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Data Evaluation Report on the terrestrial field dissipation of Fenamidone

PMRA Submission Number {.....} EPA MRID Number 45385904

Data Requirement: PMRA Data Code:
EPA DP Barcode: D275213
OECD Data Point:
EPA Guideline: 164-1

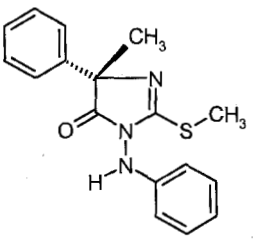
Test material: RPA 407213

End Use Product name: EXP 10623A **Concentration of a.i.** 500 g/L

Formulation type: Suspendable Concentrate

Active ingredient
Common name: Fenamidone
Chemical name
IUPAC: (+)-(4*S*)-4-Methyl-2-methylthio-4-phenyl-(1H)-1-phenylamino-2-imidazolin-5-one.
CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-, (*S*)-.
CAS No: 161326-34-7.
Synonyms: Reason 500 SC Fungicide.
Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydro-4H-imidazol-4-one.
(*S*)-1-Anilino-4-methyl-2-methylthio-4-phenylimidazolin-5-one.
(*S*)-5-Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydroimidazol-4-one.
Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-, (5*S*)-.
(5*S*)-3,5-Dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4*H*-imidazol-4-one.
RPA407213.
SMILES string:

Chemical Structure:



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Data Evaluation Report on the terrestrial field dissipation of Fenamidone

PMRA Submission Number {.....} EPA MRID Number 45385904

Primary Reviewer: Dan Hunt
Dynamac Corporation

Signature: Signed by Dynamac's reviewers on 2/25/02
Date:

QC Reviewer: Joan Harlin
Dynamac Corporation

Signature:
Date:

Secondary Reviewer(s): Silvia S. Termes
EPA

Signature:
Date: 24 Aug., 2002

Company Code: [for PMRA]
Active Code: [for PMRA]
Use Site Category: [for PMRA]
EPA PC Code: 046679

CITATION: Norris, F. A. 2001. RPA 407213: Terrestrial soil dissipation under agricultural field conditions. Study performed by Aventis CropScience, Research Triangle Park, NC; Florida Pesticide Research Inc., Ovieda, FL; Prairie Ag Research, Inc., Britton, SD; Plant Sciences, Inc., Watsonville, CA; Qualls Agricultural Research, Inc., Ephrata, WA; Agvise, Inc., Northwood, ND; and Centre Analytical Laboratories, Inc., State College, PA. Study submitted by Aventis CropScience, Research Triangle Park, NC. Agredoc File Number B003033. Study Number 98W13195. Study initiated February 20, 1998 and completed March 15, 2001.

Administrative conclusions: This study is classified acceptable and satisfies the guideline requirement for a terrestrial field dissipation study (164-1). This study was conducted in 4 sites in the USA.

EXECUTIVE SUMMARY:

Soil dissipation/accumulation of fenamidone (RPA 407213) under US field conditions was conducted in potato cropped plots at four sites in Florida (Site 1), North Dakota (Site 2), California (Site 3), and Washington (Site 4; Ecoregions were not reported). The experiment was carried out in accordance with the U.S. EPA Pesticide Assessment Guidelines Subdivision N, 164-1 and in compliance with the U.S. EPA FIFRA (40 CFR, Part 160) Good Laboratory Practice Standards. Fenamidone was broadcast six times (7-day intervals) at 0.2 kg a.i./ha in 6 x 119 m (Site 1), 24 x 64 m (Site 2), 24 x 36 m (Site 3), and 18 x 69 m (Site 4) plots. The applied rate corresponds to 100% of the proposed label rate. Rainfall was supplemented with irrigation at all of the test sites with the exception of Site 2 (ND) which was not irrigated during the study. Historic meterological conditions were not reported for Sites 1 (FL) and 4 (WA). The treated plots were approximately 1 m apart at each test site. Control plots were not utilized at any of the four test sites.

The application rate was verified by the analysis of filter paper plaques that were placed in the target area and removed immediately after application. The average recoveries from the application monitors ranged from 42.0-62.5%, 35.5-98.0%, 54.0-83.5%, and 67.5-81.5% of the theoretical application rate, based on the six field applications for Sites 1 through 4, respectively. Field spiking of the samples was done by fortifying control soil with fenamidone (RPA 407213) and the analytes RPA 406012, RPA 408056, RPA 410914, and RPA 717879 at 0.1 mg a.i./kg soil. There was 65-108%, 89-113%, 90-99%, 103-125%, and 96-115% recovery (across all field sites) of the applied fenamidone, RPA 406012, RPA 408056, RPA 410914, and RPA 717879, respectively, in the field spiked samples.

Soil samples were taken following each of the six applications and at 4, 7, 14, 20, 27, 60, 91, 120, 151, 180, and 239 days posttreatment of the last application at Site 1 (FL), at 3, 7, 13, 21, 28, 57, 84, 114, 238, 297, 358, 422, 475, and 591 days posttreatment of the last application at Site 2 (ND), at 2, 7, 14, 21, 28, 57, 96, 124, 148, 180, 251, 306, 366, 433, 484, and 531 days posttreatment of the last application at Site 3 (CA), and at 3, 8, 15, 22, 30, 62, 92, 122 154 and 189 days posttreatment of the last application at Site 4 (WA). All samples were taken to a depth of 90 cm except for samples collected immediately following the first application (15-cm depth). The soil samples were extracted with aqueous acetone, and fenamidone (RPA 407213) and its transformation products, RPA 406012, RPA 408056, RPA 409446, RPA 410914, RPA 410995 and RPA 717879, were analyzed by LC/MS/MS. The LOD and LOQ for parent and transformation products in soil were 0.003 mg/kg and 0.01 mg/kg, respectively.

At Site 1 (FL), the measured zero-time concentration (following the first application) was 0.036 mg a.i./kg soil, which is 38.7% of the applied rate (reviewer-calculated based on an expected concentration of 0.093 mg a.i./kg in the 0-15 cm soil depth). Data are reviewer-calculated means of four replicates. Following the sixth application, fenamidone dissipated from a maximum of 0.057 mg a.i./kg soil at 7 days to 0.039 mg a.i./kg soil by 14 days and 0.019 mg a.i./kg soil by 20 days, and was last detected at 0.013 mg a.i./kg soil at 27 days posttreatment in the 0-15 cm soil layer. The only significant transformation product detected at Site 1 was RPA 717879 (5-methyl-5-phenylimidazolidine-2,4-dione), with a maximum concentration of 10.4% of the total applied amount (0.558 mg a.i./kg soil), observed on the 27th day, in the 0-15 cm soil layer. No transformation products were detected at the end of the study period (180 days). The residues of fenamidone and its transformation products were primarily detected in the 0-15 cm soil layer.

Under field conditions at Site 1, fenamidone had a half-life of 22.4 days. A DT90 was not determined. At the end of the 180-day period, the total carryover of residues of fenamidone was 0% of the applied amount.

At Site 2 (ND), the measured zero-time concentration (following the first application) was 0.058 mg a.i./kg soil, which is 46.8% of the applied rate (reviewer-calculated based on an expected concentration of 0.124 mg a.i./kg in the 0-15 cm soil depth). Data are reviewer-calculated means of four replicates. Following the sixth application, fenamidone dissipated from a maximum of 0.173 mg a.i./kg soil at day 0 to 0.082-0.085 mg a.i./kg soil by 7-13 days and 0.061-0.072 mg a.i./kg soil by 21-28 days, and was last detected at 0.008 mg a.i./kg soil at 57 days posttreatment in the 0-15 cm soil layer. The only significant transformation products detected at Site 2 were RPA 408056 (5-methyl-2-methylthio-5-phenyl-3,5-dihydroimidazol) and RPA 717879 (5-methyl-5-phenylimidazolidine-2,4-dione), with maximum concentrations of 7.7% and 5.8% of the total applied amount (0.744 mg a.i./kg soil), observed on the 3rd and 297th day, respectively, in the 0-15 cm soil layer. Only RPA 717879 was detected at the end of the study period (591 days), at 1.7% of the total applied fenamidone in the 0-15 cm soil layer. The residues of fenamidone and its transformation products were only detected in the 0-15 cm soil layer.

Under field conditions at Site 2, fenamidone had a half-life of 20.5 days. A DT90 was not determined. At the end of the 591-day period, the total carryover of residues of fenamidone was 0% of the applied amount.

At Site 3 (CA), the measured zero-time concentration (following the first application) was 0.059 mg a.i./kg soil, which is 56.2% of the applied rate (reviewer-calculated based on an expected concentration of 0.105 mg a.i./kg in the 0-15 cm soil depth). Data are reviewer-calculated means of four replicates. Following the sixth application, fenamidone dissipated from a maximum of 0.066 mg a.i./kg soil at 14 days to 0.031 mg a.i./kg soil by 21 days and 0.021 mg a.i./kg soil by 57 days, and was last detected at 0.008 mg a.i./kg soil at 124 days posttreatment in the 0-15 cm soil layer. The only significant transformation product detected at Site 1 was RPA 717879 (5-methyl-5-phenylimidazolidine-2,4-dione), with a maximum concentration of 5.1% of the total applied amount (0.630 mg a.i./kg soil), observed on the 124th day, in the 0-15 cm soil layer. No

transformation products were detected at the end of the study period (531 days). The residues of fenamidone and its transformation products were primarily detected in the 0-15 cm soil layer.

Under field conditions at Site 3, fenamidone had a half-life of 81.5 days. A DT90 was not determined. At the end of the 531-day period, the total carryover of residues of fenamidone was 0% of the applied amount.

At Site 4 (WA), the measured zero-time concentration (following the first application) was 0.095 mg a.i./kg soil, which is 99.0% of the applied rate (reviewer-calculated based on an expected concentration of 0.096 mg a.i./kg in the 0-15 cm soil depth). Data are reviewer-calculated means of four replicates. Following the sixth application, fenamidone dissipated from a maximum of 0.082 mg a.i./kg soil at day 0 to 0.048 mg a.i./kg soil by 3 days and 0.028 mg a.i./kg soil by 8 days, and was last detected at 0.011 mg a.i./kg soil at 22 days posttreatment in the 0-15 cm soil layer. There were no transformation products detected at Site 1 at greater than 3.6% of the total applied amount (0.576 mg a.i./kg soil), and no transformation products were detected at the end of the study period (189 days). The residues of fenamidone and its transformation products were primarily detected in the 0-15 cm soil layer.

Under field conditions at Site 4, fenamidone had a half-life of 8.7 days. A DT90 was not determined. At the end of the 189-day period, the total carryover of residues of fenamidone was 0% of the applied amount.

A mass accounting was not calculated and non-extractable residues, volatilization, plant uptake, and run off were not measured in this study.

The major route(s) of dissipation of fenamidone under terrestrial field conditions at the four test sites was transformation.

RESULTS SYNOPSIS

Location/soil type: Site 1: Seminole County, Florida/sand soil
Site 2: Sargent County, North Dakota/loam soil
Site 3: Santa Clara County, California/loamy sand soil
Site 4: Grant County, Washington/loamy sand soil

Half-life: Site 1: 22.4 days ($r^2 = 0.13$)
Site 2: 20.5 days ($r^2 = 0.53$)
Site 3: 81.5 days ($r^2 = 0.12$)
Site 4: 8.7 days ($r^2 = 0.62$)

DT90: Not determined for any of the test sites.

Major transformation products detected: RPA 717879 (maximum of 10.4% of the total applied fenamidone)

Minor transformation products detected: RPA 408056, RPA 410914, RPA 409446, RPA 406012, and RPA 410995

Dissipation routes: Transformation:

I. MATERIALS AND METHODS

GUIDELINE FOLLOWED: The study was conducted according to U.S. EPA Pesticide Assessment Guidelines Subdivision N, 164-1. The study did not deviate from the guideline.

COMPLIANCE: The study was conducted in compliance with U.S. EPA FIFRA (40 CFR Part 160) Good Laboratory Practice Standards. Signed and dated GLP Compliance, Quality Assurance and No Data Confidentiality Claims statements were provided.

A. MATERIALS:

1. Test Material RPA 407213

Chemical Structure of the active ingredient(s):

Description: Suspendable Concentrate

Storage conditions of test chemicals:

Site 1: 56°F-94°F (p. 206)
Site 2: 39°F-85°F (p. 229)
Site 3: 21.9°F-93.2°F (p. 241)
Site 4: 56.2°F-79.9°F (p. 256)

Physico-chemical properties of Fenamidone:

Parameter	Values	Comments
Water solubility	0.0078 g/L	20°C
Vapour pressure/volatility	Not provided	
UV absorption	Not provided	
pKa	Not provided	
K_{ow}/log K_{ow}	640/2.8	
Stability of Compound at room temperature	Not provided	

Data were obtained from p. 15 in the study report.

2. Test site: The test sites were located near Oviedo in Seminole County, Florida (Site 1), near Brampton in Sargent County, North Dakota (Site 2), near Watsonville in Santa Clara County, California (Site 3), and near Ephrata in Grant County, Washington (Site 4; p. 19). The Florida test plot had previously been treated with Gramoxone (1.0 lb a.i./A), Poast (twice at 0.35 lb a.i./A), Tattoo C (rate not provided), Lannate LV (1.2 lb a.i./A), Ambush (twice at 0.25 lb a.i./A), Dolomite (2 tons/A), Manzate 200DF (1.1 lb a.i./A), Echo 720 (1.1 lb a.i./A), Ridomil 2E (1.0 lb a.i./A), Alliette (4.0 lb a.i./A) and Larvin 3.2 (0.5 lb a.i./A) in the previous two years (Appendix B, Table B-4, p. 206). The North Dakota test plot had not been treated with maintenance pesticides in the last two years (Appendix B, Table B-14, p. 229). The California test plot had previously been treated with Chlorothalonil (1.5 lb a.i./A), CGA-279202 (confidential, rate not provided), and Roundup (1.5 lb a.i./A) in the previous two years (Appendix B, Table B-24, p. 241). The Washington test plot had previously been treated with Glyphosate (1.0 lb a.i./A), Weedar 64 (1.0 lb a.i./A), Diquat (several, rate not provided), Asana XL (0.05 lb a.i./A), and Sencor 75DF (0.25 lb a.i./A) in the previous two years (Appendix B, Table B-34, p. 256).

Table 1: Geographic location, site description and climatic data at the study sites.

Details		Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Geographic coordinates	Latitude	Not provided	Not provided	Not provided	Not provided
	Longitude	Not provided	Not provided	Not provided	Not provided
	Province/State	Florida	North Dakota	California	Washington
	Country	USA	USA	USA	USA
	Ecoregion	Not provided	Not provided	Not provided	Not provided
Slope Gradient		< 1% to north	Nearly level	0-1% to east	<1% to east
Depth to ground water (m)		0.6-0.8 m	0.9-1.8	> 3 m	app. 23 m
Distance from weather station used for climatic measurement		Precipitation was measured onsite and temperature was measured 8 miles from the test site	Precipitation was measured onsite and temperature was measured 12 miles from the test site	300 yards	0.5 miles
Indicate whether the meterological conditions before starting or during the study were within 30 year normal levels (Yes/No). If no, provide details.		Historical meterological conditions were not reported	Yes	Yes	Historical meterological conditions were not reported
Other details, if any		None	None	None	None

Data were obtained from Appendix B, Table B-2, p. 205; Table B-9, p. 209; Table B-12, p. 228; Table B-19, p. 232; Table B-22, p. 240; Table B-29, p. 244; Table B-32, p. 255; and Table B-39, p. 259 of the study report.

Table 2: Site usage and management history for the previous three years.

Use	Year	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Crops grown	Previous year	Bell peppers, sweet corn, and cantaloupe.	Fallow	Broccoli	Winter wheat
	2 years previous	Potatoes	Fallow	Zucchini	Potatoes
	3 years previous	Not provided	Not provided	Not provided	Not provided
Pesticides used	Previous year	Gramoxone, Poast, Tattoo C, Lannate LV, Ambush, and Dolomite	None	Chlorothalonil	Glyphosate and Weedar 64
	2 years previous	Manzate 200DF, Poast, Ambush, Echo 720, Ridomil 2E, Alliette, and Larvin 3.2	None	CGA-279202 and Roundup	Diquat, Asana XL, and Sencor 75DF
	3 years previous	Not provided	Not provided	Not provided	Not provided
Fertilizers used	Previous year	Not provided	Not provided	Not provided	Not provided
	2 years previous				
	3 years previous				
Cultivation methods, if provided (eg., Tillage)	Previous year	Not provided	Not provided	Not provided	Not provided
	2 years previous				
	3 years previous				
Other details, if any	Previous year				
	2 years previous				
	3 years previous				

Data were obtained from Appendix B, Table B-4, p. 206; Table B-14, p. 229; Table B-24, p. 241; and Table B-34, p. 256 of the study report

3. Soils:

Table 3: Properties of the soil from Site 1 (FL)

Property	Depth (cm)					
	0-15	**15-30**	**30-45**	**45-60**	**60-75**	**75-90**
Textural classification	Sand					
% sand	98	98	99	99	99	99
% silt	2	2	1	1	1	1
% clay	0	0	0	0	0	0
pH (1:1 soil:water or other)	7.2	6.6	6.4	6.9	6.7	6.7
Total organic carbon (%)*	0.55	0.44	0.31	0.17	0.20	0.29
Total organic matter (%)	0.95	0.75	0.53	0.30	0.35	0.5
CEC (meq/100 g)	3.0	2.8	1.9	0.9	1.8	3.2
Bulk density (g/cm3)	1.44	1.41	1.42	1.44	1.44	1.42
Moisture at 1/3 atm (%)	2.8	2.5	1.8	1.7	2.1	2.8
Taxonomic classification (e.g., ferro-humic podzol)	Not available from the NRCS					
Soil mapping unit	Wabusso sand					
Moisture at 15 bar (%)	2.1	1.9	1.4	1.2	1.2	1.4

Data were obtained from p. 24; Appendix B, Table B-3, p. 205 of the study report.
* Reviewer-calculated as % total organic matter content ÷ 1.72.

Table 4: Properties of the soil from Site 2 (ND)

Property	Depth (cm)					
	0-15	**15-30**	**30-45**	**45-60**	**60-75**	**75-90**
Textural classification	Loam	Clay loam			Silty clay loam	Silt loam
% sand	29	27	24	23	21	18
% silt	46	43	43	44	49	61
% clay	26	30	33	33	30	22
pH (1:1 soil:water or other)	7.7	7.9	8.1	8.3	8.3	8.2
Total organic carbon (%)*	2.5	1.9	1.0	0.8	0.5	0.5
Total organic matter (%)	4.3	3.3	1.8	1.3	0.9	0.8
CEC (meq/100 g)	29.1	30.4	31.0	30.2	32.0	31.7
Bulk density (g/cm3)	1.08	1.08	1.06	1.03	1.04	1.02
Moisture at 1/3 atm (%)	29.8	34.1	31.6	30.4	30.5	34.7
Taxonomic classification (e.g., ferro-humic podzol)	Coarse-silty, mixed, superactive, frigid Pachic Hapludolls (Gardena) Coarse-silty, mixed, superactive, frigid Aeric Calciaquolls (Glyndon)					
Soil mapping unit	Gardena-Glyndon silt loam					
Moisture at 15 bar (%)	20.1	23.1	19.8	17.8	18.0	18.8

Data were obtained from p. 24; Appendix B, Table B-13, p. 229 of the study report.
The taxonomic classification was obtained from the NRCS.
* Reviewer-calculated as % total organic matter content ÷ 1.72.

Table 5: Properties of the soil from Site 3 (CA)

Property	Depth (cm)					
	0-15	**15-30**	**30-45**	**45-60**	**60-75**	**75-90**
Textural classification	Loamy sand					Sandy loam
% sand	83	80	82	83	82	64
% silt	11	13	13	12	14	26
% clay	6	7	5	5	4	10
pH (1:1 soil:water or other)	6.6	6.6	6.4	6.4	6.5	6.5
Total organic carbon (%)*	0.8	0.9	0.7	0.3	0.3	0.5
Total organic matter (%)	1.4	1.6	1.2	0.6	0.5	0.8
CEC (meq/100 g)	12.4	12.9	11.7	11.9	12.1	14.6
Bulk density (g/cm3)	1.27	1.27	1.28	1.27	1.27	1.16
Moisture at 1/3 atm (%)	11.2	12.7	12.2	11.6	12.4	19.8
Taxonomic classification (e.g., ferro-humic podzol)	Coarse-loamy, mixed, superactive, thermic Cumulic Haploxerolls					
Soil mapping unit	Elder sandy loam					
Moisture at 15 bar (%)	6.2	6.4	6.2	6.0	5.9	8.9

Data were obtained from p. 24; Appendix B, Table B-23, p. 241 of the study report.
The taxonomic classification was obtained from the NRCS.
* Reviewer-calculated as % total organic matter content ÷ 1.72.

Table 6: Properties of the soil from Site 4 (WA)

Property	Depth (cm)					
	0-15	**15-30**	**30-45**	**45-60**	**60-75**	**75-90**
Textural classification	Loamy sand			Sand		
% sand	75	78	82	88	88	93
% silt	20	17	14	10	10	5
% clay	5	5	4	2	2	2
pH (1:1 soil:water or other)	6.3	7.3	7.5	7.8	8.1	8.3
Total organic carbon (%)*	0.5	0.3	0.3	0.2	0.1	0.1
Total organic matter (%)	0.9	0.6	0.5	0.4	0.2	0.2
CEC (meq/100 g)	13.4	12.0	13.7	14.2	16.6	18.3
Bulk density (g/cm3)	1.39	1.43	1.51	1.54	1.57	1.58
Moisture at 1/3 atm (%)	11.7	10.5	9.7	8.1	7.0	7.7
Taxonomic classification (e.g., ferro-humic podzol)	Mixed, mesic Xeric Torripsamments					
Soil mapping unit	Quincy loamy fine sand					
Moisture at 15 bar (%)	5.5	5.3	5.1	4.5	4.0	3.8

Data were obtained from p. 24; Appendix B, Table B-33, p. 255 of the study report.
The taxonomic classification was obtained from the NRCS.
* Reviewer-calculated as % total organic matter content ÷ 1.72.

B. EXPERIMENTAL DESIGN:

1. Experimental design:

Table 7: Experimental design.

Details		**Site 1 (FL)**	**Site 2 (ND)**	**Site 3 (CA)**	**Site 4 (WA)**
Duration of study		274 days	626 days	568 days	224 days
Uncropped (bare) or cropped		Cropped	Cropped	Cropped	Cropped
Control used (Yes/No)		No	No	No	No
No. of replications	Controls	N/A	N/A	N/A	N/A
	Treatments	4	4	4	4
Plot size (L x W m)	Controls	N/A	N/A	N/A	N/A
	Treatments	6 x 119 m	24 x 64 m	24 x 36 m	18 x 69 m

Details	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Distance between control plot and treated plot	N/A	N/A	N/A	N/A
Distance between treated plots	30 inches	38 inches	40 inches	34 inches
Application rates used (g a.i./ha)	200 g a.i./ha for all 6 applications	200 g a.i./ha for all 6 applications	200 g a.i./ha for all 6 applications	200 g a.i./ha for all 6 applications
Was the maximum label rate per ha used in study? (Yes/No)	Yes	Yes	Yes	Yes
Number of applications	6	6	6	6
Application Dates (dd mm yyyy)	7/5/98, 14/5/98, 21/5/98, 28/5/98, 4/6/98, and 11/6/98	21/7/98, 27/7/98, 4/8/98, 10/8/98, 17/8/98, and 25/8/98	18/5/98, 26/5/98, 1/6/98, 9/6/98, 16/6/98, and 24/6/98	26/5/98, 2/6/98, 9/6/98, 16/6/98, 23/6/98, and 30/6/98
For multiple applications, application rate at Day 0 and at each application time (mg a.i./kg soil)[1]	0.093 mg a.i./kg for each application	0.124 mg a.i./kg for each application	0.105 mg a.i./kg for each application	0.096 mg a.i./kg for each application
Application method (eg., spraying, broadcast etc.)	Broadcast	Broadcast	Broadcast	Broadcast
Type of spray equipment, if used	Tractor-mounted Weed Systems CO^2 sprayer with 6 TeeJet flat fan 11003 nozzles at 15-18 inches above the target	Custom assembled PTO driven roller pump with a tractor-mounted 20 foot boom sprayer with 12 TeeJet flat fan XR8002VS nozzles at 17-19 inches above the target	Custom built CO^2 driven, tractor-mounted sprayer with 8 TeeJet 8002 flat fan nozzles at 18 inches above the target	Tractor-mounted boom sprayer with 18 TeeJet flat fan XR8003VK Ceramic nozzles at 19 inches above the target
Total volume of spray solution applied/plot **OR** total amount broadcasted/plot	16976-17177 ml per application	36800-36888 ml per application	17225-18201 ml per application	27203-27548 ml per application
Identification and volume of carrier (e.g., water), if used	Water	Water	Water	Water
Name and concentration of co-solvents, adjuvants and/or surfactants, if used	None	None	None	None

Details		Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Indicate whether the following monthly reports were submitted:					
Average minimum and maximum precipitation		Yes (average monthly rainfall)	Yes (average monthly rainfall)	Yes (average monthly rainfall)	Yes (average monthly rainfall)
Average minimum and maximum air temperature		Yes	Yes	Yes	Yes
Average minimum and maximum soil temperature		Yes	No	Yes	No (only mean monthly temp)
Average annual frost-free periods		No	No	No	No
Indicate whether the Pan evaporation data were submitted		No	No	No (evapo-transpiration was submitted)	No (evapo-transpiration was submitted)
Meteorological conditions during application	Cloud cover	100%, none, none, 90%, 5%, and 5%, respectively for applications 1-6.	40%, 0%, 25%, 0%, 0%, and 0%, respectively for applications 1-6.	10%, 20%, 100%, 100%,100% (fog), and 100%, respectively for applications 1-6.	100%, 25%, 0%, 100%, 0%, and 0%, respectively for applications 1-6.
	Temperature (°C)	25.6, 26.1, 27.8, 29.4, 29.4, and 29.4, respectively for applications 1-6.	28.3, 25.6, 26.7, 23.3, 21.1, and 23.9, respectively for applications 1-6.	17.8, 13.9, 15.6, 15.0, 15.0, and 15.0, respectively for applications 1-6.	11.1, 25.6, 22.2, 17.8, 25.6, and 24.4, respectively for applications 1-6.
	Humidity	78%, 80%, 65%, 71%, 70%, and 75%, respectively for applications 1-6.	52%, 49%, 68%, 70%, 69%, and 74%, respectively for applications 1-6.	75%, 66%, 79%, 58%, 94%, and 100%, respectively for applications 1-6.	80%, 32%, 64%, 60%, 48%, and 48%, respectively for applications 1-6.
	Sunlight (hr)	Not provided	Not provided	Not provided	Not provided
Pesticides used during study:					
name of product/a.i. concentration:		Gramoxone Extra	Roundup Ultra plus AMS (17 lb/100 gal)	Roundup	Temik 15G
amount applied:		1 qt/A (3X)	1-3 qt/A (3X)	1.5 lb a.i./A (5X)	3 lb a.i./A
application method:		Not reported	Not reported	Not reported	Not reported
name of product/a.i. concentration:		Echo 720	Roundup Ultra		Lexone DF
amount applied:		1.0 pt/A (twice)	1-2 qt/A (twice)		0.19 lb a.i./A
application method:		Not reported	Not provided		Not reported
name of product/a.i. concentration:		Touchdown			
amount applied:		2 qt/A			
application method:		Not reported			

Details	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Supplemental irrigation used (Yes/No) If yes, provide the following details: No. of irrigation: Interval between irrigation: Amount of water added each time: Method of irrigation:	Yes 46 1-89 days 4-24 hours (amounts not reported) Underground seep via tile pockets	No	Yes Not provided Not provided Not provided Sprinkler	Yes 30 2-57 days 0.54-1.08 inches Not provided
Indicate whether water received through rainfall + irrigation equals the 30 year average rainfall (Yes/No)	Could not be determined	Yes	Yes	Could not be determined
Were the application concentrations verified? (Briefly describe in Section 2*, if used)	Yes	Yes	Yes	Yes
Were field spikes used? (Briefly describe in Section 3¶, if used)	Yes	Yes	Yes	Yes
Good agricultural practices followed (Yes or No)	Yes	Yes	Yes	Yes
Indicate if any abnormal climatic events occurred during the study (eg., drought, heavy rainfall, flooding, storm etc.)	None	None	None	None
If cropped plots are used, provide the following details: Plant - Common name/variety: Details of planting: Crop maintenance (eg., fertilizers used):	 Potato/Red Pontiac 18 in plant spacing or 11620 plants/A None	 Potato/Russet Burbank 24 in plant spacing or 6000-7000 plants/A None	 Potato/White Rose 24 in plant spacing or 6540 plants/A None	 Potato/Russet Burbank 24 in plant spacing or 7600 plants/A NPKZnB (16-16-16-10-2) was applied at 100 lb N/A on April 9, 1998.
Volatilization included in the study (Yes/No) (if included, describe in Section 4§)	No	No	No	No

Details	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Leaching included in the study (Yes/No) (if included, describe in Section 5[i])	Yes	Yes	Yes	Yes
Run off included in the study (Yes/No) (if included, describe in Section 6[¥])	No	No	No	No

Data were obtained from p. 15; Appendix B, Table B-2, p. 205; Tables B-6 to B-9, pp. 207-219; Table B-12, p. 228; Tables B-16 to B-19, p. 230-232; Table B-22, p. 240; Tables B-26 to B-29, pp. 242-244; Table B-32, p. 255; Tables B-36 to B-39, pp. 257-268 of the study report.
[i] Reviewer-calculated based on a soil depth of 15 cm (all sites) and a bulk density of 1.44 g/cm^3 (Site 1), 1.08 g/cm^3 (Site 2), 1.22 g/cm^3 (Site 3), or 1.39 g/cm^3 (Site 4).

2. Application Verification: At all four test sites, each application was verified by the analysis of filter paper plagues that were placed in the target area and removed immediately after application (p. 20). After the last application, the unused test substance remaining from each trial site was returned to Rhône-Poulenc for reanalysis.

3. Field Spiking: At each trial site, three sample bottles containing 20 g of untreated control soil were spiked with 2 µg each of fenamidone (RPA 407213) and the analytes RPA 406012, RPA 408056, RPA 410914, and RPA 717879 (p. 20). Three additional sample bottles containing 20 g of untreated control soil served as control samples.

4. Volatilization: Volatilization was not studied.

[i] **5. Leaching:** At each trial site, sixteen cores (4 from each replicate plot) were taken from the treated plot up to 20 months after the last application to a depth of 90 cm (all sampling intervals except immediately following the first application) to determine the mobility of the test substance and analytes in the soil profile (p. 20).

6. Run off: Run off was not measured.

7. Supplementary Study: A frozen storage stability study was conducted using control soil collected from each of the four field sites (p. 22). The samples (50 g) were fortified with fenamidone (RPA 407213) and the metabolites RPA 406012, RPA 408056, RPA 409446, RPA 410914, RPA 410995 and RPA 717879 at 100 µg/kg (ppb) and stored frozen for up to 12 months prior to analysis (Appendix A, p. 111).

8. Sampling:

Table 8: Soil sampling.

Details	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Method of sampling (random or systematic)	Random			
Sampling intervals	Following applications 1 through 6 and at 4, 7, 14, 20, 27, 60, 91, 120, 151, 180, and 239 days posttreatment of the last application.	Following applications 1 through 6 and at 3, 7, 13, 21, 28, 57, 84, 114, 238, 297, 358, 422, 475, and 591 days posttreatment of the last application.[1]	Following applications 1 through 6 and at 2, 7, 14, 21, 28, 57, 96, 124, 148, 180, 251, 306, 366, 433, 484, and 531 days posttreatment of the last application.	Following applications 1 through 6 and at 3, 8, 15, 22, 30, 62, 92, 122 154 and 189 days posttreatment of the last application.[2]
Method of soil collection (eg., cores)	Cores			
Sampling depth	15 cm after the first application and 90 cm after all other sampling intervals			
Number of cores collected per plot	16 cores were collected from the treated plot at each sampling interval (4 cores from each of the 4 replicate plots)			
Number of segments per core	One following the first application and six after all other sampling intervals			
Length of soil segments	15 cm			
Core diameter (Provide details if more than one width)	Not provided			
Method of sample processing, if any	The samples were collected in 15-cm increments. After sampling, all segments were composited by depth and subplot, frozen, and shipped to the analytical laboratory. Samples were then stored frozen until analysis.			
Storage conditions	-18 to -1°F	Not provided	-25 to -17°C	-18 to -1°F
Storage length (days)[3]	13-66	7-61	7-56	7-65

Data were obtained from p. 20, Table V, p. 26; Appendix B, Table B-8, p. 208; Table B-18, p. 231; Table B-28, p. 243; and Table B-38, p. 258 of the study report.

[1] Reviewer-calculated based on the sampling dates reported in Appendix B, Table B-18, p. 231.

[2] Reviewer-calculated based on the sampling dates reported in Appendix B, Table B-38, p. 258.

[3] Storage length does not include samples that were reanalyzed for RPA 409446 and RPA 410995 following 426-606 days (all sites).

9. Analytical Procedures: Soil samples were initially analyzed for residues of fenamidone (RPA 407213) and its metabolites RPA 406012, RPA 408056, RPA 410914, and RPA 717879 and later reanalyzed to measure two additional analytes, RPA 409446 and RPA 410995 (p. 21). Soil samples were extracted twice by shaking with aqueous acetone (acetone:water, 3:1, v:v) and centrifuged. The supernatants were decanted, filtered, and the extracts were passed through a polystyrene-divinylbenzene polymer cartridge. The analytes were eluted from the cartridge with acetonitrile. The eluate was dried and reconstituted with aqueous acetonitrile for analysis by LC/MS/MS. The limit of quantitation (LOQ) for each analyte was 0.01 mg/kg.

A method validation study conducted using soil from each field site indicated that the analytical method was adequate for the detection of fenamidone (RPA 407213) and the metabolites RPA 406012, RPA 408056, RPA 409446, RPA 410914, RPA 410995 and RPA 717879 (Appendix C, pp. 703-704 and 712-713). Samples were fortified with fenamidone and its metabolites at 10, 50, and 500 ppb (1, 5, and 50X LOQ). Recoveries decreased slightly with the fortification level.

II. RESULTS AND DISCUSSION

1. APPLICATION MONITORS: The average recoveries from the filter paper plaques ranged from 42.0-62.5% (Site 1), 35.5-98.0% (Site 2), 54.0-83.5% (Site 3), and 67.5-81.5% (Site 4) of the theoretical application rate (Tables III, p. 25; Tables XIIa-XIId, pp. 44-47). Reanalysis of the test substance remaining from each trial site following the last application indicated that the product was stable under the conditions of field storage during the application period as well as shipping and storage before and after the applications (p. 20).

2. RECOVERY FROM FIELD SPIKES: The mean recovery from the field spiked samples of fenamidone (RPA 407213), RPA 406012, RPA 408056, RPA 410914, and RPA 717879 were 108%, 113%, 94%, 125%, and 100%, respectively for Site 1 (FL); 71%, 89%, 90%, 103%, and 96%, respectively for Site 2 (ND); 65%, 108%, 91%, 114%, and 102%, respectively for Site 3 (CA); and 101%, 103%, 99%, 108%, and 115%, respectively for Site 4 (WA) (Table X, p. 31).

3. MASS ACCOUNTING: A mass accounting was not calculated by the applicant.

Table 9. Concentration of fenamidone (RPA 407213) residues expressed as mg/kg soil, at Site 1 (FL).[1]

Compound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)															
		T1	T2	T3	T4	T5	T6	4	7	14	20	27	60	91	120	151	180
Fenamidone	0-15	0.036	0.038	0.124	0.107	0.073	0.049	0.051	0.057	0.039	0.019	0.013	<LOQ	ND	ND	ND	NA
	15-30	NS	<LOQ	<LOQ	<LOQ	ND	ND	0.007	0.007	0.007	<LOQ	ND	ND	ND	ND	ND	NA
	30-45	NS	ND	ND	ND	ND	ND	<LOQ	ND	ND	ND	ND	ND	ND	ND	ND	NA
	45-60	NS	NA	NA	NA	NA	NA	<LOQ	NA	ND	NA	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
RPA 408056	0-15	ND	ND	0.008	<LOQ	0.007	<LOQ	0.007	<LOQ	0.015	0.012	0.011	<LOQ	ND	ND	ND	NA
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	45-60	NS	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
RPA 406012	0-15	ND	ND	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	ND	ND	ND	NA
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	45-60	NS	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
RPA 410914	0-15	ND	ND	ND	ND	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	ND	ND	NA
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA

Compound	Depth (cm)	Sampling times (treatment)											
		T1	T2	T3	T4	T5	T6	4	7	14	20	27	60
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N
	45-60	NS	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	N
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
RPA 717879	0-15	ND	ND	0.010	0.009	0.016	0.016	0.028	0.023	0.044	0.007	0.058	<L
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	<LOQ	<LOQ	<LOQ	0.
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.
	45-60	NS	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	0.
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
RPA 409446	0-15	NA	NA	NA	NA	NA	NA	NA	NA	<LOQ	NA	<LOQ	N
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
RPA 410995	0-15	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	<LOQ	N
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
Total extractable residues (if determined)		Not determined											
Total non-extractable residues (if determined)		Not determined											
Total recovery		Not determined											

[1] Data are reviewer-calculated means of four replicates. In keeping with standard practice for averaging field data, the reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Replicate data were obtained from Tables XII a-XIIi, pp. 48-56 of the study report.
ND = Not Detected
NS = Not Sampled
NA = Not Analyzed

Table 10. Concentration of fenamidone (RPA 407213) residues expressed as mg/kg soil, at Site 2 (ND).[1]

Compound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)														
		T1	T2	T3	T4	T5	T6	3	7	13	21	28	57	84	114	238
Fenamidone	0-15	0.058	0.128	0.155	0.100	0.128	0.173	0.124	0.085	0.082	0.072	0.061	0.008	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 408056	0-15	ND	<LOQ	0.017	0.027	0.029	0.033	0.057	0.056	0.044	0.046	0.042	0.046	0.046	0.053	0.037
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 406012	0-15	ND	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	0.012	0.008	0.007	<LOQ	0.011	0.009	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410914	0-15	ND	ND	<LOQ	0.008	<LOQ	0.007	0.017	0.008	0.008	<LOQ	0.012	0.009	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 717879	0-15	ND	ND	<LOQ	<LOQ	0.007	<LOQ	0.018	0.015	0.017	0.022	0.022	0.027	0.024	0.020	0.023
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA

Compound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)														
		T1	T2	T3	T4	T5	T6	3	7	13	21	28	57	84	114	238
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 409446	0-15	NA	NA	NA	NA	NA	NA	NA	NA	0.015	NA	0.009	ND	NA	ND	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410995	0-15	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	NA	ND	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total extractable residues (if determined)		Not determined														
Total non-extractable residues (if determined)		Not determined														
Total recovery		Not determined														

[1] Data are reviewer-calculated means of four replicates. In keeping with standard practice for averaging field data, the reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Replicate data were obtained from Tables XIVa-XIVn, pp. 57-70 of the study report.
ND = Not Detected
NS = Not Sampled
NA = Not Analyzed

Table 11. Concentration of fenamidone (RPA 407213) residues expressed as mg/kg soil, at Site 3 (CA).[1]

Com-pound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)																					
		T1	T2	T3	T4	T5	T6	2	7	14	21	28	57	96	124	148	180	251	306	366	433	484	531
Fenamidone	0-15	0.059	0.024	0.052	0.022	0.083	0.032	0.057	0.044	0.066	0.031	0.026	0.021	<LOQ	0.008	<LOQ	<LOQ	ND	<LOQ	<LOQ	ND	ND	ND
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 408056	0-15	ND	ND	<LOQ	<LOQ	0.008	<LOQ	0.010	0.009	0.018	0.015	0.014	0.012	<LOQ	0.007	<LOQ	0.009	<LOQ	<LOQ	<LOQ	<LOQ	ND	ND
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	<LOQ	ND	ND	ND	ND	ND	<LOQ	ND	ND	<LOQ	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 406012	0-15	ND	<LOQ	ND	<LOQ	0.007	<LOQ	<LOQ	<LOQ	0.010	0.007	0.007	0.007	<LOQ	0.007	<LOQ	<LOQ	ND	<LOQ	<LOQ	ND	ND	ND
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410914	0-15	ND	ND	ND	ND	<LOQ	<LOQ	<LOQ	<LOQ	0.009	<LOQ	<LOQ	<LOQ	<LOQ	0.007	<LOQ	0.007	ND	<LOQ	<LOQ	<LOQ	ND	ND
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Com-pound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)																					
		T1	T2	T3	T4	T5	T6	2	7	14	21	28	57	96	124	148	180	251	306	366	433	484	531
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 717879	0-15	ND	ND	ND	ND	<LOQ	0.006	<LOQ	0.008	0.012	0.011	0.011	0.026	0.019	0.032	0.013	0.026	0.007	0.010	0.013	0.015	0.009	<LO
	15-30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<LOQ	ND	<LOQ	<LOQ	0.009	<LOQ	0.008	0.009	0.008	0.007	<LO
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	<LOQ	ND	<LOQ	ND	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 409446	0-15	NA	NA	NA	NA	NA	NA	NA	NA	0.009	NA	0.008	0.009	NA	<LOQ	NA	NA	NA	NA	NA	NA	NA	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410995	0-15	NA	NA	NA	NA	NA	NA	NA	NA	<LOQ	NA	0.008	0.008	NA	<LOQ	NA	NA	NA	NA	NA	NA	NA	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Com-pound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)																					
		T1	T2	T3	T4	T5	T6	2	7	14	21	28	57	96	124	148	180	251	306	366	433	484	531
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total extractable residues (if determined)		Not determined																					
Total non-extractable residues (if determined)		Not determined																					
Total recovery		Not determined																					

[1] Data are reviewer-calculated means of four replicates. In keeping with standard practice for averaging data, the reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Replicate data were obtained from Tables XVa-XVm, pp. 71-82 of the study report.
ND = Not Detected
NS = Not Sampled
NA = Not Analyzed

Table 12. Concentration of fenamidone (RPA 407213) residues expressed as mg/kg soil, at Site 4 (WA).[1]

Compound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)															
		T1	T2	T3	T4	T5	T6	3	8	15	22	30	62	92	122	154	189
Fenamidone	0-15	0.095	0.067	0.096	0.112	0.052	0.082	0.048	0.028	0.014	0.011	<LOQ	<LOQ	<LOQ	ND	ND	ND
	15-30	NS	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 408056	0-15	ND	<LOQ	<LOQ	0.012	0.014	0.017	0.019	0.021	0.017	0.019	0.007	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 406012	0-15	ND	ND	<LOQ	0.011	<LOQ	<LOQ	0.007	0.007	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	<LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410914	0-15	ND	ND	<LOQ	0.009	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	<LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Compound	Soil depth (cm)	Sampling times (treatment number or days following the last treatment)															
		T1	T2	T3	T4	T5	T6	3	8	15	22	30	62	92	122	154	189
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 717879	0-15	ND	ND	<LOQ	0.007	<LOQ	0.009	0.007	0.014	0.016	0.020	0.010	<LOQ	<LOQ	0.008	<LOQ	<LOQ
	15-30	NS	ND	ND	ND	<LOQ	ND	ND	ND	ND	ND	<LOQ	<LOQ	ND	ND	ND	ND
	30-45	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	45-60	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 409446	0-15	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RPA 410995	0-15	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
	15-30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45-60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	75-90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total extractable residues		Not determined															
Total non-extractable residues		Not determined															
Total recovery		Not determined															

[1] Data are reviewer-calculated means of four replicates. In keeping with standard practice for averaging data, the reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Replicate data were obtained from Table XVIa-XVIi, pp. 83-91 of the study report.
ND = Not Detected
NS = Not Sampled

NA = Not Analyzed

4. PARENT COMPOUND: At Site 1 (FL), the measured zero-time concentration (following the first application) was 0.036 mg a.i./kg soil, which is 38.7% of the applied rate (reviewer-calculated based on an expected concentration of 0.093 mg a.i./kg in the 0-15 cm soil depth; Tables XIIIa-XIIIi, pp. 48-56). Data are reviewer-calculated means of four replicates. The reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Fenamidone was detected at 0.036, 0.038, 0.124, 0.107, 0.073, and 0.049 mg a.i./kg soil following application 1 through 6, respectively, in the 0-15 cm soil layer. Fenamidone dissipated from a post final treatment maximum of 0.057 mg a.i./kg soil at 7 days to 0.039 mg a.i./kg soil by 14 days and 0.019 mg a.i./kg soil by 20 days, and was last detected at 0.013 mg a.i./kg soil at 27 days posttreatment in the 0-15 cm soil layer. Fenamidone was detected in the 15-30 cm soil layer at 0.007 mg a.i./kg soil from 4 to 14 days and was not detected below that depth.

At Site 2 (ND), the measured zero-time concentration (following the first application) was 0.058 mg a.i./kg soil, which is 46.8% of the applied rate (reviewer-calculated based on an expected concentration of 0.124 mg a.i./kg in the 0-15 cm soil depth; Tables XIVa-XIVn, pp. 57-70). Data are reviewer-calculated means of four replicates. The reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Fenamidone was detected at 0.058, 0.128, 0.155, 0.100, 0.128, and 0.173 mg a.i./kg soil following application 1 through 6, respectively, in the 0-15 cm soil layer. Fenamidone dissipated from a post final treatment maximum of 0.173 mg a.i./kg soil at day 0 to 0.082-0.085 mg a.i./kg soil by 7-13 days and 0.061-0.072 mg a.i./kg soil by 21-28 days, and was last detected at 0.008 mg a.i./kg soil at 57 days posttreatment in the 0-15 cm soil layer. Fenamidone was only detected once in the 15-30 cm soil layer, at 0.008 mg a.i./kg soil at 13 days and was not detected below that depth.

At Site 3 (CA), the measured zero-time concentration (following the first application) was 0.059 mg a.i./kg soil, which is 56.2% of the applied rate (reviewer-calculated based on an expected concentration of 0.105 mg a.i./kg in the 0-15 cm soil depth; Tables XVa-XVm, pp. 71-82). Data are reviewer-calculated means of four replicates. The reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Fenamidone was detected at 0.059, 0.024, 0.052, 0.022, 0.083, and 0.032 mg a.i./kg soil following application 1 through 6, respectively, in the 0-15 cm soil layer. Fenamidone dissipated from a post final treatment maximum of 0.066 mg a.i./kg soil at 14 days to 0.031 mg a.i./kg soil by 21 days and 0.021 mg a.i./kg soil by 57 days, and was last detected at 0.008 mg a.i./kg soil at 124 days posttreatment in the 0-15 cm soil layer. Fenamidone was not detected below the 0-15 cm soil layer.

At Site 4 (WA), the measured zero-time concentration (following the first application) was 0.095 mg a.i./kg soil, which is 99.0% of the applied rate (reviewer-calculated based on an expected concentration of 0.096 mg a.i./kg in the 0-15 cm soil depth; Tables XVIa-XVIi, pp. 83-91). Data are reviewer-calculated means of four replicates. The reviewer calculated the means using the value of ½ LOQ (0.005 mg/kg) for values reported as "<LOQ" and "ND" (not detected) in the data tables. Fenamidone was detected at 0.095, 0.067, 0.096, 0.112, 0.052, and 0.082 mg a.i./kg soil following application 1 through 6, respectively, in the 0-15 cm soil layer. Fenamidone dissipated from a post

final treatment maximum of 0.082 mg a.i./kg soil at day 0 to 0.048 mg a.i./kg soil by 3 days and 0.028 mg a.i./kg soil by 8 days, and was last detected at 0.011 mg a.i./kg soil at 22 days posttreatment in the 0-15 cm soil layer. Fenamidone was only detected once in the 15-30 cm soil layer, at 0.017 mg a.i./kg soil following the fifth application and was not detected below that depth.

The half-lives of fenamidone in soil under terrestrial field conditions using first-order kinetics and linear regression of the actual test substance concentrations in the 0-15 cm soil depth were:

Site 1 (FL)	Half-life = 22.4 days	DT90 = Not determined
Site 2 (ND)	Half-life = 20.5 days	DT90 = Not determined
Site 3 (CA)	Half-life = 81.5 days	DT90 = Not determined
Site 4 (WA)	Half-life = 8.7 days	DT90 = Not determined

The dissipation pattern of fenamidone was linear at each field site. However, data were variable between replicates at Site 1 (FL) and Site 3 (CA).

5. TRANSFORMATION PRODUCTS: The transformation products detected at Site 1 (FL) were RPA 717879 (5-methyl-5-phenylimidazolidine-2,4-dione) and RPA 408056 (4-methyl-2-methylthio-4-phenyl-2-imidazolin-5-one), with maximum concentrations of 10.4% and 2.7% of the total applied amount (0.093 mg a.i./kg x 6 applications = 0.558 mg a.i./kg soil), observed on the 27th and 14th day, respectively, in the 0-15 cm soil layer (Tables XIIIa-XIIIi, pp. 48-56). RPA 717879 was also detected twice in the 15-30 cm soil depth and once each in the 30-45, 45-60, and 60-75 cm soil depths, at <4.7% of the total applied amount (at 60 and 91 days) in the 15-30 cm depth and <1.6% (at 60 days) in the lower soil depths. Neither degradate was detected at the end of the study period (180 days). The registrant-calculated half-life of RPA 717879 was 1.20 months (Figure 2, p. 39).

The transformation products detected at Site 2 (ND) were RPA 408056, RPA 717879, RPA 410914 (5-methyl-2-methylthio-3-(2-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one), RPA 409446 (5-methyl-3-(4-nitrophenylamino)-5-phenylimidazolidine-2,4-dione), and RPA 406012 (5-methyl-2-methylthio-3-(4-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one) with maximum concentrations of 7.7%, 5.8%, 2.3%, 2.0%, and 1.6% of the total applied amount (0.124 mg a.i./kg x 6 applications = 0.744 mg a.i./kg soil), observed on the 3rd, 297th, 3rd, 3rd, 13th, and 3rd day, respectively, in the 0-15 cm soil layer (Tables XIVa-XIVn, pp. 57-70). Only RPA 717879 was detected at the end of the study period (591 days), at 1.7% of the total applied fenamidone in the 0-15 cm soil layer. The registrant-calculated half-life of RPA 408056 was 8.54 months (Figure 3, p. 40).

The transformation products detected at Site 3 (CA) were RPA 717879, RPA 408056, RPA 406012, RPA 410914, RPA 409446, and RPA 410995 (5-methyl-3-(2-nitrophenylamino)-5-phenylimidazolidine-2,4-dione), with maximum concentrations of 5.1%, 2.9%, 1.6%, 1.4%, 1.4%, and 1.3% of the total applied amount (0.105 mg a.i./kg x 6 applications = 0.630 mg a.i./kg) observed on the 124th, 14th, 14th, 14th, 57th, and 57th day, respectively, in the 0-15 cm soil layer (Table

XVa-m, pp. 71-82). RPA 717879 was also detected in the 15-30 cm soil depth at <1.4% of the total applied amount (from 180 to 484 days) in the 15-30 cm depth. None of the degradates were detected at the end of the study period (531 days).

The transformation products detected at Site 4 (WA) were RPA 408056, RPA 717879, RPA 406012, and RPA 410914, with maximum concentrations of 3.6%, 3.5%, 1.9%, and 1.6% of the total applied amount (0.093 mg a.i./kg x 6 applications = 0.576 mg a.i./kg) observed on the 8th day, 22nd day, fourth application, and fourth application, respectively, in the 0-15 cm soil layer (Tables XVIa-XVIi, pp. 83-91). None of the degradates were detected at the end of the study period (189 days).

Table 13: Chemical names and CAS numbers for the transformation products of fenamidone.

Applicant's Code Name	CAS Number	CAS and/or IUPAC Chemical Name(s)	Chemical formula	Molecular weight	SMILES string
RPA 406012	151022-56-9	5-Methyl-2-methylthio-3-(4-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one		356.4	
RPA 408056	Not assigned	4-Methyl-2-methylthio-4-phenyl-2-imidazolin-5-one		220.3	
RPA 409446	Not assigned	5-Methyl-3-(4-nitrophenylamino)-5-phenylimidazolidine-2,4-dione		326.3	
RPA 410914	Not assigned	5-Methyl-2-methylthio-3-(2-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one		356.4	
RPA 410995	Not assigned	5-Methyl-3-(2-nitrophenylamino)-5-phenylimidazolidine-2,4-dione		326.3	
RPA 717879	6843-49-8	5-Methyl-5-phenylimidazolidine-2,4-dione		190.2	

Data obtained from Appendix C, pp. 296-300, in the study report.

6. EXTRACTABLE AND NON-EXTRACTABLE RESIDUES: N/A

Table 14: Dissipation routes of fenamidone under field conditions.

Route of dissipation	% of applied amount (at the end of study period)			
	Site 1 (FL)	Site 2 (ND)	Site 3 (CA)	Site 4 (WA)
Accumulation (residues) in soil/ carry over	0%	0%	0%	0%
Transformation (% of transformation products)	0%	1.7%	0%	0%
Leaching, if measured	Not observed	Not observed	Not observed	Not observed
Volatilization, if measured	Not measured	Not measured	Not measured	Not measured
Plant uptake, if measured	Not measured	Not measured	Not measured	Not measured
Run off, if measured	Not measured	Not measured	Not measured	Not measured
Total	Not determined	Not determined	Not determined	Not determined

7. VOLATILIZATION: Volatilization was not measured.

8. PLANT UPTAKE: Plant uptake was not measured from any of the treated plots.

9. LEACHING: Fenamidone (RPA 407213) and its transformation products RPA 406012, RPA 408056, RPA 409446, RPA 410914, RPA 410995 and RPA 717879 were generally not detected below the 15-cm soil layer (Tables XIII-XVI, pp. 48-91). Exceptions include fenamidone residues detected in the 15-30 cm soil depth at Site 1 (FL) at 0.007 mg a.i./kg soil at 4, 7, and 14 days posttreatment; RPA 717879 detected twice in the 15-30 cm soil depth and once each in the 30-45, 45-60, and 60-75 cm soil depths at Site 1 (FL) at 0.010-0.026 mg/kg in the 15-30 cm depth (60 and 91 days) and 0.006-0.009 mg/kg in the lower soil depths (60 days); and RPA 717879 detected in the 15-30 cm soil depth at Site 3 (CA) at <0.009 mg/kg from 180 to 484 days.

10. RUN OFF: Run off was not measured.

11. RESIDUE CARRYOVER: DT90 values were not determined for fenamidone at any of the four test sites. After 151 days at Site 1 (FL), 251 days at Site 3 (CA), and 189 days at Site 4 (WA) following the sixth application, 0% of the total applied parent compound, as parent and its transformation products, was detected in each of the test plots and has no potential to carryover into the following season (Table XIIIh, p. 55; Table XVk, p. 81; and Table XVIh, p. 90). After 591 days at Site 2 (ND), <3% of the total applied fenamidone was detected (primarily as RPA 717879) and has the potential to carryover into the following season (Table XIVm, p. 69).

12. SUPPLEMENTARY STUDY RESULTS: Data indicated that fenamidone (RPA 407213) is generally not stable in frozen storage. Mean fenamidone recoveries from the Site 2 (ND), Site 3 (CA), and Site 4 (WA) soil samples were 90-113% at day 0, decreased to 45-59% by 2 months, and

were 13-25% by 12 months (Table IX, p. 30). Recoveries were higher from the Site 1 (FL) soil samples where mean recoveries were 104% at day 0 and decreased to 75% by 12 months. The metabolites RPA 406012, RPA 408056, RPA 409446, RPA 410914, RPA 410995 and RPA 717879 were all observed to be stable in soil samples from each test site stored frozen for up to 12 months.

III. STUDY DEFICIENCIES: The study did not deviate from Subdivision N Guideline §164-1.

IV. REVIEWER'S COMMENTS:

1. The instability of fenamidone in frozen storage may have affected the study data. The study author stated that the analytical laboratory was instructed to analyze the samples within one month of sampling because it was thought that fenamidone is not stable in soil, even under freezer conditions (p. 19). However, the reviewer notes that the samples were analyzed for fenamidone following a maximum of 56-66 days at each field site (Table V, p. 26). Recoveries from the laboratory freezer storage stability study indicated that fenamidone is generally not stable in frozen storage. Following two months of storage, mean recoveries decreased from 90% to 58% in soil from Site 2 (ND), from 113% to 59% in soil from Site 3 (CA), and from 105% to 54% in soil from Site 4 (WA; Table IX, p. 30). Recoveries were significantly higher from the Site 1 (FL) soil samples which had mean recoveries of 104% at day 0 and 94% following 2 months.

2. The registrant-calculated half-lives of fenamidone in soil under terrestrial field conditions were 0.83 months at Site 1, 0.77 months at Site 2, 2.0 months at Site 3, and 0.28 months at Site 4. The registrant-calculated half-lives were calculated using least squares best fit exponential curves (p. 33; Figures 2-5, pp. 39- 42). These half-lives are comparable to the reviewer-calculated half-lives of 22.4 days ($r^2 = 0.13$) at Site 1, 20.5 days ($r^2 = 0.53$) at Site 2, 81.5 days ($r^2 = 0.12$) at Site 3, and 8.7 days ($r^2 = 0.62$) at Site 4. The reviewer-calculated half-lives were calculated with Microsoft Excel 2000 using first-order kinetics and linear regression of the actual test substance concentrations in the 0-15 cm soil depth (all replicate data) as provided by the registrant in Tables XIIIa-XVIh (pp. 48-90).

3. Pan evaporation data were not reported for any of the test sites, however, evapotranspiration data were reported for Site 3 (CA) and Site 4 (WA) (Table B-29, p. 244; Table B-39, pp. 259-268). Additionally, average historic precipitation data were not reported for Site 1 (FL) and Site 4 (WA). As a result, the reviewer could not determine whether some of the test plots received sufficient water during the study period. The reviewer notes that the study author did state that "usually sufficient irrigation to maintain a viable crop was applied which exceeded the historical average rainfall during the growing season" (p. 19). However, the statement is vague because of the author's use of the word 'usually'. Clarification by the registrant may be necessary.

4. Control plots were not established and sampled at any of the four test sites.

5. The potatoes were not analyzed for residues of fenamidone at any of the four test sites.

6. The study author stated that the four field sites represent different cultural and climatic conditions under which the product may be used on the field crop, potatoes (p. 19).

7. Fenamidone chemical names (*S*)-1-anilino-4-methyl-2-methylthio-4-phenylimidazolin-5-one and (5S)-3,5-dihyro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4H-imidazol-4-one were identified as the IUPAC and CAS names, respectively, by the Compendium of Pesticide Common Names (http://www.hclrss.demon.co.uk/index.html).

V. REFERENCES:

1. Pesticide Assessment Guidelines, Subdivision N. 1982. Chemistry: Environmental Fate 164.1. United States Environmental Protection Agency [EPA-540-982-021]. Washington, DC.

2. Standard Evaluation Procedure for Terrestrial Field Dissipation Studies. 1989. United States Environmental Protection Agency [PB-90-208935]. Washington, DC.

3. Simmonds, M. B., and Burr, C. M. 4 January 1999. "[^{14}C]-RPA 407213: Route of Degradation in Soil" Rhône-Poulenc Agro Document No. 201609.

4. Simmonds, M. B., and Burr, C. M. 12 March 1999. "[^{14}C]-RPA 407213: Rate of Aerobic Degradation in Three Soil Types at 20°C and One Soil Type at 10°C." Rhône-Poulenc Agro Document No. 201610.

5. Wicks, R. J. 28 July 1999. "RPA 407213: Field Soil Dissipation Study in Europe" Rhône-Poulenc Agro Document No. 202140.

6. Burr, C. M., and Bullus, C. M. 14 July 2000. "[^{14}C]-Fenamidone Aerobic Soil Metabolism" Aventis CropScience Document No. 202200.

7. Hunt, T. W. 16 October 1996. "Outliers-Determination and Handling" Rhône-Poulenc Ag Company SOP 25932.

Attachment 1

Excel Spreadsheets

Data Evaluation Report on the terrestrial field dissipation of Fenamidone

PMRA Submission Number {.....} EPA MRID Number 45385904

Data Requirement: PMRA Data Code:
EPA DP Barcode: D275213
OECD Data Point:
EPA Guideline: 164-1

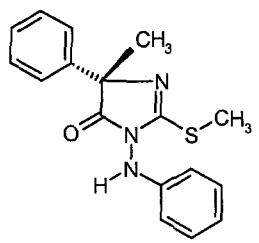
Test material: RPA 407213

End Use Product name: EXP 10623A **Concentration of a.i.** 500 g/L

Formulation type: Suspendable Concentrate

Active ingredient
Common name: Fenamidone
Chemical name
IUPAC: (+)-(4*S*)-4-Methyl-2-methylthio-4-phenyl-(1H)-1-phenylamino-2-imidazolin-5-one.
CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-, (*S*)-.
CAS No: 161326-34-7.
Synonyms: Reason 500 SC Fungicide.
Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydro-4H-imidazol-4-one.
(*S*)-1-Anilino-4-methyl-2-methylthio-4-phenylimidazolin-5-one.
(*S*)-5-Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydroimidazol-4-one.
Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-, (5*S*)-.
(5*S*)-3,5-Dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4*H*-imidazol-4-one.
RPA407213.
SMILES string:

Chemical Structure:

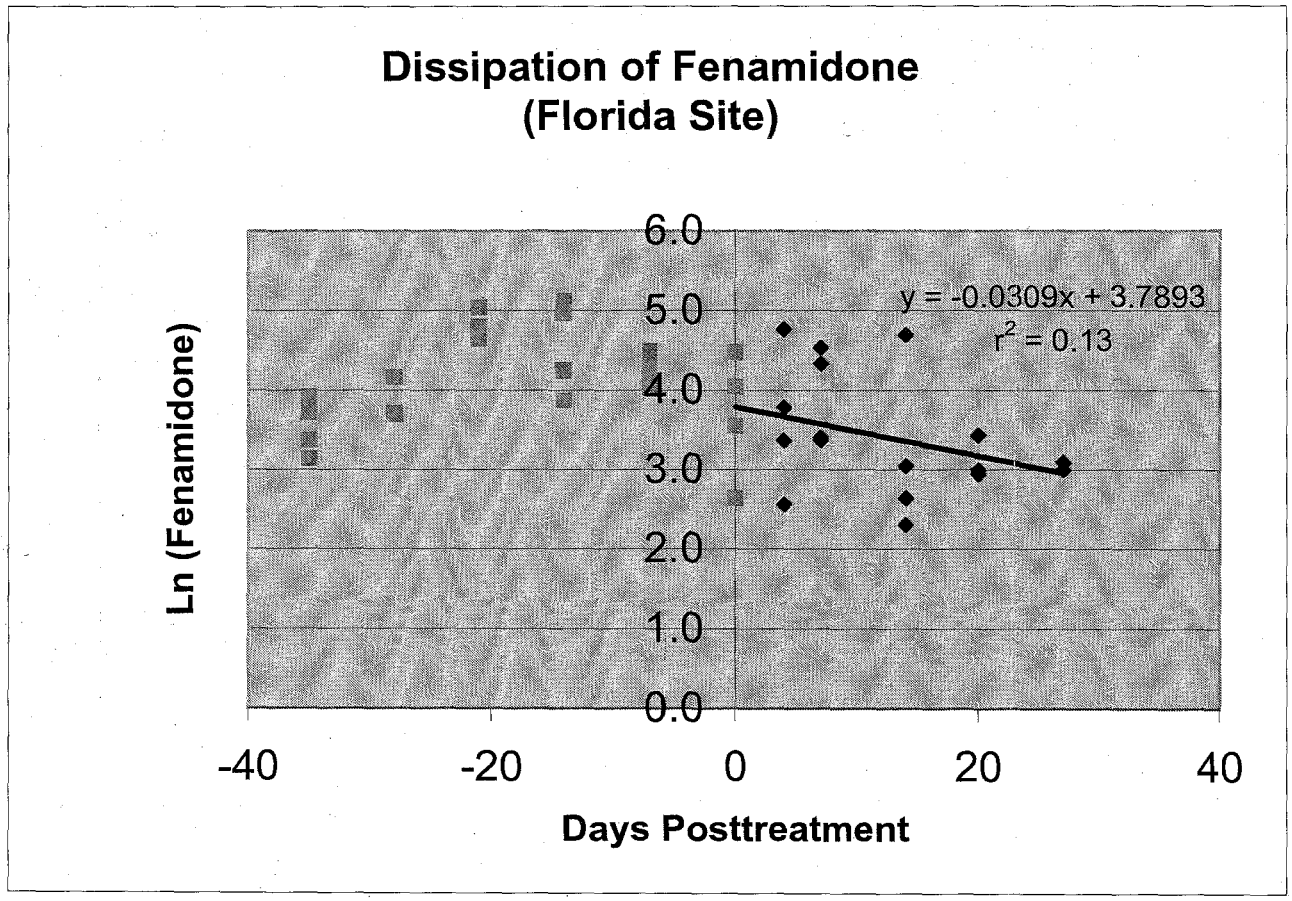


Chemical Name	Fenamidone	**Florida Site**
PC Code	046679	**0-15 cm soil depth**
MRID	45385904	
Guideline No.	164-1	

Half-life (days) = 22.4

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
Application 1 (-35 days)	23	3.1355
Application 1 (-35 days)	41	3.7136
Application 1 (-35 days)	29	3.3673
Application 1 (-35 days)	50	3.9120
Application 2 (-28 days)	ND	
Application 2 (-28 days)	64	4.1589
Application 2 (-28 days)	41	3.7136
Application 2 (-28 days)	40	3.6889
Application 3 (-21 days)	104	4.6444
Application 3 (-21 days)	116	4.7536
Application 3 (-21 days)	121	4.7958
Application 3 (-21 days)	154	5.0370
Application 4 (-14 days)	70	4.2485
Application 4 (-14 days)	143	4.9628
Application 4 (-14 days)	48	3.8712
Application 4 (-14 days)	167	5.1180
Application 5 (-7 days)	56	4.0254
Application 5 (-7 days)	77	4.3438
Application 5 (-7 days)	89	4.4886
Application 5 (-7 days)	68	4.2195
Application 6 (Day 0)	57	4.0431
Application 6 (Day 0)	88	4.4773
Application 6 (Day 0)	35	3.5553
Application 6 (Day 0)	14	2.6391
4	118	4.7707
4	13	2.5649
4	29	3.3673
4	44	3.7842
7	76	4.3307
7	93	4.5326
7	29	3.3673
7	30	3.4012
14	109	4.6913
14	14	2.6391
14	10	2.3026
14	21	3.0445
20	19	2.9444
20	31	3.4340
20	<LOQ	
20	20	2.9957
27	22	3.0910
27	20	2.9957

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
27	<LOQ	
27	<LOQ	
60	ND	
60	<LOQ	
60	ND	
60	ND	
91	ND	
91	ND	
91	ND	
91	ND	
120	ND	
120	ND	
120	ND	
120	ND	
151	ND	
151	ND	
151	ND	
151	ND	
180	NA	
180	NA	
180	NA	
180	NA	

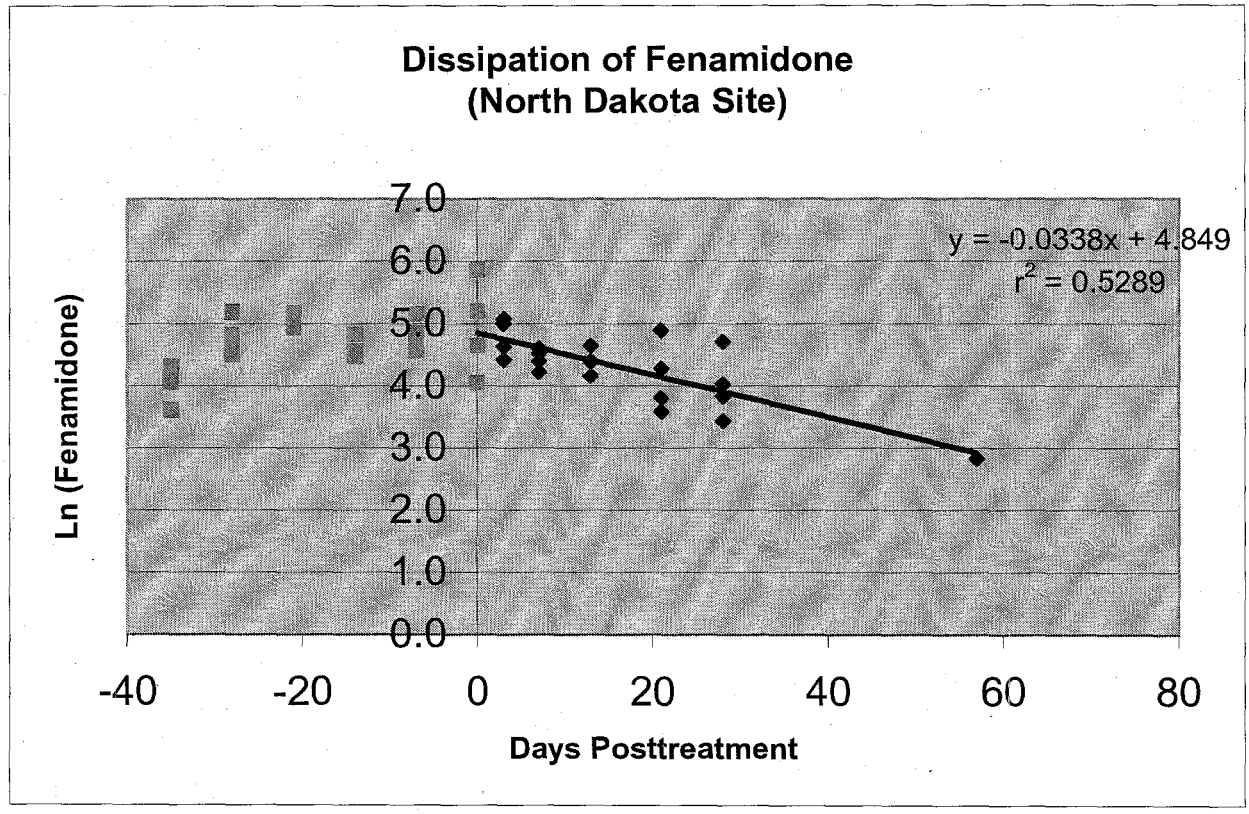


Chemical Name	Fenamidone	**North Dakota Site**
PC Code	046679	**0-15 cm soil depth**
MRID	45385904	
Guideline No.	164-1	

Half-life (days) = 20.5

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
Application 1 (-35 days)	74	4.3041
Application 1 (-35 days)	64	4.1589
Application 1 (-35 days)	58	4.0604
Application 1 (-35 days)	37	3.6109
Application 2 (-28 days)	116	4.7536
Application 2 (-28 days)	91	4.5109
Application 2 (-28 days)	179	5.1874
Application 2 (-28 days)	125	4.8283
Application 3 (-21 days)	144	4.9698
Application 3 (-21 days)	140	4.9416
Application 3 (-21 days)	175	5.1648
Application 3 (-21 days)	161	5.0814
Application 4 (-14 days)	125	4.8283
Application 4 (-14 days)	92	4.5218
Application 4 (-14 days)	95	4.5539
Application 4 (-14 days)	88	4.4773
Application 5 (-7 days)	97	4.5747
Application 5 (-7 days)	127	4.8442
Application 5 (-7 days)	174	5.1591
Application 5 (-7 days)	113	4.7274
Application 6 (Day 0)	57	4.0431
Application 6 (Day 0)	104	4.6444
Application 6 (Day 0)	181	5.1985
Application 6 (Day 0)	351	5.8608
3	83	4.4188
3	103	4.6347
3	160	5.0752
3	148	4.9972
7	81	4.3944
7	92	4.5218
7	68	4.2195
7	100	4.6052
13	64	4.1589
13	104	4.6444
13	80	4.3820
13	81	4.3944
21	36	3.5835
21	72	4.2767
21	133	4.8903
21	45	3.8067
28	56	4.0254
28	111	4.7095

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
28	31	3.4340
28	46	3.8286
57	<LOQ	
57	<LOQ	
57	17	2.8332
57	<LOQ	
84	ND	
84	<LOQ	
84	<LOQ	
84	<LOQ	
114	ND	
114	LOQ	
114	LOQ	
114	LOQ	
238	ND	
238	<LOQ	
238	ND	
238	ND	
297	ND	
358	ND	
422	ND	
475	ND	
591	ND	

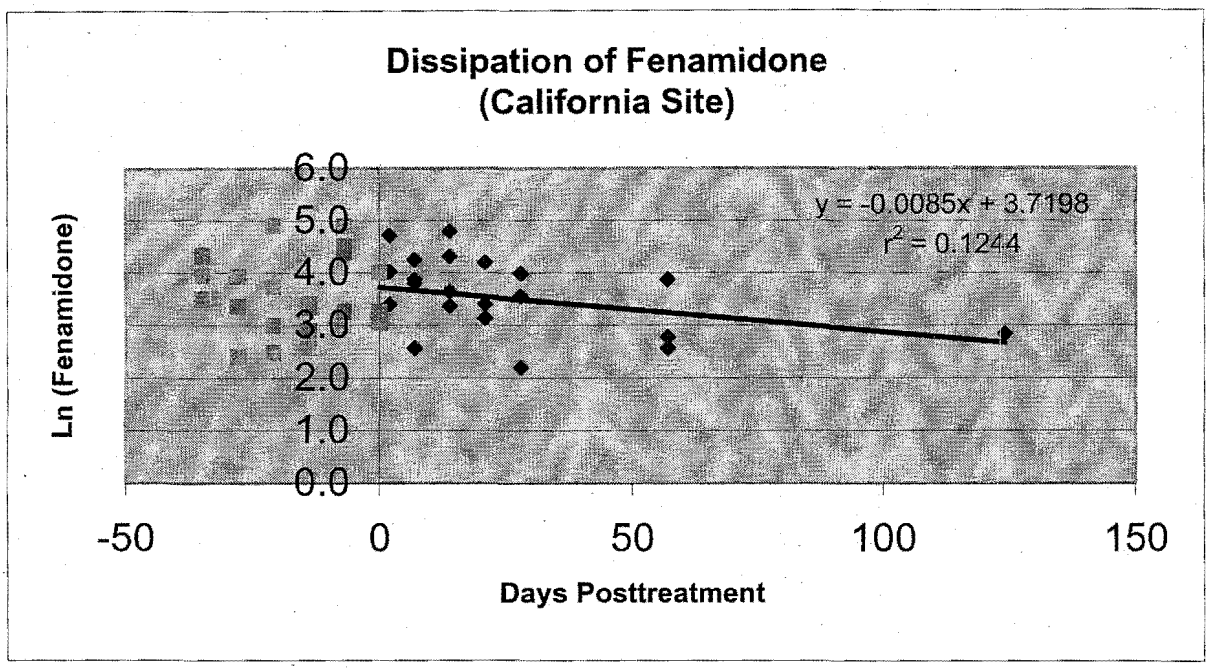


Chemical Name	Fenamidone	**California Site**
PC Code	046679	**0-15 cm soil depth**
MRID	45385904	
Guideline No.	164-1	

Half-life (days) = 81.5

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
Application 1 (-35 days)	33	3.4965
Application 1 (-35 days)	75	4.3175
Application 1 (-35 days)	77	4.3438
Application 1 (-35 days)	52	3.9512
Application 2 (-28 days)	29	3.3673
Application 2 (-28 days)	<LOQ	
Application 2 (-28 days)	11	2.3979
Application 2 (-28 days)	51	3.9318
Application 3 (-21 days)	134	4.8978
Application 3 (-21 days)	20	2.9957
Application 3 (-21 days)	42	3.7377
Application 3 (-21 days)	12	2.4849
Application 4 (-14 days)	30	3.4012
Application 4 (-14 days)	18	2.8904
Application 4 (-14 days)	13	2.5649
Application 4 (-14 days)	28	3.3322
Application 5 (-7 days)	91	4.5109
Application 5 (-7 days)	81	4.3944
Application 5 (-7 days)	26	3.2581
Application 5 (-7 days)	133	4.8903
Application 6 (Day 0)	55	4.0073
Application 6 (Day 0)	21	3.0445
Application 6 (Day 0)	26	3.2581
Application 6 (Day 0)	24	3.1781
2	30	3.4012
2	112	4.7185
2	30	3.4012
2	56	4.0254
7	48	3.8712
7	13	2.5649
7	45	3.8067
7	70	4.2485
14	121	4.7958
14	38	3.6376
14	75	4.3175
14	29	3.3673
21	<LOQ	
21	30	3.4012
21	23	3.1355
21	67	4.2047
28	ND	
28	9	2.1972

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
28	54	3.9890
28	35	3.5553
57	<LOQ	
57	16	2.7726
57	48	3.8712
57	13	2.5649
96	ND	
96	<LOQ	
96	<LOQ	
96	ND	
124	<LOQ	
124	17	2.8332
124	ND	
124	<LOQ	
148	<LOQ	
148	ND	
148	ND	
148	<LOQ	
180	<LOQ	
180	<LOQ	
180	ND	
180	ND	
251	ND	
251	ND	
251	ND	
251	ND	
306	ND	
306	ND	
306	<LOQ	
306	ND	
366	ND	
366	<LOQ	
366	<LOQ	
366	<LOQ	
433	ND	
484	ND	
531	ND	

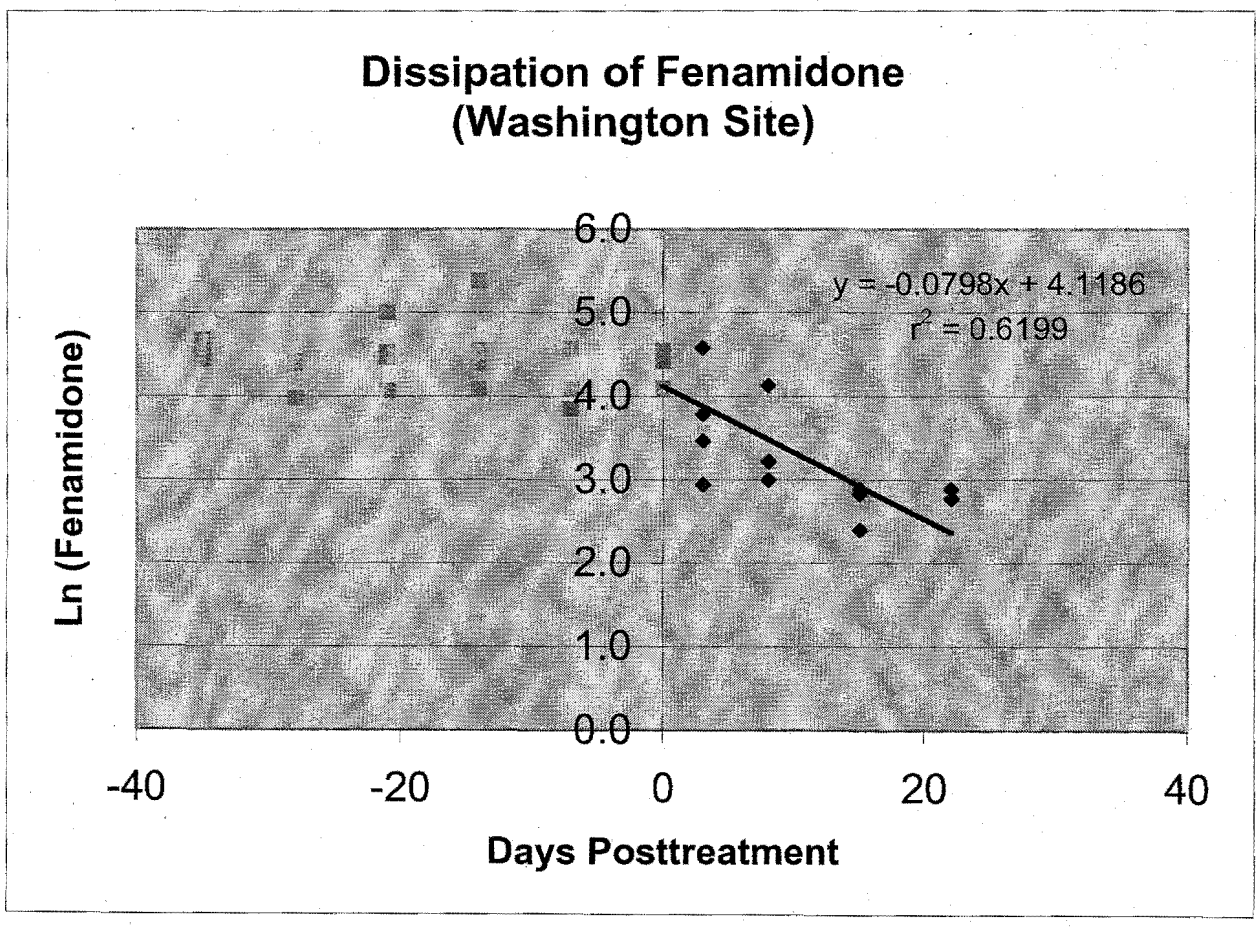

Dissipation of Fenamidone
(California Site)
y = -0.0085x + 3.7198
r2 = 0.1244
Ln (Fenamidone)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-50
0
50
100
150
Days Posttreatment

Chemical Name	Fenamidone	**Washington Site**
PC Code	046679	**0-15 cm soil depth**
MRID	45385904	
Guideline No.	164-1	

Half-life (days) = 8.7

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
Application 1 (-35 days)	93	4.5326
Application 1 (-35 days)	107	4.6728
Application 1 (-35 days)	85	4.4427
Application 1 (-35 days)	95	4.5539
Application 2 (-28 days)	53	3.9703
Application 2 (-28 days)	53	3.9703
Application 2 (-28 days)	81	4.3944
Application 2 (-28 days)	82	4.4067
Application 3 (-21 days)	58	4.0604
Application 3 (-21 days)	148	4.9972
Application 3 (-21 days)	92	4.5218
Application 3 (-21 days)	87	4.4659
Application 4 (-14 days)	80	4.3820
Application 4 (-14 days)	59	4.0775
Application 4 (-14 days)	94	4.5433
Application 4 (-14 days)	216	5.3753
Application 5 (-7 days)	59	4.0775
Application 5 (-7 days)	ND	
Application 5 (-7 days)	47	3.8501
Application 5 (-7 days)	96	4.5643
Application 6 (Day 0)	94	4.5433
Application 6 (Day 0)	60	4.0943
Application 6 (Day 0)	83	4.4188
Application 6 (Day 0)	90	4.4998
3	97	4.5747
3	19	2.9444
3	32	3.4657
3	44	3.7842
8	20	2.9957
8	<LOQ	
8	25	3.2189
8	62	4.1271
15	11	2.3979
15	17	2.8332
15	11	2.3979
15	18	2.8904
22	16	2.7726
22	18	2.8904
22	<LOQ	
22	<LOQ	
30	<LOQ	
30	<LOQ	

Days Posttreatment	Fenamidone (ug/kg)	Ln (Fenamidone)
30	ND	
30	<LOQ	
62	<LOQ	
62	<LOQ	
62	ND	
62	ND	
92	ND	
92	<LOQ	
92	ND	
92	ND	
122	ND	
154	ND	
189	ND	



Attachment 2

Structures of Parent and Transformation Products

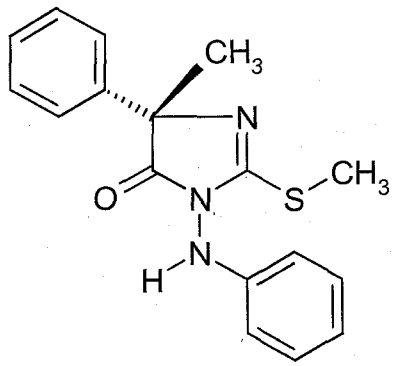
RPA 407213

IUPAC name: (*S*)-5-Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydroimidazol-4-one
(*S*)-4-Methyl-2-methylthio-4-phenyl-1-phenylamino-5(4H)-imidazolone

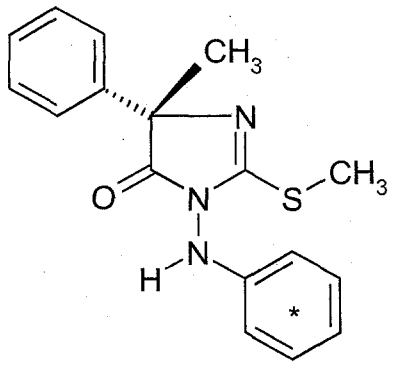
CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-, (S)-

CAS #: 161326-34-7

Unlabelled

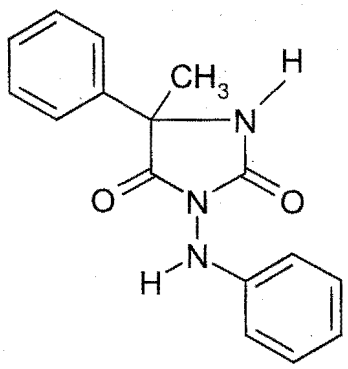


With radiolabel



*Position of [^{14}C]-radiolabel

RPA 405862
IUPAC name: 5-Methyl-5-phenyl-3-phenylaminoimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione, 5-methyl-5-phenyl-3-(phenylamino)-
CAS #: 153969-11-0

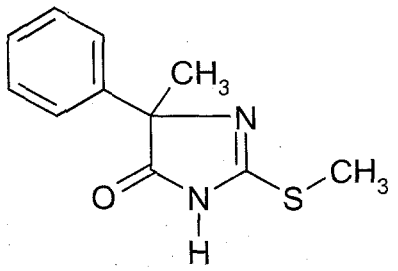


RPA 408056

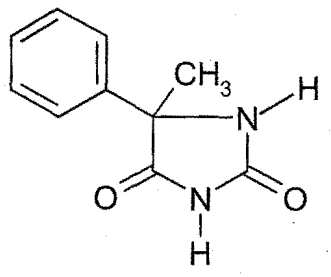
IUPAC name: 5-Methyl-2-methylthio-5-phenyl-3,5-dihydroimidazol-4-one
4-Methyl-2-methylthio-4-phenyl-2-imidazolin-5-one

CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-

CAS #: N/A



RPA 717879
IUPAC name: 5-Methyl-5-phenylimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione, 5-methyl-5-phenyl-
CAS #: 6843-49-8

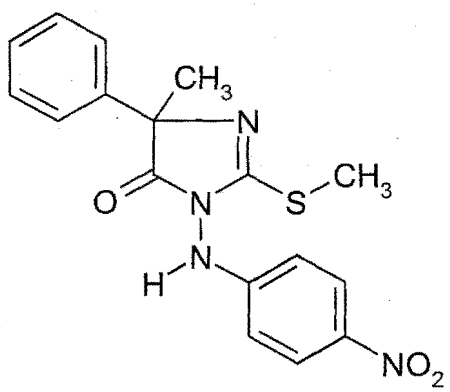


RPA 406012

IUPAC name: 5-Methyl-2-methylthio-3-(4-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one

CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-3-[(4-nitrophenyl)amino]-5-phenyl-

CAS #: 151022-56-9
451022-66-9

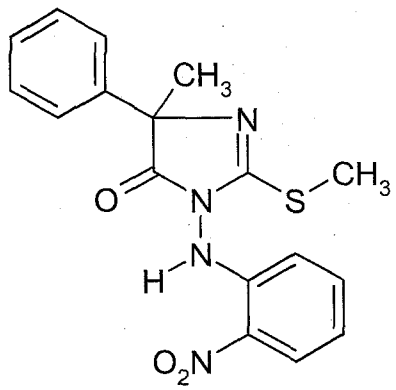


RPA 410914

IUPAC name: 5-Methyl-2-methylthio-3-(2-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one
(4RS)-4-methyl-2-methylthio-(1H)-1-(2-nitrophenylamino)-4-phenyl-2-imidazolin-5-one

CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-3-(2-nitrophenylamino)-5-phenyl-

CAS #: N/A

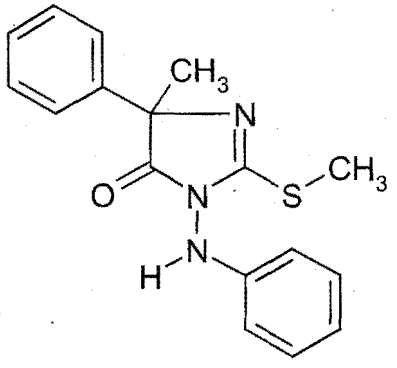


RPA 405803

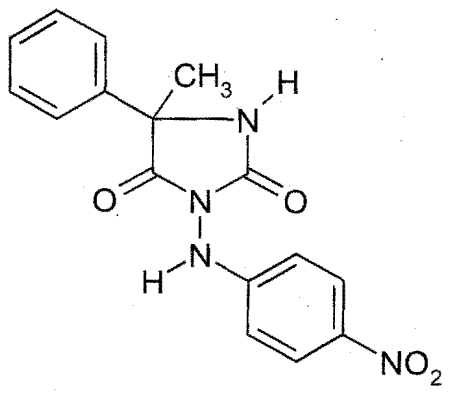
IUPAC name: 5-Methyl-2-methylthio-5-phenyl-3-phenylamino-3,5-dihydroimidazol-4-one

CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-

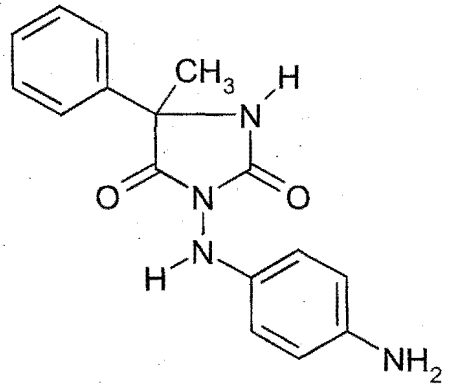
CAS #: 151022-37-6



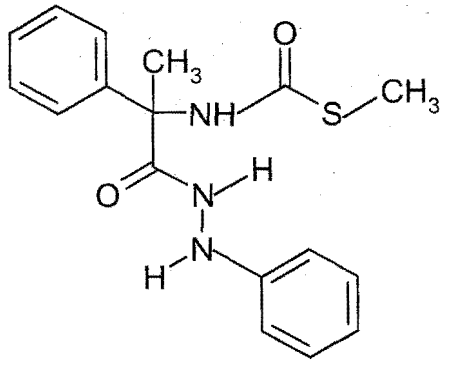
RPA 409446
IUPAC name: 5-Methyl-3-(4-nitrophenylamino)-5-phenylimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione, 5-methyl-3-(4-nitrophenylamino)-5-phenyl-
CAS #: N/A



RPA 409445
IUPAC name: 3-(4-Aminophenylamino)-5-methyl-5-phenylimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione, 3-(4-aminophenylamino)-5-methyl-5-phenyl-
CAS #: N/A



RPA 407599
IUPAC name: [1-Phenyl-1-(N'-phenylhydrazinocarbonyl)-ethyl]-thiocarbamic acid S-methyl ester
CAS name: Benezeneacetic acid, α-methyl-N-thiocarboxy-, S-methyl ester, 2-phenylhydrazide
CAS #: N/A



RPA 409352
IUPAC name: 3-(4-Aminophenylamino)-5-methyl-2-methylthio-5-phenyl-3,5-dihydroimidazol-4-one
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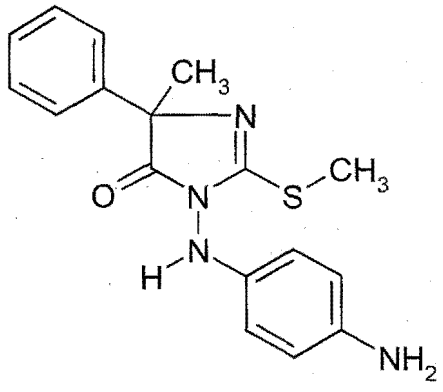
CAS #: N/A

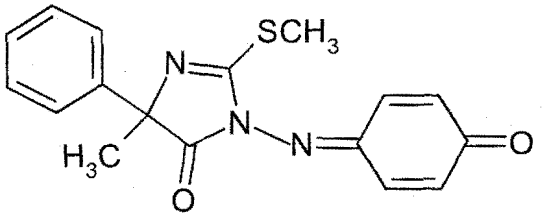


RPA 418915

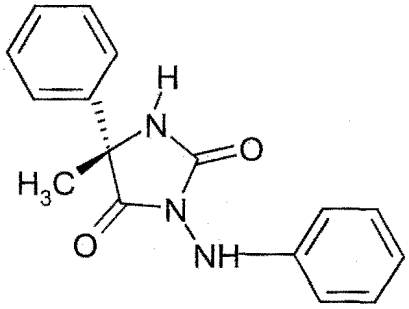
IUPAC name: (*S*)-5-Methyl-2-methylthio-3-[4-oxo-2,5-cyclohexadien-1-ylidene)amino]-5-phenyl-3,5-dihydroimidazol-4-one

CAS name: N/A

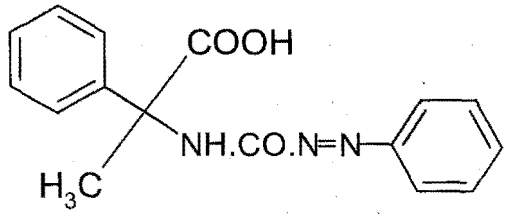
CAS #: N/A



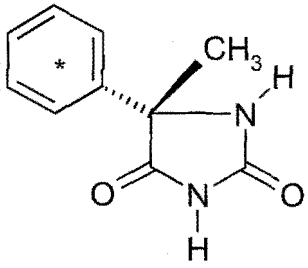
RPA 410193
IUPAC name: (*S*)-4-Methyl-4-phenyl-1-phenylaminoimidazolidin-2,5-dione
CAS name: N/A
CAS #: N/A



RPA 409344
IUPAC name: (R,S)-2-methyl-2-phenyl-N-(phenylazocarbonyl)glycine
(R,S)-2-phenyl-2-(phenylazocarbonylamino)propionic acid
CAS name: N/A
CAS #: N/A

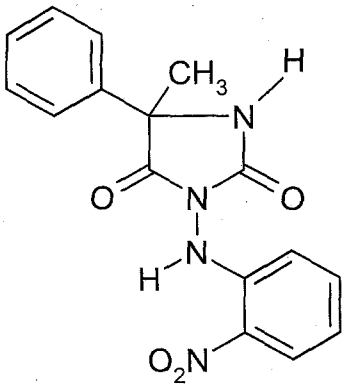


RPA 412636
IUPAC name: (*S*)-5-Methyl-5-phenylimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione,5-methyl-5-phenyl-, (S)
CAS #: 27539-12-4

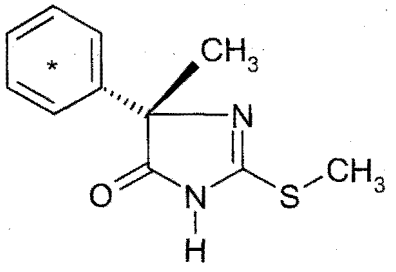


* Position of [^{14}C] radiolabel

RPA 410995
IUPAC name: 5-Methyl-3-(2-nitrophenylamino)-5-phenylimidazolidine-2,4-dione
CAS name: 2,4-Imidazolidinedione, 5-methyl-3-[(2-nitrophenyl)amino]-5-phenyl-
CAS #: N/A



RPA 412708
IUPAC name: (*S*)-5-Methyl-2-methylthio-5-phenyl-3,5-dihydroimidazol-4-one
CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-,(S)-
CAS #: N/A

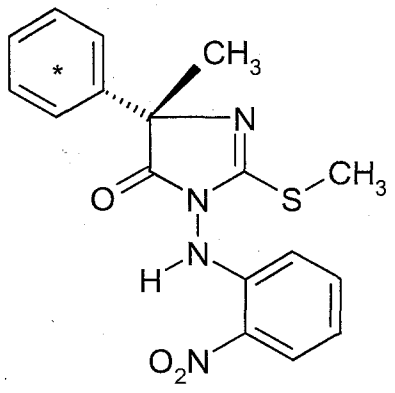


RPA 413255

IUPAC name: (*S*)-5-Methyl-2-methylthio-3-(2-nitrophenylamino)-5-phenyl-3,5-dihydroimidazol-4-one

CAS name: 4*H*-Imidazol-4-one, 3,5-dihydro-5-methyl-2-(methylthio)-3-(2-nitrophenylamino)-5-phenyl-,(S)-

CAS #: N/A



* Position of [^{14}C] radiolabel

Attachment 3

Transformation Pathway Presented by Registrant
Figure of Dissipation of Fenamidone in Test Soils

Metabolism of Fenamidone in Soil

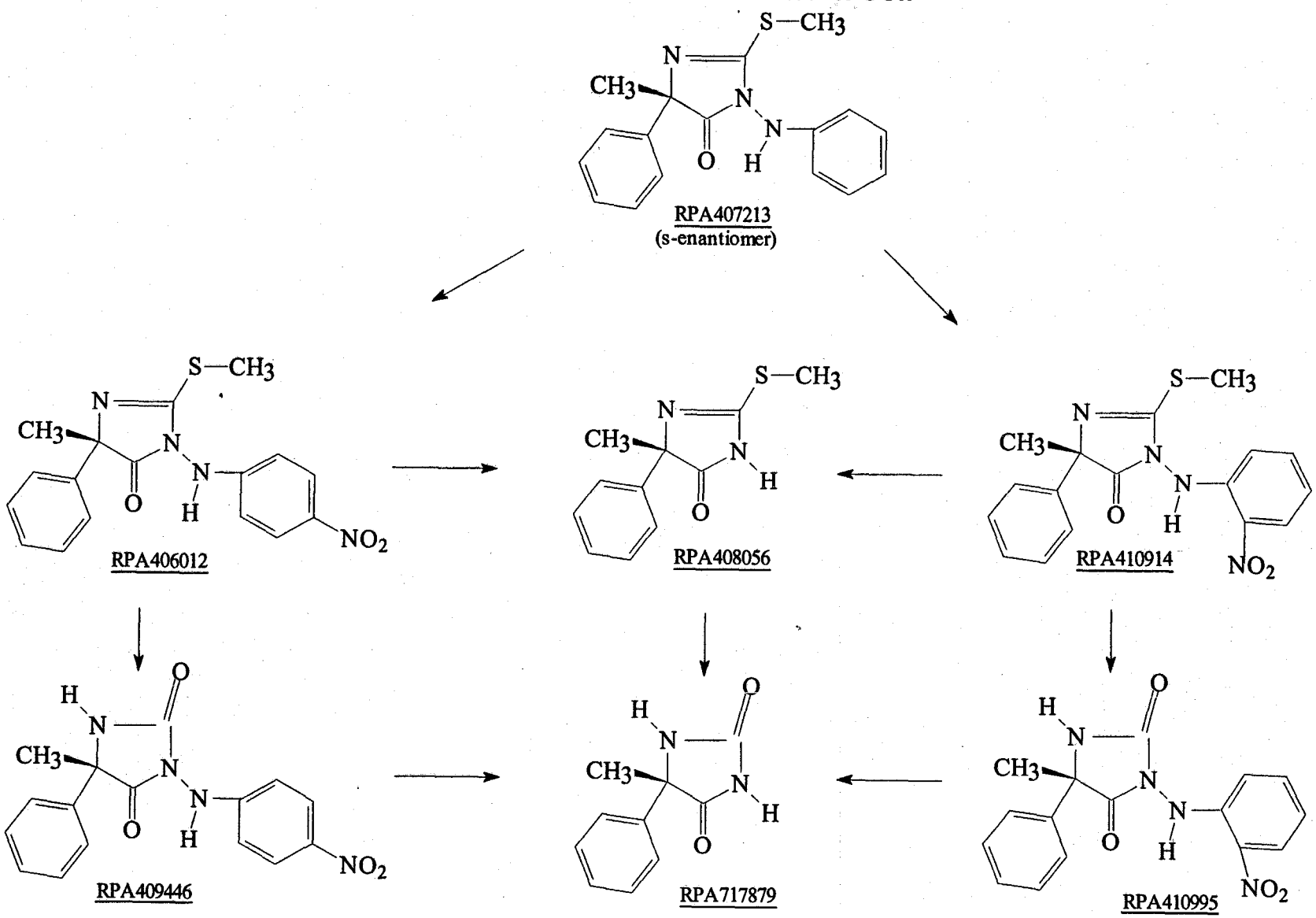


FIGURE 2. DISSIPATION OF FENAMIDONE IN A FLORIDA SOIL, Trial 13195-01

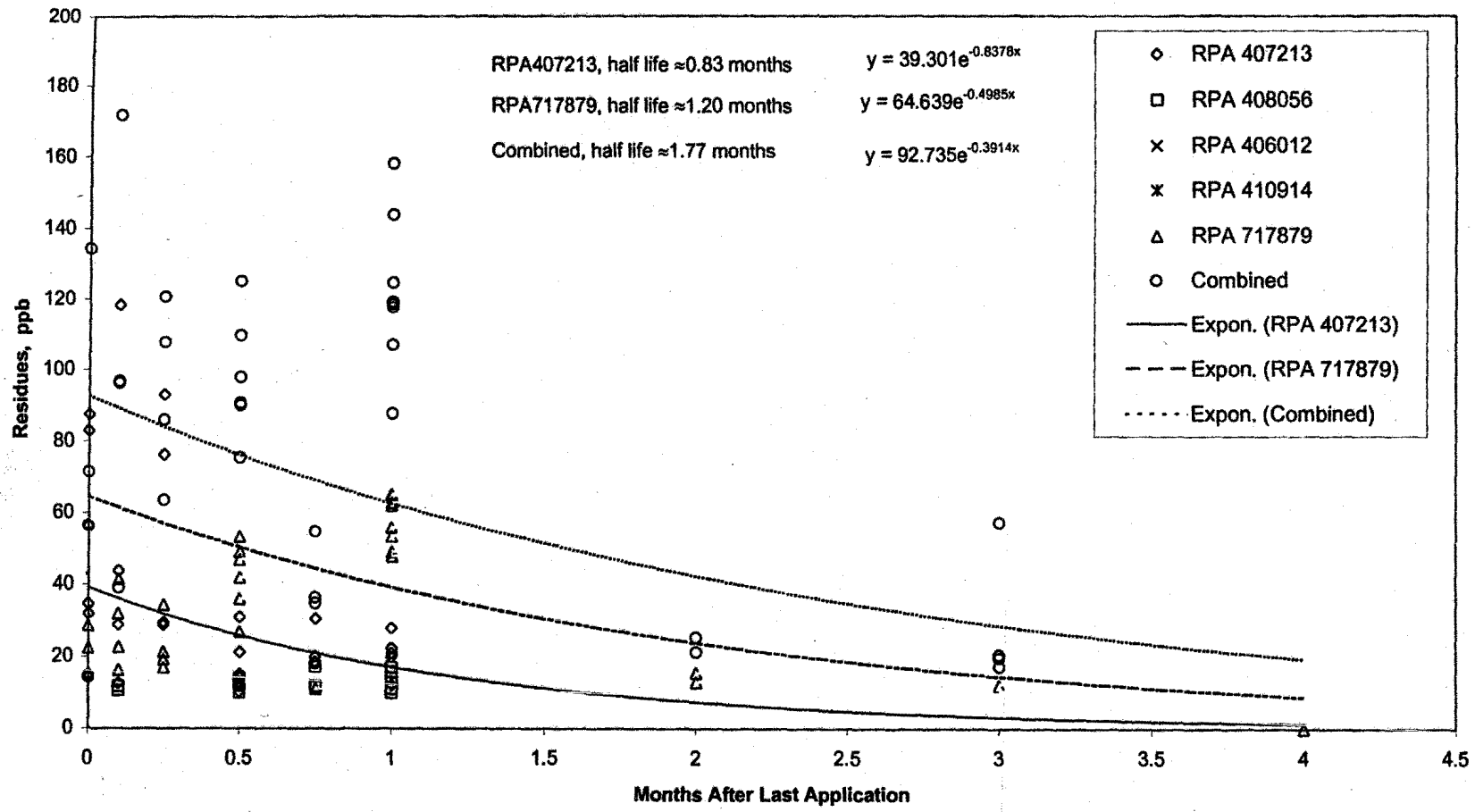


FIGURE 3. DISSIPATION OF FENAMIDONE IN A NORTH DAKOTA SOIL, Trial 13195-02

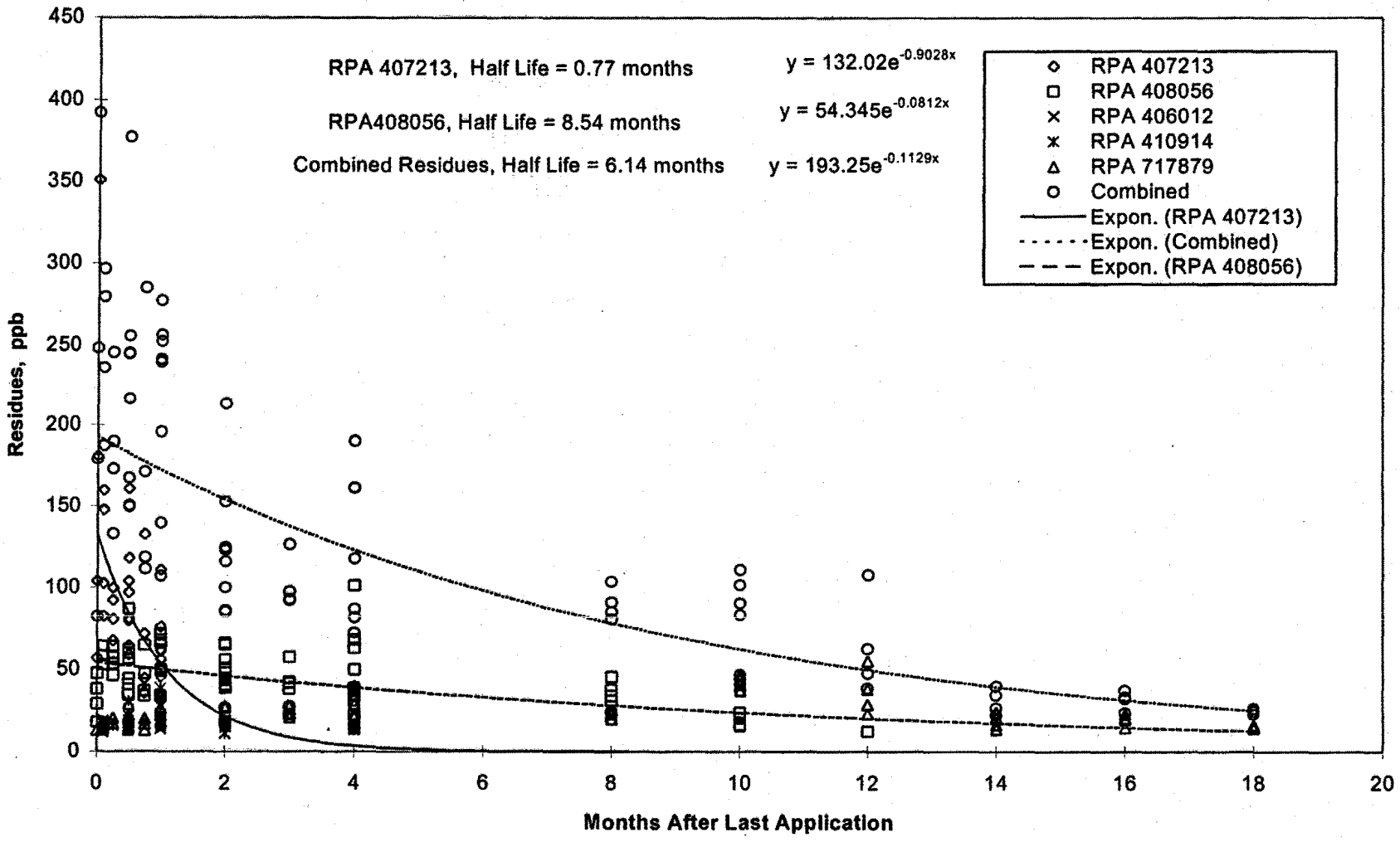


FIGURE 4. DISSIPATION OF FENAMIDONE IN A CALIFORNIA SOIL, Trial 13195-03
Data Graphed Beginning at 0.5 month

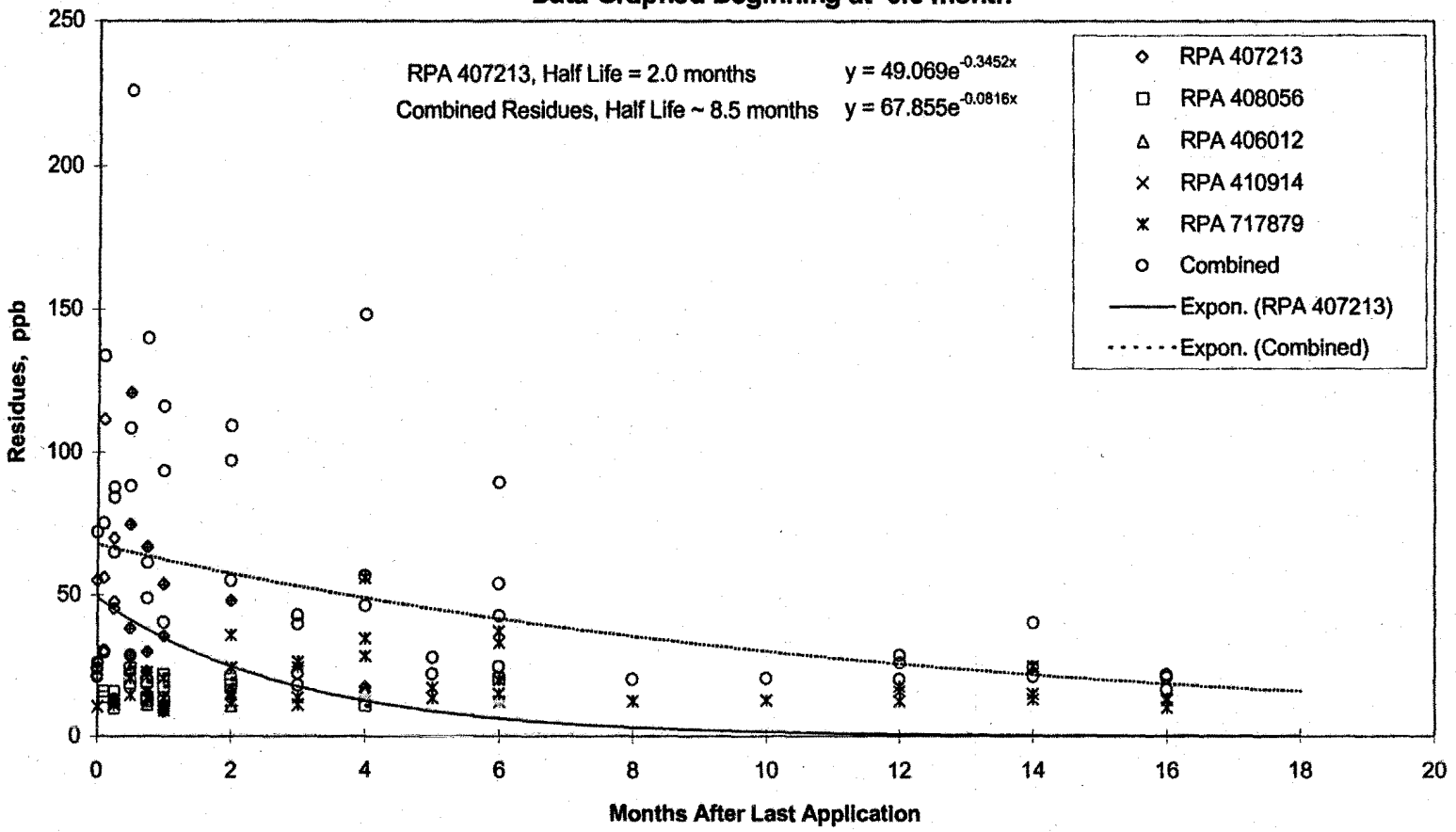
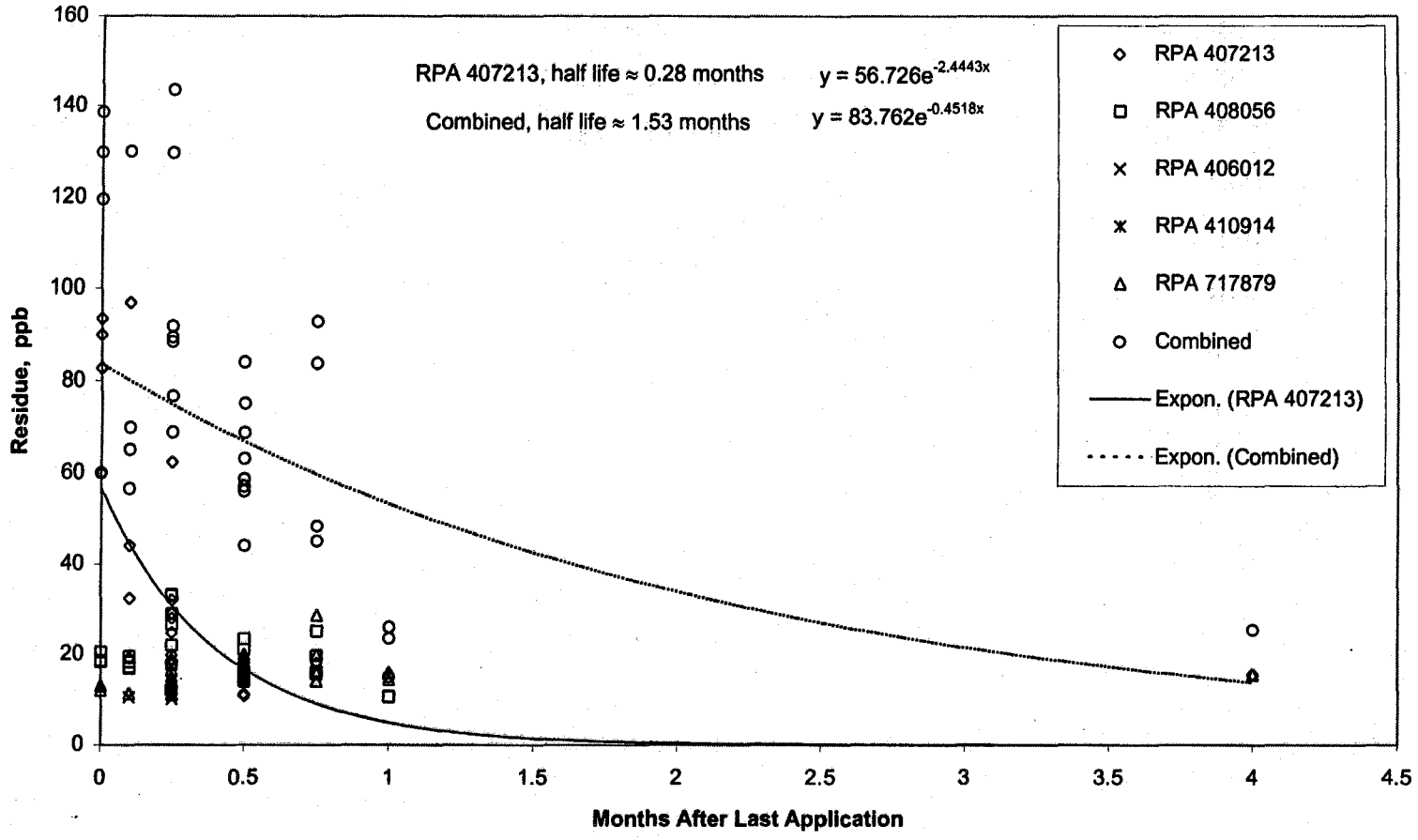



FIGURE 5. DISSIPATION OF FENAMIDONE IN A WASHINGTON SOIL, Trial 13195-04