664	2.205	1.897	0.7386
1987	2.934	2.875	2.64	2.142	1.832	0.7145
1988	4.434	4.373	4.049	3.375	2.914	1.068
1989	2.982	2.921	2.681	2.205	1.897	0.7577
1990	2.936	2.876	2.724	2.278	1.964	0.748

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258	5.422	5.333	4.987	4.116	3.547	1.334
0.064516	4.434	4.373	4.049	3.375	2.914	1.068
0.096774	3.805	3.765	3.531	3.089	2.706	1.05
0.129032	3.178	3.136	2.99	2.551	2.221	0.8392
0.16129	3.095	3.042	2.881	2.418	2.071	0.8083
0.193548	3.058	3.006	2.8	2.349	2.039	0.8009

0.225806	2.993	2.943	2.799	2.309	2.007	0.8005
0.258065	2.982	2.921	2.741	2.306	2.003	0.7958
0.290323	2.966	2.913	2.734	2.293	1.992	0.7893
0.322581	2.956	2.91	2.724	2.289	1.982	0.7864
0.354839	2.952	2.9	2.722	2.278	1.976	0.7797
0.387097	2.952	2.899	2.722	2.273	1.976	0.7742
0.419355	2.945	2.896	2.7	2.267	1.965	0.7709
0.451613	2.945	2.896	2.698	2.261	1.964	0.7703
0.483871	2.944	2.893	2.695	2.259	1.958	0.7627
0.516129	2.941	2.889	2.692	2.251	1.951	0.7593
0.548387	2.94	2.888	2.687	2.245	1.948	0.7577
0.580645	2.936	2.884	2.681	2.242	1.926	0.748
0.612903	2.936	2.883	2.678	2.218	1.913	0.7443
0.645161	2.934	2.882	2.667	2.212	1.905	0.7441
0.677419	2.932	2.878	2.665	2.206	1.897	0.7411
0.709677	2.932	2.876	2.664	2.205	1.897	0.7386
0.741935	2.932	2.876	2.663	2.205	1.895	0.7304
0.774194	2.925	2.875	2.663	2.198	1.89	0.7287
0.806452	2.923	2.871	2.657	2.189	1.871	0.7145
0.83871	2.922	2.866	2.654	2.182	1.861	0.7134
0.870968	2.917	2.863	2.645	2.164	1.837	0.7129
0.903226	2.914	2.861	2.64	2.156	1.832	0.7068
0.935484	2.913	2.857	2.633	2.142	1.832	0.6902
0.967742	2.8	2.733	2.53	2.118	1.81	0.6326

0.1	3.742	3.7021	3.4769	3.0352	2.6575	1.02892
	3					

Average
of yearly
averages: 0.793093

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: CAwheatES

Metfile: w232
32.dvf

PRZM CAalfalfaIC.txt

scenario:

EXAMS pond298.exv

environment
file:

Chemical 2,4-D

Name:

Description	Variab	Value	Units	Comment
	le			s

Name

Molecular weight	mwt	221.04	g/mol
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Henry's Law Const.	henry	1.02E-08	atm-m^3/mol
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Vapor Pressure	vapr		torr
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Solubility	sol	569 mg/L	
Kd	Kd	mg/L	
Koc	Koc	61.7 mg/L	
Photolysis half-life	kdp	13 days	Half-life
Aerobic Aquatic Metabolism	kbacw	45 days	Halfife
Anaerobic Aquatic Metabolism	kbacs	231 days	Halfife
Aerobic Soil Metabolism	asm	6.2 days	Halfife
Hydrolysis: pH 5	pH 5	0 days	Half-life
Hydrolysis: pH 7	pH 7	0 days	Half-life
Hydrolysis: pH 9	pH 9	0 days	Half-life
Method:	CAM	2 integer	See PRZM manual
Incorporation Depth:	DEPI	0 cm	
Application Rate:	TAPP	1.12 kg/ha	
Application Efficiency:	APPE	0.95 fraction	
Spray Drift	FF		
Application Date	DRFT	0.05 fraction of application rate applied to pond	
Record 17:	Date	15-4	dd/mm or dd/mm or dd-mm or dd-mmm
	FILTR		
	A		
	IPSC	1	
	ND		
	UPTK		
	F		
Record 18:	PLVK		
	RT		
	PLDK	0.07875	
	RT		
	FEXT	0.5	
	RC		
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUN OFF	none	none, monthly or total(average of entire run)