DATA EVALUATION RECORD

STUDY 7

CHEM 129034 Flumioxazin §164-1
CAS No. 103361-09-7
FORMULATION--06--WETTABLE POWDER

STUDY ID 44295046
Pensyl, J. W. 1996. Field dissipation study with V-53482 WDG herbicide in Iowa. Valent Project No.: VP-1011. Unpublished study performed by Valent U.S.A. Corporation, Dublin, CA (analytical phase); Valent U.S.A. Corporation, Dallas, IA (in-life phase); and Chevron Chemical Company, Richmond, CA; and submitted by Valent U.S.A. Corporation, Dublin, CA.

STUDY ID 44295042
Kruplak, J. F. 1995. Independent laboratory validation of the method of quantitation of flumioxazin in soil. ADC Project Number: 1550-1. Unpublished study performed by Analytical Development Corporation, Colorado Springs, CO; and submitted by Valent U.S.A. Corporation, Walnut Creek, CA.

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CONCLUSIONS

Field Dissipation - Terrestrial

1. This study is scientifically valid and provides useful information on the terrestrial field dissipation of flumioxazin on a plot of silt loam soil planted with soybeans in Iowa.

2. This study does not meet Subdivision N Guidelines for the partial fulfillment of EPA data requirements on terrestrial field dissipation for the following reason:

   (i) soil samples were not analyzed for degradates; therefore, the patterns of formation and decline of degradates could not be addressed.

3. Flumioxazin (VP-53482 WDG, 50.9% a.i.), broadcast applied once as a spray at a nominal application rate of 42.5 g a.i./A, dissipated with a registrant calculated half-life of 42.0 days (0-112 day data; $r^2 = 0.94$) on a plot of silt loam soil planted with soybeans (pre-emergent) in Iowa. However, dissipation was observed to be biphasic and the apparent first half-life of the parent occurred between 21 and 28 days posttreatment; data were variable over time. The dissipation half-life is of questionable worth due to insufficient water input at the site and due to the use of wet-weight basis data in the half-life calculation. Residue data were reported as means of three replicates unless otherwise noted. In the 0- to 7.5-cm depth, the parent compound was initially 0.062-0.066 ppm at 0-1 day posttreatment, was 0.054-0.057 ppm from 3 to 7 days, decreased to 0.044 ppm by 14 days, then was 0.060 ppm at 21 days, was 0.029-0.020 ppm from 28 to 56 days, was 0.013 ppm (two of three replicates) at 112 days, and was not detected following 112 days with the exception of 0.014 ppm (one of three replicates) at 336 days. The parent compound was only detected once (day 14) in the 7.5- to 15-cm depth, at 0.012 ppm (one of three replicates), and was not detected above the LOQ at any other sampling interval or depth. Samples were not analyzed for degradates of flumioxazin.

METHODOLOGY

Flumioxazin (VP-53482 WDG, 50.9% a.i.; p. 14) was broadcast applied once as a spray, at a nominal application rate of 42.5 g a.i./A, onto a plot (75 x 75 ft with nine subplots of 25 x 25 ft, 1-3% slope; p. 14; Appendix VIII, p. 233) of sandy clay loam soil (0-30 cm: 52% sand, 20% silt, 28% clay, 3.5% organic matter, pH 6.8, CEC 20.8 meq/100 g; p. 15) planted with soybeans (pre-emergent) in Dallas Center, IA (p. 17). The application was made using a tractor-mounted sprayer with six flat fan nozzles and a boom height of 19 inches above the soil. An untreated control plot (25 x 25 ft with 25 subplots of 5 x 5 ft each) was located 50 feet from the treated plot (p. 14). The depth to the water table was 3.2-6.2 feet throughout the study period. A three-year plot history indicated no prior use of flumioxazin or related compounds (Appendix VIII, p. 235). Prior to flumioxazin

application, plots were treated once each with Treflan® 4 EC (trifluralin, 1 lb a.i./A) and Scepter® 70 DB (imazaquin, 0.125 lb a.i./A); following flumioxazin application, plots were treated once each with Gramoxone Extra® 2.5 EC (paraquat, 0.94 lb a.i./A) plus X-77 (0.25% v:v) and Roundup® 4 SC (glyphosate, 1 lb a.i./A) to control weeds (Appendix VIII, p. 329). Precipitation was supplemented with irrigation; total water input (22.5 inches) during the study period was 119% of the 10-year mean annual precipitation (p. 18; see Comment #4). Precipitation data were collected on-site. Pan evaporation data were not reported.

Soils samples were collected from the treated plot one day prior to the application and at 0, 1, 3, 5, 7, 14, 21, 28, 56, 86, 112, 257, 336, 462, and 490 days posttreatment; the control plot was sampled one day prior to the application and at 0, 14, 28, 86, 336, and 490 days posttreatment (p. 18). At each sampling interval, three cores were randomly collected from five designated subplots within the treated plot (15 total; Appendix VIII, p. 233) and three soil cores were collected from the control plot (p. 18). A 0- to 90-cm depth sample (4.4-cm i.d.) was collected using a zero-contamination probe equipped with acetate liners. Samples were stored frozen until shipped to the analytical lab. At the analytical lab, frozen samples were sectioned into 7.5-cm increments, composted by depth, and stored frozen (104 days; p. 26) until analysis (p. 20).

Soil samples were analyzed only for the parent compound (p. 20; see Comment #2). Soil samples (10 g) were extracted twice by shaking with acetone:0.1 *N* HCl (5:1, v:v) and filtered (Whatman #1, Appendix II, p. 78). The extracts were partitioned with 5% aqueous sodium chloride and dichloromethane. The organic phase was filtered through sodium sulfate and partitioned a second time with dichloromethane. The combined extracts were concentrated by rotary evaporation, redissolved in hexane:ethyl acetate (2:1, v:v), and loaded onto a solid phase extraction column (Florisil). The parent compound was eluted from the column with hexane:ethyl acetate (2:1, v:v) and concentrated by rotary evaporation; extracts were redissolved in acetone and analyzed for the parent by GC (50% phenyl-methyl silicone megabore column) with a nitrogen-phosphorus flame ionization detector (Appendix II, pp. 77, 79); the limits of detection and quantitation were 0.005 ppm and 0.01 ppm, respectively (p. 22; Appendix II, p. 80).

The application rate was not confirmed using monitoring pads or a similar method. The concentration of the parent in the 0- to 7.5-cm soil depth immediately following the application was 71% of the expected, based on the nominal application rate (p. 25).

To determine concurrent recoveries, soil samples (depth not specified) were fortified with the parent compound at 0.01 ppm and 0.05 ppm (p. 25). Mean recoveries (± c.v.) from soil samples fortified at 0.01 ppm and 0.05 ppm were 93 ± 15.4% (6 of 70 samples outside 70-120%) and 70 ± 7.9% (2 of 4 samples <70%), respectively (Table III, pp. 35-38).

In a frozen storage stability study, soil samples collected from the test site were fortified with the parent at 0.05 ppm and placed in frozen storage (-20°C) for up to 407 days (p. 20). The parent compound appeared to be stable in frozen storage for up to 407 days, but data were variable. Mean corrected recoveries of flumioxazin were initially (day 0) 73%, were 108-109% following 30-60 days, and were 68-89% following 120-407 days of frozen storage (Table 4, p. 39).

Independent Method Validation (MRID 44295042)

Duplicate soil samples (source and texture not specified) were fortified with the parent compound at 0.01 ppm and 0.05 ppm (p. 11). Samples were extracted and analyzed by GC (J & W DB-17 column) as previously described for the test samples (pp. 12, 13); the limit of detection was 0.004 ppm (p. 15). Recoveries (across all fortifications) of the parent ranged from 85% to 90% (Table 2, p. 18).

DATA SUMMARY

Flumioxazin (VP-53482 WDG, 50.9% a.i.), broadcast applied once as a spray at a nominal application rate of 42.5 g a.i./A, dissipated with a registrant calculated half-life of 42.0 days (0-112 day data; $r^2 = 0.94$) on a plot of silt loam soil planted with soybeans (pre-emergent) in Iowa (Figure 1, p. 43). However, the apparent first half-life of the parent occurred between 21 and 28 days posttreatment; data were variable over time. The dissipation half-life is of questionable worth due to insufficient water input at the site and due to the use of wet-weight basis data in the half-life calculation. Residue data were reported as means of three replicates unless otherwise noted. The parent compound was initially present in the 0- to 7.5-cm depth at 0.062-0.066 ppm from 0 to 1 day posttreatment, was 0.054-0.057 ppm from 3 to 7 days posttreatment, decreased to 0.044 ppm by 14 days posttreatment, then was 0.060 ppm at 21 days posttreatment, was 0.029-0.020 ppm from 28 to 56 days posttreatment, was 0.013 ppm (two of three replicates) at 112 days posttreatment, and was not detected following 112 days with the exception of 0.014 ppm (one of three replicates) at 336 days posttreatment (p. 23; Table II, pp. 33, 34). The parent compound was only detected once in the 7.5- to 15-cm depth, at 0.012 ppm (one of three replicates) at 14 days posttreatment, and was not detected above the limit of quantitation at any other sampling interval or depth. Samples were not analyzed for degradates of flumioxazin.

COMMENTS

1. The registrant-calculated half-life of the parent compound is of questionable worth because the data were reported on a wet-weight basis; data were observed to be variable over time and between replicates. Because the moisture in the soil samples was not consistent over time (Appendix IV, pp. 165-189), the resulting concentration data may not

be validly compared over time, as a dilution or concentration my occur. All data should be reported on a dry-weight basis (corrected for moisture content). Additionally, the half-life was based on data from the 0- to 3-inch depth, rather than the 0- to 6-inch depth. However, the reviewer noted that the parent was only detected above the limit of quantitation once below the 0- to 7.5-cm depth at 0.012 ppm (one of three replicates) at 14 days posttreatment (Table II, pp. 32-34).

2. The study failed to adequately demonstrate the field dissipation of the test compound (also see Comment #4). The patterns of formation and decline of the degradates were not addressed. Soil samples were not analyzed for degradates of flumioxazin. One of the primary purposes of a terrestrial field dissipation study is the determination of the pattern of formation and decline of major degradates of the parent. However, the study author stated that in two aerobic soil metabolism studies (MRID's 42684906 and 42884009) conducted with radiolabeled flumioxazin, only minor degradates (≤0.1 ppm or ≤6.6% of the applied radioactivity) were detected (p. 13).

3. Pan evaporation data were not reported. Such data are necessary to determine water balances and to assess whether sufficient moisture was present in the soil to facilitate leaching of the test substance. The reviewer noted that total water input through 38 days posttreatment was only 1.1 inches (reviewer-calculated; Appendix VIII, pp. 401,402); the plot then received an additional 1.0 inch (via precipitation) at 39 days posttreatment (also see Comment #4).

4. The study author stated that the registrant-calculated half-life (42.0 days) of the parent compound was "believed to be atypical" (p. 25), and that, based on aerobic metabolism studies and additional terrestrial field dissipation studies, the half-life of the parent was "much longer than expected" (p. 12). The study author further stated that a "lack of sufficient rain or irrigation for a 32-day period immediately following the application" likely inhibited degradation of the parent compound (p. 12).

5. Confirmation of the application rate was not performed. Typically, application monitoring pads or similar devices of a known surface area are utilized to verify the application rate.

6. The soybean plants were not analyzed for the parent or its degradates. It is necessary that total residues in the crop be monitored in order to accurately determine the routes of dissipation of the test material. The study author did not state whether the soybean plants were harvested or remained on the plot throughout the study period.

7. The study was conducted at one site (Iowa). Additional terrestrial field dissipation studies conducted in Illinois (MRID 44295044), Mississippi (MRID 44295045), Indiana (MRID 44295047), and North Carolina (MRID 44295048) were also submitted.

8. The study author stated that an equipment failure caused the temperature in the storage freezers to rise to +5 °C for a four-day period (p. 22); the study author further stated that, based on the analysis of frozen storage stability samples, the equipment failure had "no adverse effects on the study" (p. 22).

9. The nominal application rate for the test compound (42.5 g a.i./A) was slightly less than the proposed maximum use rate for soybeans (43.4 g a.i./A; p. 13).

10. The study author reported that the soil at the test site was a Canisteo silty clay loam (Appendix VIII, p. 234); however, based on soil characterization data reported for the top 0-30 cm soil depth (p. 15), the soil was classified as a sandy clay loam.

11. The formulation was reported as a "water dispersable granular formulation" for which no formulation code was available (p.14); therefore, the reviewer reported it as a wettable powder (formulation code 06).

12. Irrigation water characterization data were not reported.

MATERIALS (CONTINUED)

Summary of Soil Characterization (Treated Plot)

Physical Property	Depth, cm		
	0-30	30-60	60-90
% Sand	52	44	42
% Silt	20	28	28
% Clay	28	28	30
% Organic Matter	3.5	1.4	0.5
pH	6.8	7.4	7.9
Exchange Cap (meq/100 g)	20.8	19.3	22.1
Field Capacity (1/3 bar)	23.52	23.28	24.57
Bulk Density	1.28	1.29	1.34
Textural Classification	Sandy clay Loam	Clay Loam	Clay Loam

WEATHER DATA

Weather information collected at the test site during the study can be found in Appendix VIII along with historical data collected at the test site. A summary of the weather data for the study interval of interest is tabulated below:

Summary of Weather Conditions During Study

Study Month & Year	Air Temp, °F		% Humidity		Total Rainfall, in.
	Min	Max	Min	Max	
June 1991	56	99	20	81	6.65
July 1991	53	97	11	77	1.94
August 1991	55	99	13	93	3.88
September 1991	35	96	2	97	1.27
October 1991	21	86	1	83	4.36

MATERIALS (CONTINUED)

Summary of Weather Conditions During Study (Continued)

Study Month & Year	Air Temp, °F		% Humidity		Total Rainfall, in.
	Min	Max	Min	Max	
November 1991	-11	60	39	81	1.65
December 1991	-1	54	33	83	1.57
January 1992	-8	69	16	82	0.67
February 1992	12	64	31	83	1.33
March 1992	16	77	2	81	2.03
April 1992	20	88	6	99	3.63
May 1992	33	88	17	99	1.27
June 1992	46	89	25	97	2.28
July 1992	54	94	39	99	9.25
August 1992	46	90	37	100	1.38
September 1992	34	86	28	100	4.58
October 1992	26	84	28	96	0.56

A comparison of the monthly rainfall during the study with historical rainfall information is presented with the irrigation data in the next section of this report.

PLOT HISTORY

In 1988 and 1990 the test site was fallow and no pesticides were applied. In 1989, the test plot area was planted with soybeans and treated with Select for a residue trial and with Treflan and Lexone for weed control. In 1991, in preparation for study initiation, the plot area was mowed, cultivated, and treated with Treflan and Scepter for weed control. On June 18, 1991 (the day before test substance application), the soybean crop was planted. Complete pesticide history can be found in the FRDB in Appendix VIII.

TEST METHOD (CONTINUED)

Summary of Irrigation and Rainfall at Test Site

Study Month	10 Year Avg Rainfall Inches	Rainfall During Study, Inches	Irrigation Applied Inches	Total Inches	% of Monthly Normal Precip.
June	4.74	6.65*	0	6.65*	140
July	4.22	1.94	0	1.94	46
August	3.68	3.88	2.32	6.2	168
September	3.23	1.27	0	1.27	39
October	3.02	4.36	2.08	6.44	213
Totals	18.89	18.1	4.4	22.5	119

* 98% of this precipitation occurred before the application of test substance.

SAMPLE COLLECTION

At each sampling interval, 4.4 cm diameter soil cores were collected to a depth of 90 cm using a zero contamination probe equipped with acetate liners, attached to a hydraulic sampler. The untreated control plot was always sampled prior to the treated plot. Soil cores were collected from designated subplots in the five sections of the treated plot and the control plot as described in the study protocol. At each scheduled sampling interval, three cores were collected from each of the five designated subplots in the treated plot and, at selected intervals, from the designated subplot in the untreated control plot.

Soil cores were collected from the treated plot one day prior to the application (i.e. pretreatment), immediately after the application (Day 0) and also at 1, 3, 5, 7, 14, 21, 28, 56, 86, 112, 257, 336, 462, and 490 days following the application. The untreated control plot was sampled at the pretreatment interval and at 0, 14, 28, 86, 336 and 490 days following the application.

The cores were capped in the field and immediately placed horizontally in insulated coolers on ice and held until sampling was completed. All core samples were placed in a freezer within 2.3 hours of sampling and were stored frozen until shipped to Chevron's Residue Laboratory in Richmond, California or Valent's Dublin Laboratory in Dublin, California for analysis (currently the Valent Technical Center). The frozen cores were packed on dry ice in insulated boxes and shipped by overnight delivery.

TABLE I

NOMENCLATURE AND STRUCTURE OF REFERENCE STANDARDS

Technical grade flumioxazin was used as the reference standard in this study. Flumioxazin is the active ingredient in Valent's herbicide V-53482 WDG. The reference standard used in this study was provided by Sumitomo Chemical and certified by Sumitomo prior to study initiation.

Common Names: flumioxazin, S-53482, V-53482

Chemical Name: 7-fluoro-6-((3,4,5,6,-tetrahydro)phthalimido)-4-(2-propynyl)-1,4-benzoxazin-3(2H)-one

CAS Number: 103361-09-7

Lot Number: PYG-89021-M

Purity: 94.8%

Lot Number: PPG-90111-M

Purity: 94.7%

Structure:

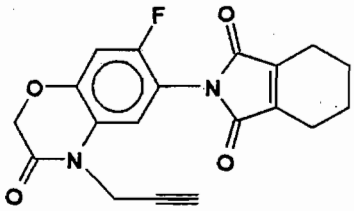


TABLE II
RESIDUES OF FLUMIOXAZIN IN IOWA SOIL

			Flumioxazin Found ppm											
Sampling Event	Sampling Interval	Sampling Date	0-7.5 cm	7.5 - 15 cm	15 - 22.5 cm	22.5 - 30 cm	30 - 37.5 cm	37.5 - 45 cm	45 - 52.5 cm	52.5 - 60 cm	60 - 67.5 cm	67.5 - 75 cm	75 - 82.5 cm	82.5 - 90 cm
1	Day -1	6/18/91	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	-<0.005 -<0.005 -<0.005	-<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
2	Day 0	6/19/91	0.070 0.054 0.063	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
3	Day 1	6/20/91	0.071 0.072 0.055	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
4	Day 3	6/22/91	0.072 0.042 0.047	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
5	Day 5	6/24/91	0.054 0.066 0.051	0.005 <0.005 0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005								
6	Day 7	6/26/91	0.034 0.074 0.060	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
7	Day 14	7/3/91	0.055 0.037 0.040	<0.005 <0.005 0.012	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
8	Day 21	7/10/91	0.051 0.058 0.072	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
9	Day 28	7/17/91	0.026 0.025 0.036	<0.005 <0.005 <0.005	<0.005 <0.005 0.005	<0.005 <0.005 0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005

TABLE II (continued)
RESIDUES OF FLUMIOXAZIN IN IOWA SOIL

			Flumioxazin Found ppm											
Sampling Event	Sampling Interval	Sampling Date	0-7.5 cm	7.5-15 cm	15-22.5 cm	22.5-30 cm	30-37.5 cm	37.5-45 cm	45-52.5 cm	52.5-60 cm	60-67.5 cm	67.5-75 cm	75-82.5 cm	82.5-90 cm
10	Day 56	8/14/91	0.022 0.017 0.021	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005									
11	Day 86	9/13/91	0.012 0.016 0.013	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
12	Day 112	10/9/91	0.009, 0.008 0.010 0.016	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
13	No Sample - Ground Frozen													
14	Day 257	3/2/92	<0.005[1] <0.005[2] 0.007[3]	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
15	Day 336	5/20/92	0.005 <0.005 0.014	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
16	Day 462	9/23/92	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005
17	Day 490	10/21/92	<0.005 <0.005 0.006[4]	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005	<0.005 <0.005 <0.005

[1] This sample re-analyzed in duplicate. Results were 0.005 & 0.006 ppm.
[2] This sample re-analyzed in duplicate. Results were 0.005 & 0.005 ppm.
[3] This sample re-analyzed in duplicate. Results were 0.010 & 0.010 ppm.
[4] This sample re-analyzed in triplicate. Results were all <0.005.

TABLE III

RECOVERY OF FLUMIOXAZIN FROM IOWA SOIL

Date Analyzed	Amount Added ppm	Amount Found ppm	% Recovery
07/24/91	0.01	0.007	66
08/05/91	0.01	0.006	63
08/06/91	0.01	0.009	87
08/07/91	0.01	0.009	85
08/07/91	0.01	0.008	79
08/14/91	0.01	0.009	92
07/03/91	0.01	0.008	81
08/08/91	0.01	0.008	76
07/16/91	0.01	0.008	78
07/26/91	0.01	0.010	103
08/09/91	0.01	0.009	86
07/30/91	0.01	0.011	110
08/05/91	0.01	0.008	80
08/06/91	0.01	0.010	100
08/30/91	0.01	0.011	106
08/14/91	0.01	0.011	114
08/20/91	0.01	0.010	101
08/20/91	0.01	0.008	84
08/19/91	0.01	0.010	96
08/22/91	0.01	0.010	97
08/27/91	0.01	0.009	88
08/13/91	0.01	0.012	116
09/03/91	0.01	0.009	86
08/22/91	0.01	0.009	94
08/28/91	0.01	0.011	106

TABLE III (continued)

RECOVERY OF FLUMIOXAZIN FROM IOWA SOIL

Date Analyzed	Amount Added ppm	Amount Found ppm	% Recovery
08/28/91	0.01	0.010	98
08/30/91	0.01	0.012	122
08/30/91	0.01	0.008	75
08/30/91	0.01	0.011	110
08/27/91	0.01	0.011	105
10/09/91	0.01	0.011	115
09/24/91	0.01	0.010	104
09/25/91	0.01	0.011	115
10/03/91	0.01	0.010	102
10/09/91	0.01	0.011	106
10/24/91	0.01	0.011	110
10/29/91	0.01	0.010	101
10/17/91	0.01	0.011	112
10/23/91	0.01	0.011	106
10/22/91	0.01	0.011	114
10/22/91	0.01	0.010	105
10/30/91	0.01	0.011	106
10/31/91	0.01	0.010	99
11/07/91	0.01	0.010	104
04/02/92	0.01	0.010	96
04/15/92	0.01	0.009	93
04/03/92	0.01	0.009	85
04/07/92	0.01	0.008	77
04/08/92	0.01	0.008	79

TABLE III (continued)

RECOVERY OF FLUMIOXAZIN FROM IOWA SOIL

Date Analyzed	Amount Added ppm	Amount Found ppm	% Recovery
04/09/92	0.01	0.007	74
04/17/92	0.01	0.008	78
08/25/92	0.01	0.010	97
08/26/92	0.01	0.009	89
08/27/92	0.01	0.010	99
08/28/92	0.01	0.009	86
09/01/92	0.01	0.011	105
09/02/92	0.01	0.009	93
10/02/92	0.01	0.007	74
10/06/92	0.01	0.010	101
10/12/92	0.01	0.009	90
10/13/92	0.01	0.009	91
10/14/92	0.01	0.008	79
10/15/92	0.01	0.007	69
10/29/92	0.01	0.009	86
10/30/92	0.01	0.009	92
11/03/92	0.01	0.008	84
11/04/92	0.01	0.008	75
11/05/92	0.01	0.006	64
04/16/91	0.01	0.008	85
09/01/92	0.01	0.007	69
Mean Recovery (0.01 ppm level)			93
Coefficient of Variation (n=70)			15.4

TABLE III (continued)

RECOVERY OF FLUMIOXAZIN FROM IOWA SOIL

Date Analyzed	Amount Added ppm	Amount Found ppm	% Recovery
07/10/91	0.05	0.039	77
08/09/91	0.05	0.034	68
09/06/91	0.05	0.032	64
11/08/91	0.05	0.036	72
Mean Recovery (0.05 ppm Level)			70
Coefficient of Variation (n=4)			7.91

TABLE IV

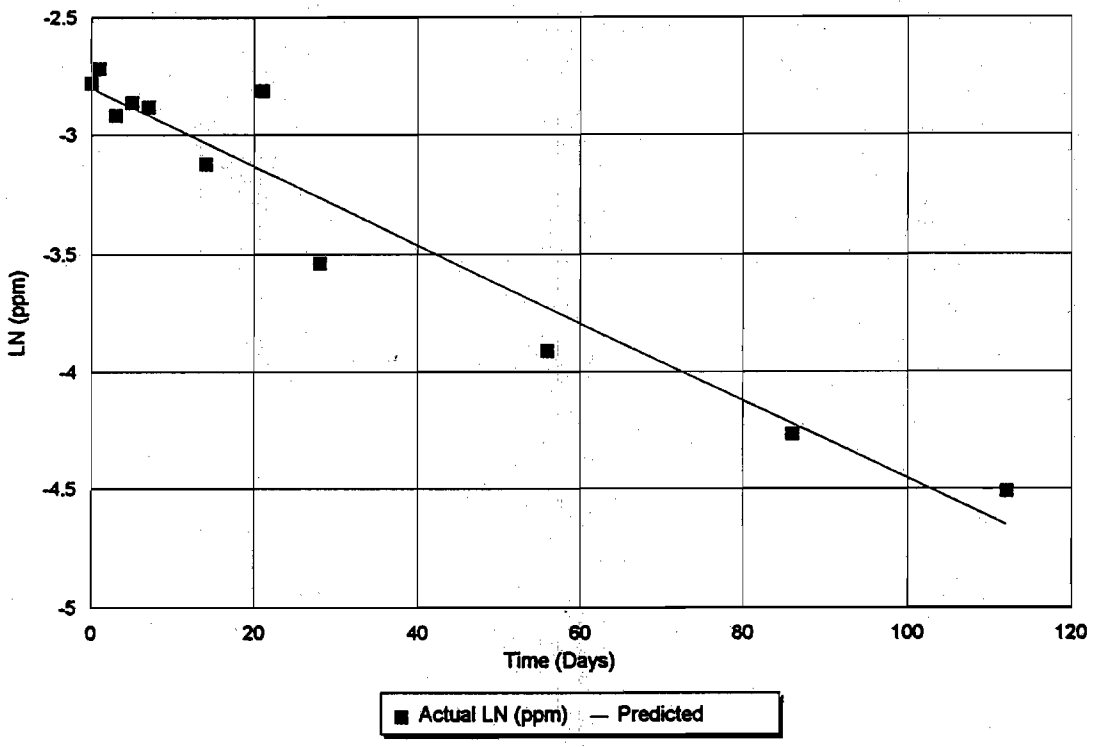
FREEZER STORAGE STABILITY OF FLUMIOXAZIN IN IOWA SOIL

Time Interval Days	% Recovery (0.05 ppm Fortification)			Corrected Mean Recovery %
	Freshly Fortified	Stored Sample A	Stored Sample B	
0	77	69	72	73*
30	68	69	78	108
60	64	69	70	109
120	72	64	64	89
281	85	61	55	68
407	69	65	55	87

* This result is mean of the 3 results.

FIGURE 1

Disssipation of Flumioxazin From Iowa Soil
1991 Trial V-1011-A



Log Least Square Estimate of 'm' and 'b' for:
Y = b*EXP(mX) (or LN Y = mX + LN b) and for correlation coefficient 'r'.

m=	-0.01650	
LN b=	-2.80333	
b=	0.06061	
Half-life=	42.00	Days
r=	-0.96747	

X (Days)	Y (ppm)	LN Y	LN YP	YP	Residual
0	0.062	-2.78062	-2.80333	0.060608	-0.02271
1	0.066	-2.7181	-2.81984	0.059616	-0.10173
3	0.054	-2.91877	-2.85284	0.05768	0.065927
5	0.057	-2.8647	-2.88585	0.055807	-0.02115
7	0.056	-2.8824	-2.91886	0.053995	-0.03646
14	0.044	-3.12357	-3.03439	0.048104	0.089173
21	0.06	-2.81341	-3.14992	0.042855	-0.33651
28	0.029	-3.54046	-3.26546	0.03818	0.275004
56	0.02	-3.91202	-3.72758	0.024051	0.184444
86	0.014	-4.2687	-4.22271	0.014659	0.045985
112	0.011	-4.50986	-4.65183	0.009544	-0.14197

MOISTURE DATA

V-1011 3209-2251A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0339,-0348,-0350,-0351,-0352,-0360

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-1U-1	33.736	2.224	31.512	28.839	15.5%
2	V-1011-1U-2	39.351	2.222	37.129	32.774	17.7%
3	V-1011-1U-3	34.994	2.248	32.746	28.930	18.5%
4	V-1011-1U-4	31.486	2.252	29.234	25.989	18.8%
5	V-1011-1U-5	31.794	2.258	29.536	26.069	19.4%
6	V-1011-1U-6	35.477	2.222	33.255	29.445	18.1%
7	V-1011-1U-7	33.958	2.230	31.728	27.836	19.3%
8	V-1011-1U-8	32.147	2.265	29.882	26.655	18.4%
9	V-1011-1U-9	37.480	2.238	35.242	31.150	18.0%
10	V-1011-1U-10	35.861	2.250	33.611	30.057	17.3%
11	V-1011-1U-11	43.834	2.226	41.608	36.643	17.3%
12	V-1011-1U-12	48.048	2.237	45.811	39.307	19.1%
13	V-1011-1X-1	37.275	2.263	35.012	30.730	18.7%
14	V-1011-1X-2	34.800	2.246	32.554	28.182	20.3%
15	V-1011-1X-3	34.443	2.288	32.155	27.904	20.3%
16	V-1011-1X-4	35.754	2.214	33.540	29.170	19.6%
17	V-1011-1X-5	33.383	2.261	31.122	27.660	18.4%
18	V-1011-1X-6	32.736	2.250	30.486	27.422	17.4%
19	V-1011-1X-7	35.162	2.239	32.923	30.245	14.9%
20	V-1011-1X-8	41.696	2.247	39.449	35.604	15.4%
21	V-1011-1X-9	38.385	2.212	36.173	32.775	15.5%
22	V-1011-1X-10	35.262	2.219	33.043	29.794	16.5%
23	V-1011-1X-11	36.998	2.250	34.748	31.207	16.7%
24	V-1011-1X-12	39.965	2.234	37.731	33.805	16.3%

ANALYST [illegible]
DATE 7/8/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

QA
8-26-91

19

MOISTURE DATA

V-1011 3209-2252A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0339,-0348,-0350,-0351,-0352,-0360

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-1Y-1	37.432	2.248	35.184	31.306	17.4%
26	V-1011-1Y-2	31.108	2.241	28.867	25.809	18.4%
27	V-1011-1Y-3	30.357	2.218	28.139	25.324	17.9%
28	V-1011-1Y-4	30.588	2.249	28.339	25.445	18.1%
29	V-1011-1Y-5	27.762	2.238	25.524	23.473	16.8%
30	V-1011-1Y-6	33.583	2.255	31.328	28.606	15.9%
31	V-1011-1Y-7	32.234	2.209	30.025	27.622	15.4%
32	V-1011-1Y-8	34.840	2.272	32.568	30.136	14.4%
33	V-1011-1Y-9	38.178	2.219	35.959	32.625	15.4%
34	V-1011-1Y-10	29.309	2.238	27.071	25.002	15.9%
35	V-1011-1Y-11	37.476	2.278	35.198	32.007	15.5%
36	V-1011-1Y-12	36.803	2.234	34.569	31.429	15.5%
37	V-1011-1Z-1	24.372	1.575	22.797	20.320	17.8%
38	V-1011-1Z-2	20.367	1.557	18.810	16.949	18.2%
39	V-1011-1Z-3	23.667	1.541	22.126	19.595	18.4%
40	V-1011-1Z-4	22.033	1.554	20.479	18.315	18.2%
41	V-1011-1Z-5	23.545	1.543	22.002	19.828	16.9%
42	V-1011-1Z-6	22.688	1.573	21.115	19.153	16.7%
43	V-1011-1Z-7	20.564	1.560	19.004	17.670	15.2%
44	V-1011-1Z-8	24.756	1.546	23.210	21.007	16.2%
45	V-1011-1Z-9	26.543	1.563	24.980	22.618	15.7%
46	V-1011-1Z-10	28.319	1.562	26.757	24.259	15.2%
47	V-1011-1Z-11	22.877	1.550	21.327	19.123	17.6%
48	V-1011-1Z-12	29.612	1.583	28.029	24.660	17.7%

ANALYST DRT
DATE 7/8/91

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

QA
8-26-91

20

MOISTURE DATA

V-1011 3209-2247A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0324,-0353

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-2U-1	31.194	2.224	28.970	26.653	15.7%
2	V-1011-2U-2	29.069	2.223	26.846	24.255	17.9%
3	V-1011-2U-3	33.413	2.249	31.164	27.612	18.6%
4	V-1011-2U-4	31.763	2.252	29.511	25.903	19.9%
5	V-1011-2X-1	31.830	2.257	29.573	26.512	18.0%
6	V-1011-2X-2	33.539	2.222	31.317	27.521	19.2%
7	V-1011-2X-3	36.238	2.232	34.006	29.322	20.3%
8	V-1011-2X-4	31.329	2.267	29.062	25.413	20.4%
9	V-1011-2Y-1	35.708	2.240	33.468	29.412	18.8%
10	V-1011-2Y-2	33.749	2.253	31.496	27.390	20.2%
11	V-1011-2Y-3	35.773	2.227	33.546	29.121	19.8%
12	V-1011-2Y-4	31.878	2.238	29.640	26.122	19.4%
13	V-1011-2Z-1	33.058	2.261	30.797	27.367	18.5%
14	V-1011-2Z-2	32.720	2.244	30.476	26.556	20.2%
15	V-1011-2Z-3	37.213	2.289	34.924	30.247	19.9%
16	V-1011-2Z-4	34.225	2.215	32.010	27.913	19.7%

ANALYST [illegible]
DATE 7/1/91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B 2

QA
[illegible]
8-26-91

21

MOISTURE DATA

V-1011 3209-2253A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0333,-0353

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
		34.417 T.E. 8/27/91		32.194 T.E. 8/27/91		17.3% T.E. 8/27/91
1	V-1011-3X-1	~~34.170~~	2.223	~~31.947~~	28.857	~~16.6%~~
2	V-1011-3X-2	32.690	2.222	30.468	26.745	19.5%
3	V-1011-3X-3	34.742	2.249	32.493	28.429	19.4%
4	V-1011-3X-4	33.087	2.254	30.833	27.035	19.6%
5	V-1011-3Y-1	34.214	2.258	31.956	28.653	17.4%
6	V-1011-3Y-2	31.532	2.222	29.310	25.989	18.9%
7	V-1011-3Y-3	36.578	2.232	34.346	29.931	19.4%
8	V-1011-3Y-4	29.194	2.264	26.930	23.979	19.4%
9	V-1011-3Z-1	35.266	2.237	33.029	29.417	17.7%
10	V-1011-3Z-2	35.196	2.249	32.947	28.622	20.0%
11	V-1011-3Z-3	29.675	2.225	27.450	24.342	19.4%
12	V-1011-3Z-4	33.529	2.237	31.292	27.558	19.1%

ANALYST [signature]
DATE 7/15/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE 32

QA
8-28-91

22

MOISTURE DATA

V-1011 3209-2255A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0340,-0355

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-4X-1	33.868	2.223	31.645	28.059	18.4%
2	V-1011-4X-2	37.304	2.222	35.082	30.336	19.9%
3	V-1011-4X-3	31.370	2.247	29.123	25.718	19.4%
4	V-1011-4X-4	29.495	2.253	27.242	24.282	19.1%
5	V-1011-4Y-1	32.311	2.259	30.052	26.937	17.9%
6	V-1011-4Y-2	35.106	2.222	32.884	28.536	20.0%
7	V-1011-4Y-3	33.505	2.233	31.272	27.190	20.2%
8	V-1011-4Y-4	31.386	2.269	29.117	25.611	19.8%
9	V-1011-4Z-1	28.358	2.246	26.112	23.852	17.3%
10	V-1011-4Z-2	33.356	2.255	31.101	27.116	20.1%
11	V-1011-4Z-3	29.350	2.230	27.120	24.000	19.7%
12	V-1011-4Z-4	27.773	2.239	25.534	22.738	19.7%

ANALYST DAG
DATE 7/25/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE ✓

QA
8-26-91

23

MOISTURE DATA

V-1011 3209-2257A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0341,-0347

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-5X-1	25.872	2.246	23.626	21.854	17.0%
26	V-1011-5X-2	29.828	2.239	27.589	24.713	18.5%
27	V-1011-5X-3	27.267	2.217	25.050	22.570	18.8%
28	V-1011-5X-4	26.675	2.246	24.429	22.078	18.8%
29	V-1011-5Y-1	29.245	2.235	27.010	24.559	17.3%
30	V-1011-5Y-2	28.205	2.252	25.953	23.273	19.0%
31	V-1011-5Y-3	26.460	2.208	24.252	21.852	19.0%
32	V-1011-5Y-4	26.557	2.268	24.289	22.088	18.4%
33	V-1011-5Z-1	33.175	2.216	30.959	27.839	17.2%
34	V-1011-5Z-2	30.459	2.236	28.223	25.030	19.2%
35	V-1011-5Z-3	25.898	2.273	23.625	21.394	19.1%
36	V-1011-5Z-4	28.830	2.231	26.599	23.821	18.8%

ANALYST [signature]
DATE 7/29/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE BV

QA [signature]
8-26-91

24

MOISTURE DATA

V-1011 3209-2258A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0349,-0383

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-6X-1	35.050	2.223	32.827	29.890	15.7%
2	V-1011-6X-2	29.119	2.222	26.897	23.821	19.7%
3	V-1011-6X-3	28.423	2.248	26.175	23.239	19.8%
4	V-1011-6X-4	25.646	2.251	23.395	21.169	19.1%
5	V-1011-6Y-1	33.590	2.256	31.334	28.455	16.4%
6	V-1011-6Y-2	28.852	2.222	26.630	23.776	19.1%
7	V-1011-6Y-3	29.871	2.231	27.640	24.547	19.3%
8	V-1011-6Y-4	28.064	2.266	25.798	23.110	19.2%
9	V-1011-6Z-1	31.744	2.239	29.505	26.744	16.9%
10	V-1011-6Z-2	26.053	2.253	23.800	21.258	20.1%
11	V-1011-6Z-3	27.038	2.228	24.810	22.233	19.4%
12	V-1011-6Z-4	25.838	2.238	23.600	21.206	19.6%

ANALYST [signature]
DATE 8/5/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE 30

QA [signature]
9-18-91

25

MOISTURE DATA

3209-2259A

V-1011
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0359,-0361,-0362,-0363,-0367,-0373

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-7U-1	64.668	2.223	62.445	57.665	11.2%
2	V-1011-7U-2	53.214	2.222	50.992	44.171	17.7%
3	V-1011-7U-3	50.852	2.247	48.605	41.999	18.2%
4	V-1011-7U-4	49.511	2.252	47.259	40.790	18.5%
5	V-1011-7U-5	45.436	2.257	43.179	37.098	19.3%
6	V-1011-7U-6	52.720	2.221	50.499	43.134	19.0%
7	V-1011-7U-7	50.348	2.231	48.117	41.680	18.0%
8	V-1011-7U-8	56.123	2.265	53.858	46.528	17.8%
9	V-1011-7U-9	49.745	2.238	47.507	41.850	16.6%
10	V-1011-7U-10	53.527	2.251	51.276	46.103	14.5%
11	V-1011-7U-11	55.508	2.225	53.283	48.163	13.8%
12	V-1011-7U-12	53.412	2.238	51.174	45.756	15.0%
13	V-1011-7X-1	70.362	2.257	68.105	60.680	14.2%
14	V-1011-7X-2	52.453	2.240	50.213	43.277	18.3%
15	V-1011-7X-3	56.450	2.284	54.166	46.464	18.4%
16	V-1011-7X-4	56.473	2.212	54.261	46.415	18.5%
17	V-1011-7X-5	50.158	2.258	47.900	41.630	17.8%
18	V-1011-7X-6	50.405	2.246	48.159	42.412	16.6%
19	V-1011-7X-7	56.777	2.229	54.548	47.757	16.5%
20	V-1011-7X-8	51.112	2.238	48.874	43.254	16.1%
21	V-1011-7X-9	45.887	2.203	43.684	39.251	15.2%
22	V-1011-7X-10	48.456	2.210	46.246	41.612	14.8%
23	V-1011-7X-11	52.216	2.239	49.977	44.951	14.5%
24	V-1011-7X-12	56.506	2.224	54.282	48.835	14.1%

ANALYST DBS
DATE 8-8-91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B.2

QA
Allspice
9-18-91

MOISTURE DATA

V-1011 3209-2260A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0359,-0361,-0362,-0363,-0367,-0373

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-7Y-1	57.457	2.235	55.222	48.868	15.6%
26	V-1011-7Y-2	53.116	2.230	50.886	43.396	19.1%
27	V-1011-7Y-3	57.038	2.207	54.831	46.422	19.4%
28	V-1011-7Y-4	48.549	2.237	46.312	39.766	19.0%
29	V-1011-7Y-5	54.993	2.227	52.766	45.572	17.9%
30	V-1011-7Y-6	49.207	2.243	46.964	41.364	16.7%
31	V-1011-7Y-7	46.015	2.198	43.817	38.829	16.4%
32	V-1011-7Y-8	47.998	2.259	45.739	40.743	15.9%
33	V-1011-7Y-9	47.853	2.206	45.647	40.749	15.6%
34	V-1011-7Y-10	54.469	2.223	52.246	46.857	14.6%
35	V-1011-7Y-11	52.708	2.263	50.445	45.228	14.8%
36	V-1011-7Y-12	56.755	2.221	54.534	48.817	14.6%
37	V-1011-7Z-1	37.060	1.556	35.504	31.238	16.4%
38	V-1011-7Z-2	31.544	1.540	30.004	26.268	17.6%
39	V-1011-7Z-3	30.051	1.523	28.528	24.923	18.0%
40	V-1011-7Z-4	28.268	1.538	26.730	23.353	18.4%
41	V-1011-7Z-5	32.756	1.525	31.231	27.629	16.4%
42	V-1011-7Z-6	25.424	1.557	23.867	21.525	16.3%
43	V-1011-7Z-7	29.555	1.543	28.012	25.118	15.8%
44	V-1011-7Z-8	28.172	1.526	26.646	23.938	15.9%
45	V-1011-7Z-9	29.240	1.547	27.693	24.673	16.5%
46	V-1011-7Z-10	29.565	1.546	28.019	25.144	15.8%
47	V-1011-7Z-11	28.760	1.534	27.226	24.294	16.4%
48	V-1011-7Z-12	30.958	1.567	29.391	26.675	14.6%

ANALYST DBS
DATE 8-9-91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B.2

QA
9-18-91

27

MOISTURE DATA

V-1011 3209-2261A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0358,-0384

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-8X-1	35.279	2.223	33.056	30.249	15.2%
2	V-1011-8X-2	28.595	2.222	26.373	23.805	18.2%
3	V-1011-8X-3	32.170	2.247	29.923	26.862	17.7%
4	V-1011-8X-4	34.445	2.253	32.192	28.863	17.3%
5	V-1011-8Y-1	33.725	2.257	31.468	29.393	13.8%
6	V-1011-8Y-2	32.362	2.222	30.140	26.947	18.0%
7	V-1011-8Y-3	32.175	2.230	29.945	26.823	17.9%
8	V-1011-8Y-4	35.472	2.263	33.209	29.548	17.8%
9	V-1011-8Z-1	31.454	2.238	29.216	26.879	15.7%
10	V-1011-8Z-2	31.591	2.251	29.340	26.277	18.1%
11	V-1011-8Z-3	26.774	2.226	24.548	22.354	18.0%
12	V-1011-8Z-4	27.593	2.237	25.356	23.146	17.5%

ANALYST [signature]
DATE 8/12/91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

QA [signature]
9-18-91

MOISTURE DATA

V-1011 3209-2264A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0368,-0376,-0377,-0380,-0381,-0382

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-9U-1	45.610	2.214	43.396	41.949	8.4%
2	V-1011-9U-2	48.266	2.218	46.048	41.868	13.9%
3	V-1011-9U-3	41.400	2.242	39.158	35.585	14.9%
4	V-1011-9U-4	39.721	2.254	37.467	34.277	14.5%
5	V-1011-9U-5	40.618	2.252	38.366	34.853	15.0%
6	V-1011-9U-6	41.175	2.215	38.960	35.179	15.4%
7	V-1011-9U-7	43.191	2.225	40.966	37.403	14.1%
8	V-1011-9U-8	45.680	2.258	43.422	39.493	14.2%
9	V-1011-9U-9	42.373	2.232	40.141	37.090	13.2%
10	V-1011-9U-10	34.221	2.245	31.976	30.500	11.6%
11	V-1011-9U-11	39.247	2.220	37.027	34.709	12.3%
12	V-1011-9U-12	40.687	2.230	38.457	36.084	12.0%
13	V-1011-9X-1	49.219	2.255	46.964	43.572	12.0%
14	V-1011-9X-2	49.728	2.236	47.492	42.396	15.4%
15	V-1011-9X-3	41.665	2.285	39.380	35.689	15.2%
16	V-1011-9X-4	43.590	2.218	41.372	37.049	15.8%
17	V-1011-9X-5	42.499	2.260	40.239	36.505	14.9%
18	V-1011-9X-6	41.890	2.242	39.648	36.176	14.4%
19	V-1011-9X-7	39.728	2.224	37.504	34.370	14.3%
20	V-1011-9X-8	46.865	2.240	44.625	40.275	14.8%
21	V-1011-9X-9	45.350	2.202	43.148	38.955	14.8%
22	V-1011-9X-10	43.136	2.208	40.928	37.260	14.4%
23	V-1011-9X-11	43.769	2.236	41.533	37.732	14.5%
24	V-1011-9X-12	47.999	2.221	45.778	41.611	14.0%

ANALYST DJS
DATE 8-21-91

METHOD: √ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

QA
10-22-91

MOISTURE DATA

V-1011 3209-2265A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0368,-0376,-0377,-0380,-0381,-0382

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-9Y-1	50.515	2.232	48.283	43.960	13.6%
26	V-1011-9Y-2	45.831	2.226	43.605	38.530	16.7%
27	V-1011-9Y-3	53.812	2.203	51.609	45.367	16.4%
28	V-1011-9Y-4	47.398	2.233	45.165	40.178	16.0%
29	V-1011-9Y-5	42.384	2.221	40.163	36.426	14.8%
30	V-1011-9Y-6	39.703	2.240	37.463	34.473	14.0%
31	V-1011-9Y-7	40.294	2.191	38.103	34.551	15.1%
32	V-1011-9Y-8	44.172	2.258	41.914	37.925	14.9%
33	V-1011-9Y-9	43.042	2.205	40.837	37.343	14.0%
34	V-1011-9Y-10	46.357	2.216	44.141	40.789	12.6%
35	V-1011-9Y-11	51.760	2.255	49.505	44.261	15.1%
36	V-1011-9Y-12	54.787	2.209	52.578	47.090	14.6%
37	V-1011-9Z-1	28.968	1.549	27.419	25.546	12.5%
38	V-1011-9Z-2	23.622	1.530	22.092	20.210	15.4%
39	V-1011-9Z-3	28.717	1.514	27.203	24.392	15.9%
40	V-1011-9Z-4	27.982	1.536	26.446	23.723	16.1%
41	V-1011-9Z-5	25.451	1.532	23.919	21.702	15.7%
42	V-1011-9Z-6	25.835	1.553	24.282	22.052	15.6%
43	V-1011-9Z-7	24.148	1.534	22.614	20.347	16.8%
44	V-1011-9Z-8	26.044	1.521	24.523	22.377	15.0%
45	V-1011-9Z-9	28.971	1.532	27.439	24.220	17.3%
46	V-1011-9Z-10	28.560	1.529	27.031	24.223	16.0%
47	V-1011-9Z-11	30.890	1.515	29.375	26.456	15.1%
48	V-1011-9Z-12	33.211	1.551	31.660	27.878	16.8%

ANALYST [signature]
DATE 8-21-91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B-2

QA [signature]
10-22-91

MOISTURE DATA

V-1011 3209-2266A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0372,-0409

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-10X-1	24.734	2.224	22.510	20.890	17.1%
2	V-1011-10X-2	25.163	2.222	22.941	21.045	18.0%
3	V-1011-10X-3	22.150	2.245	19.905	18.652	17.6%
4	V-1011-10X-4	22.910	2.251	20.659	19.219	17.9%
5	V-1011-10Y-1	24.816	2.257	22.559	20.907	17.3%
6	V-1011-10Y-2	25.874	2.222	23.652	21.613	18.0%
7	V-1011-10Y-3	26.010	2.233	23.777	21.672	18.2%
8	V-1011-10Y-4	24.698	2.267	22.431	20.573	18.4%
9	V-1011-10Z-1	26.331	2.239	24.092	21.928	18.3%
10	V-1011-10Z-2	26.430	2.253	24.177	22.129	17.8%
11	V-1011-10Z-3	27.457	2.229	25.228	22.862	18.2%
12	V-1011-10Z-4	27.940	2.239	25.701	23.186	18.5%

ANALYST [signature]
DATE 8/26/91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

QA [signature]
10-22-91

MOISTURE DATA

V-1011 3209-2277A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0400,-0401,-0407,-0410,-0416,-0417,-0418

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-11U-1	29.341	2.223	27.118	25.192	15.3%
2	V-1011-11U-2	27.548	2.221	25.327	24.504	12.0%
3	V-1011-11U-3	25.511	2.248	23.263	23.021	10.7%
4	V-1011-11U-4	21.726	2.258	19.468	19.556	11.1%
5	V-1011-11U-5	23.457	2.260	21.197	20.959	11.8%
6	V-1011-11U-6	21.251	2.224	19.027	19.000	11.8%
7	V-1011-11U-7	20.672	2.239	18.433	18.400	12.3%
8	V-1011-11U-8	19.020	2.274	16.746	17.103	11.4%
9	V-1011-11U-9	22.405	2.247	20.158	20.123	11.3%
10	V-1011-11U-10	24.274	2.252	22.022	21.819	11.1%
11	V-1011-11U-11	25.950	2.229	23.721	23.358	10.9%
12	V-1011-11U-12	23.774	2.241	21.533	21.654	9.8%
13	V-1011-11X-1	24.823	2.258	22.565	20.913	17.3%
14	V-1011-11X-2	28.023	2.244	25.779	24.492	13.7%
15	V-1011-11X-3	23.314	2.286	21.028	20.801	12.0%
16	V-1011-11X-4	21.630	2.214	19.416	19.393	11.5%
17	V-1011-11X-5	24.630	2.260	22.370	22.167	11.0%
18	V-1011-11X-6	24.313	2.248	22.065	21.943	10.7%
19	V-1011-11X-7	24.994	2.242	22.752	22.644	10.3%
20	V-1011-11X-8	24.332	2.251	22.081	22.092	10.1%
21	V-1011-11X-9	25.640	2.215	23.425	23.152	10.6%
22	V-1011-11X-10	30.846	2.223	28.623	27.945	10.1%
23	V-1011-11X-11	26.908	2.253	24.655	24.389	10.2%
24	V-1011-11X-12	32.921	2.237	30.684	29.776	10.2%

ANALYST [signature]
DATE 9/23/91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B 2

MOISTURE DATA

V-1011 3209-2278A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0400,-0401,-0407,-0410,-0416,-0417,-0418

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-11Y-1	28.530	2.248	26.282	23.865	17.7%
26	V-1011-11Y-2	23.809	2.245	21.564	21.003	13.0%
27	V-1011-11Y-3	24.855	2.220	22.635	22.070	12.3%
28	V-1011-11Y-4	29.505	2.253	27.252	26.249	11.9%
29	V-1011-11Y-5	21.956	2.241	19.715	19.891	10.5%
30	V-1011-11Y-6	22.289	2.256	20.033	20.250	10.2%
31	V-1011-11Y-7	22.590	2.213	20.377	20.377	10.9%
32	V-1011-11Y-8	23.867	2.276	21.591	21.469	11.1%
33	V-1011-11Y-9	30.765	2.224	28.541	27.540	11.3%
34	V-1011-11Y-10	23.532	2.243	21.289	21.171	11.1%
35	V-1011-11Y-11	36.030	2.280	33.750	32.065	11.7%
36	V-1011-11Y-12	31.844	2.240	29.604	28.382	11.7%
37	V-1011-11Z-1	22.665	1.587	21.078	18.989	17.4%
38	V-1011-11Z-2	22.089	1.557	20.532	19.178	14.2%
39	V-1011-11Z-3	22.792	1.542	21.250	20.079	12.8%
40	V-1011-11Z-4	22.907	1.556	21.351	20.189	12.7%
41	V-1011-11Z-5	20.662	1.543	19.119	18.417	11.7%
42	V-1011-11Z-6	21.192	1.573	19.619	18.980	11.3%
43	V-1011-11Z-7	21.577	1.560	20.017	19.353	11.1%
44	V-1011-11Z-8	20.974	1.546	19.428	18.770	11.3%
45	V-1011-11Z-9	24.605	1.565	23.040	21.984	11.4%
46	V-1011-11Z-10	28.648	1.564	27.084	25.489	11.7%
47	V-1011-11Z-11	29.487	1.552	27.935	26.385	11.1%
48	V-1011-11Z-12	32.735	1.584	31.151	29.023	11.9%

ANALYST [signature]
DATE 9/23/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B2

MOISTURE DATA

V-1011 3209-2287A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0412,-0413,-0414,-0415,-0419,-0420,-0421

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-12X-1	29.751	2.222	27.529	24.726	18.3%
2	V-1011-12X-2	28.165	2.223	25.942	23.558	17.8%
3	V-1011-12X-3	27.728	2.247	25.481	23.425	16.9%
4	V-1011-12X-4	28.526	2.258	26.268	24.027	17.1%
5	V-1011-12X-5	26.563	2.257	24.306	22.663	16.0%
6	V-1011-12X-6	30.748	2.222	28.526	26.312	15.6%
7	V-1011-12X-7	30.810	2.233	28.577	26.315	15.7%
8	V-1011-12X-8	29.734	2.269	27.465	25.877	14.0%
9	V-1011-12X-9	29.886	2.242	27.644	26.022	14.0%
10	V-1011-12X-10	35.214	2.249	32.965	30.548	14.2%
11	V-1011-12X-11	31.547	2.228	29.319	26.956	15.7%
12	V-1011-12X-12	35.730	2.238	33.492	30.468	15.7%
13	V-1011-12Y-1	29.526	2.262	27.264	24.620	18.0%
14	V-1011-12Y-2	28.152	2.245	25.907	23.600	17.6%
15	V-1011-12Y-3	29.325	2.290	27.035	24.540	17.7%
16	V-1011-12Y-4	32.091	2.218	29.873	26.871	17.5%
17	V-1011-12Y-5	29.606	2.264	27.342	25.100	16.5%
18	V-1011-12Y-6	28.453	2.251	26.202	24.518	15.0%
19	V-1011-12Y-7	31.092	2.235	28.857	26.858	14.7%
20	V-1011-12Y-8	31.443	2.243	29.200	27.226	14.4%
21	V-1011-12Y-9	31.614	2.208	29.406	27.630	13.5%
22	V-1011-12Y-10	34.917	2.215	32.702	29.902	15.3%
23	V-1011-12Y-11	28.569	2.246	26.323	24.975	13.7%
24	V-1011-12Y-12	33.631	2.231	31.400	29.494	13.2%

ANALYST [signature]
DATE 10/16/91

METHOD: ✓ 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B ✓

QA [signature]
11-12-91

34

MOISTURE DATA

V-1011 3209-2288A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0412,-0413,-0414,-0415,-0419,-0420,-0421

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
25	V-1011-12Z-1	36.889	2.246	34.643	30.374	18.8%
26	V-1011-12Z-2	31.482	2.242	29.240	26.233	18.0%
27	V-1011-12Z-3	29.503	2.219	27.284	24.549	18.2%
28	V-1011-12Z-4	29.872	2.249	27.623	24.786	18.4%
29	V-1011-12Z-5	25.876	2.241	23.635	21.732	17.5%
30	V-1011-12Z-6	26.166	2.255	23.911	22.020	17.3%
31	V-1011-12Z-7	26.584	2.209	24.375	22.503	16.7%
32	V-1011-12Z-8	32.053	2.272	29.781	27.239	16.2%
33	V-1011-12Z-9	33.158	2.220	30.938	28.491	15.1%
34	V-1011-12Z-10	38.277	2.237	36.040	33.184	14.1%
35	V-1011-12Z-11	32.794	2.275	30.519	28.780	13.2%
36	V-1011-12Z-12	34.479	2.234	32.245	30.208	13.2%

ANALYST [signature]
DATE 10/16/91

METHOD: ✓135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE BV

QA [signature]
11-12-91

MOISTURE DATA

T.E gp 4/6/92
3209-2295A Go to 2293

V-1013
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1013-13U-9	14.724	1.559	13.165	12.745	15.0%
2	V-1013-13U-10	17.889	1.589	16.300	15.517	14.6%
3	V-1013-13U-11	17.529	1.529	16.000	15.114	15.1%
4	V-1013-13U-12	16.842	1.549	15.293	14.297	16.6%
5	V-1011A-14X-1	18.603	1.559	17.044	15.239	19.7%
6	V-1011A-14X-2	15.820	1.567	14.253	13.090	19.2%
7	V-1011A-14X-3	14.292	1.542	12.750	11.785	19.7%
8	V-1011A-14X-4	19.903	1.550	18.353	16.411	19.0%
9	V-1011A-14Y-1	22.242	1.574	20.668	18.072	20.2%
10	V-1011A-14Y-2	21.027	1.543	19.484	17.158	19.9%
11	V-1011A-14Y-3	16.609	1.555	15.054	13.757	18.9%
12	V-1011A-14Y-4	21.282	1.529	19.753	17.648	18.4%
13	V-1011A-14Z-1	19.446	1.549	17.897	16.091	18.7%
14	V-1011A-14Z-2	18.985	1.557	17.428	15.572	19.6%
15	V-1011A-14Z-3	18.791	1.567	17.224	15.497	19.1%
16	V-1011A-14Z-4	22.358	1.524	20.834	18.349	19.2%

ANALYST [illegible]
DATE 3/30/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B/8

MOISTURE DATA

V-1011 3209-2294A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011-14X-5	14.776	1.547	13.229	12.273	18.9%
2	V-1011-14X-6	20.594	1.544	19.050	17.181	17.9%
3	V-1011-14X-7	17.153	1.534	15.619	14.500	17.0%
4	V-1011-14X-8	25.568	1.546	24.022	21.579	16.6%
5	V-1011-14X-9	18.027	1.552	16.475	15.296	16.6%
6	V-1011-14X-10	26.341	1.544	24.797	22.578	15.2%
7	V-1011-14X-11	21.070	1.557	19.513	18.249	14.5%
8	V-1011-14X-12	25.343	1.550	23.793	21.807	14.9%
9	V-1011-14Y-5	29.448	1.536	27.912	24.781	16.7%
10	V-1011-14Y-6	23.943	1.556	22.387	19.709	18.9%
11	V-1011-14Y-7	19.789	1.565	18.224	16.489	18.1%
12	V-1011-14Y-8	18.618	1.577	17.041	15.366	19.1%
13	V-1011-14Y-9	23.267	1.529	21.738	19.71	16.4%
14	V-1011-14Y-10	25.565	1.542	24.023	21.796	15.7%
15	V-1011-14Y-11	22.093	1.496	20.597	18.520	17.3%
16	V-1011-14Y-12	19.765	1.557	18.208	16.807	16.2%
17	V-1011-14Z-5	30.648	1.514	29.134	25.115	19.0%
18	V-1011-14Z-6	14.965	1.517	13.448	12.470	18.6%
19	V-1011-14Z-7	18.030	1.521	16.509	15.441	15.7%
20	V-1011-14Z-8	21.423	1.579	19.844	18.363	15.4%
21	V-1011-14Z-9	21.377	1.576	19.801	17.838	17.9%
22	V-1011-14Z-10	18.882	1.550	17.332	15.872	17.4%
23	V-1011-14Z-11	21.158	1.548	19.610	17.998	16.1%
24	V-1011-14Z-12	24.312	1.560	22.752	20.839	15.3%

ANALYST LP & M.W
DATE 4/6/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

37

MOISTURE DATA

V-1011 3209-2296A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0443, 0444, 0445, 0446, 0447, 0448

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 15U-1	30.243	1.550	28.693	25.566	16.3%
2	V-1011 15U-2	27.168	1.546	25.622	22.506	18.2%
3	V-1011 15U-3	27.139	1.535	25.604	22.494	18.1%
4	V-1011 15U-4	30.340	1.543	28.797	24.399	20.6%
5	V-1011 15U-5	28.632	1.552	27.080	23.222	20.0%
6	V-1011 15U-6	31.569	1.542	30.027	25.588	19.9%
7	V-1011 15U-7	30.004	1.556	28.448	24.540	19.2%
8	V-1011 15U-8	29.969	1.556	28.413	24.466	19.4%
9	V-1011 15U-9	27.835	1.536	26.299	22.923	18.7%
10	V-1011 15U-10	30.824	1.556	29.268	25.747	17.3%
11	V-1011 15U-11	28.848	1.566	27.282	24.364	16.4%
12	V-1011 15U-12	35.114	1.579	33.535	29.925	15.5%
13	V-1011 15X-1	35.694	1.528	34.166	29.683	17.6%
14	V-1011 15X-2	41.426	1.542	39.884	34.252	18.0%
15	V-1011 15X-3	34.437	1.497	32.940	28.004	19.5%
16	V-1011 15X-4	35.770	1.559	34.211	29.350	18.8%
17	V-1011 15X-5	38.038	1.513	36.525	32.098	16.3%
18	V-1011 15X-6	37.305	1.517	35.788	31.007	17.6%
19	V-1011 15X-7	32.786	1.519	31.267	27.250	17.7%
20	V-1011 15X-8	30.548	1.580	28.968	26.001	15.7%
21	V-1011 15X-9	38.181	1.592	36.589	32.463	15.6%
22	V-1011 15X-10	40.361	1.550	38.811	34.685	14.6%
23	V-1011 15X-11	48.296	1.547	46.749	38.790	20.3%
24	V-1011 15X-12	44.055	1.562	42.493	37.259	16.0%

ANALYST L. Posey
DATE 8/25/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

38

MOISTURE DATA

V-1011 3209-2297A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0443, 0444, 0445, 0446, 0447, 0448

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 15Y-1	26.204	1.569	24.635	22.057	16.8%
2	V-1011 15Y-2	28.240	1.555	26.685	23.236	18.8%
3	V-1011 15Y-3	29.578	1.588	27.990	24.119	19.5%
4	V-1011 15Y-4	22.354	1.588	20.766	18.342	19.3%
5	V-1011 15Y-5	24.835	1.586	23.249	20.097	20.4%
6	V-1011 15Y-6	30.602	1.567	29.035	26.329	14.7%
7	V-1011 15Y-7	25.598	1.591	24.007	21.113	18.7%
8	V-1011 15Y-8	29.858	1.519	28.339	24.730	18.1%
9	V-1011 15Y-9	27.972	1.559	26.413	23.450	17.1%
10	V-1011 15Y-10	20.492	1.534	18.958	17.522	15.7%
11	V-1011 15Y-11	26.984	1.547	25.437	23.192	14.9%
12	V-1011 15Y-12	32.448	1.547	30.901	27.858	14.9%
13	V-1011 15Z-1	27.188	1.575	25.613	22.473	18.4%
14	V-1011 15Z-2	32.294	1.583	30.711	26.231	19.7%
15	V-1011 15Z-3	30.969	1.579	29.390	27.463	11.9%
16	V-1011 15Z-4	29.704	1.571	28.133	24.481	18.6%
17	V-1011 15Z-5	25.942	1.353	24.589	21.214	19.2%
18	V-1011 15Z-6	30.977	1.337	29.640	26.009	16.8%
19	V-1011 15Z-7	22.574	1.557	21.017	18.387	19.9%
20	V-1011 15Z-8	31.503	1.572	29.931	25.842	18.9%
21	V-1011 15Z-9	35.716	1.545	34.171	28.818	20.2%
22	V-1011 15Z-10	31.860	1.345	30.515	27.131	15.5%
23	V-1011 15Z-11	30.793	1.508	29.285	25.478	18.1%
24	V-1011 15Z-12	34.662	1.574	33.088	30.005	14.1%

ANALYST L. Posey
DATE 8/25/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

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MOISTURE DATA

V-1011 3209-2300A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF:

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 16X-1	25.848	1.556	24.292	21.360	18.5%
2	V-1011 16X-2	31.259	1.528	29.731	25.424	19.6%
3	V-1011 16X-3	20.653	1.565	19.088	16.878	19.8%
4	V-1011 16X-4	29.819	1.549	28.270	23.823	21.2%
5	V-1011 16X-5	35.466	1.568	33.898	28.801	19.7%
6	V-1011 16X-6	36.664	1.530	35.134	29.853	19.4%
7	V-1011 16X-7	31.109	1.341	29.768	25.633	18.4%
8	V-1011 16X-8	30.184	1.533	28.651	25.426	16.6%
9	V-1011 16X-9	27.323	1.563	25.760	23.073	16.5%
10	V-1011 16X-10	31.907	1.544	30.363	26.481	17.9%
11	V-1011 16X-11	37.432	1.559	35.873	31.419	16.8%
12	V-1011 16X-12	37.835	1.540	36.295	31.794	16.6%

ANALYST L. Hoey
DATE 10/2/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

40

MOISTURE DATA

V-1011 3209-2301A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF:

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 16Y-1	22.354	1.563	20.791	18.613	18.0%
2	V-1011 16Y-2	28.747	1.532	27.215	23.546	19.1%
3	V-1011 16Y-3	31.281	1.571	29.710	25.472	19.6%
4	V-1011 16Y-4	23.723	1.553	22.170	19.454	19.3%
5	V-1011 16Y-5	27.831	1.571	26.260	23.199	17.6%
6	V-1011 16Y-6	23.817	1.534	22.283	19.983	17.2%
7	V-1011 16Y-7	23.691	1.349	22.342	19.748	17.6%
8	V-1011 16Y-8	18.678	1.537	17.141	15.632	17.8%
9	V-1011 16Y-9	23.594	1.574	22.020	20.065	16.0%
10	V-1011 16Y-10	32.842	1.568	31.274	27.356	17.5%
11	V-1011 16Y-11	26.664	1.585	25.079	22.955	14.8%
12	V-1011 16Y-12	29.336	1.561	27.775	24.645	16.9%
13	V-1011 16Z-1	26.316	1.544	24.772	21.817	18.2%
14	V-1011 16Z-2	22.811	1.534	21.277	18.742	19.1%
15	V-1011 16Z-3	32.933	1.559	31.374	26.696	19.9%
16	V-1011 16Z-4	29.819	1.537	28.282	24.188	19.9%
17	V-1011 16Z-5	22.260	1.519	20.741	18.286	19.2%
18	V-1011 16Z-6	35.222	1.529	33.693	29.691	16.4%
19	V-1011 16Z-7	24.773	1.529	23.244	20.504	18.4%
20	V-1011 16Z-8	25.473	1.549	23.924	18.937	27.3%
21	V-1011 16Z-9	24.020	1.533	22.487	21.648	10.5%
22	V-1011 16Z-10	26.491	1.534	24.957	22.724	15.1%
23	V-1011 16Z-11	25.826	1.536	24.290	21.221	19.0%
24	V-1011 16Z-12	25.987	1.528	24.459	21.741	17.4%

ANALYST L. Posey
DATE 10/5/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

41

MOISTURE DATA

V-1011 3209-2302A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0455, 0456, 0457, 0458, 0459

DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 17U-1	26.933	1.561	25.372	23.613	13.1%
2	V-1011 17U-2	33.678	1.534	32.144	28.380	16.5%
3	V-1011 17U-3	40.390	1.573	38.817	33.562	17.6%
4	V-1011 17U-4	32.082	1.557	30.525	26.062	19.7%
5	V-1011 17U-5	29.479	1.579	27.900	24.072	19.4%
6	V-1011 17U-6	33.156	1.541	31.615	27.083	19.2%
7	V-1011 17U-7	36.350	1.352	34.998	29.552	19.4%
8	V-1011 17U-8	35.769	1.544	34.225	29.615	18.0%
9	V-1011 17U-9	31.620	1.573	30.047	26.541	16.9%
10	V-1011 17U-10	42.587	1.575	41.012	35.393	17.5%
11	V-1011 17U-11	35.676	1.584	34.092	30.526	15.1%
12	V-1011 17U-12	35.080	1.564	33.516	30.079	14.9%
13	V-1011 17X-1	38.621	1.550	37.071	32.897	15.4%
14	V-1011 17X-2	48.010	1.547	46.463	39.590	18.1%
15	V-1011 17X-3	27.127	1.570	25.557	22.103	19.7%
16	V-1011 17X-4	37.871	1.544	36.327	30.920	19.1%
17	V-1011 17X-5	42.199	1.537	40.662	35.218	17.2%
18	V-1011 17X-6	36.735	1.545	35.190	30.720	17.1%
19	V-1011 17X-7	29.511	1.548	27.963	24.692	17.2%
20	V-1011 17X-8	31.610	1.561	30.049	26.895	15.7%
21	V-1011 17X-9	27.641	1.545	26.096	23.599	15.5%
22	V-1011 17X-10	29.270	1.547	27.723	25.055	15.2%
23	V-1011 17X-11	31.685	1.541	30.144	26.797	16.2%
24	V-1011 17X-12	40.318	1.533	38.785	33.755	16.9%

ANALYST Y. Posey
DATE 10/28/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE B18

42

MOISTURE DATA

V-1011 3209-2303A
CHEMICAL: V-53482
CROP/PART: SOIL
EXTRACTION REF: 3230-0455, 0456, 0457, 0458, 0459

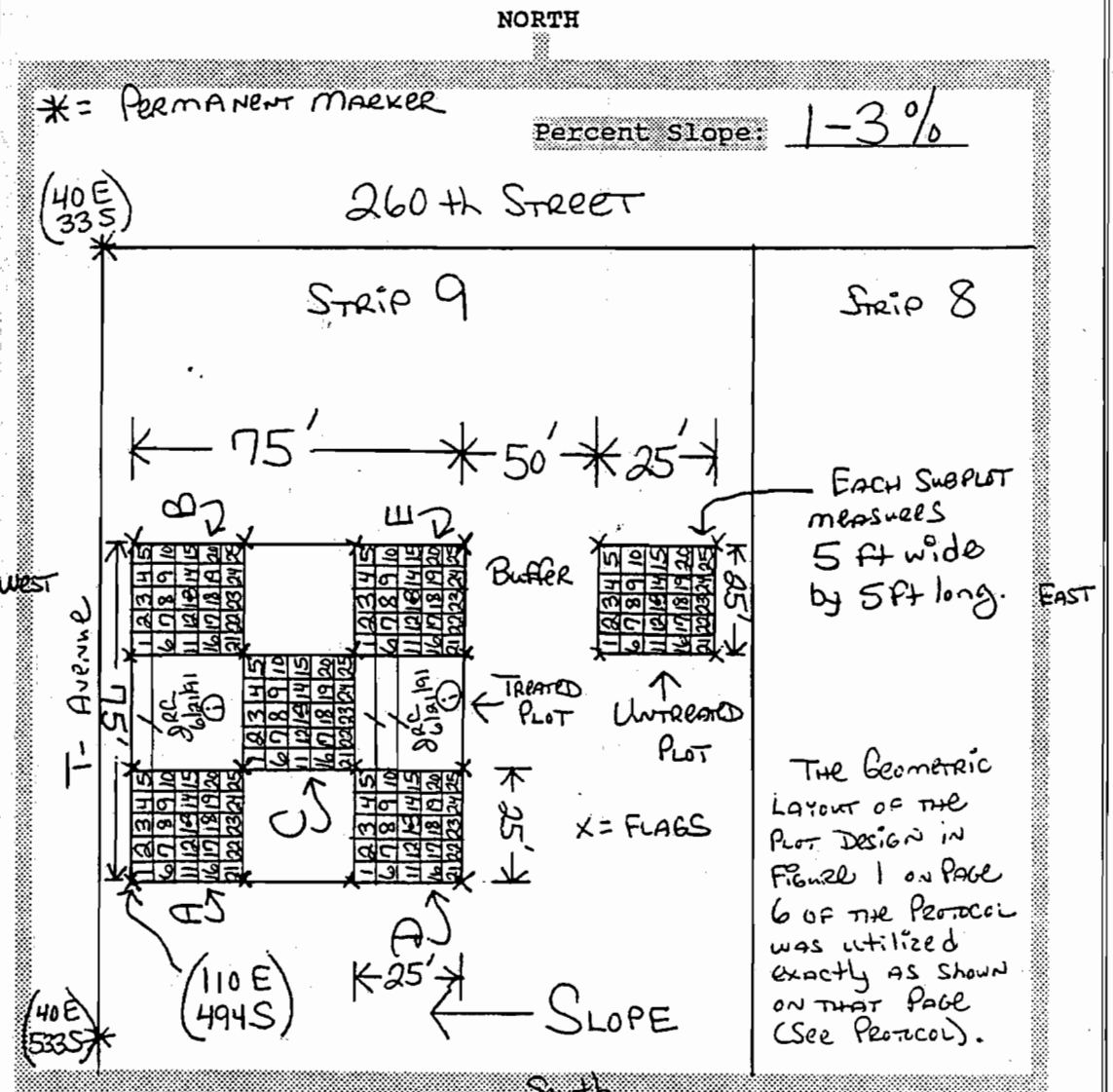
DISH NUMBER	SAMPLE NUMBER	GROSS WEIGHT	TARE WEIGHT	SAMPLE WEIGHT	GR. DRY WEIGHT	% MOISTURE
1	V-1011 17Y-1	36.505	1.571	34.934	31.727	13.7%
2	V-1011 17Y-2	40.239	1.534	38.705	33.444	17.6%
3	V-1011 17Y-3	38.850	1.567	37.283	32.318	154.3%
4	V-1011 17Y-4	33.310	1.559	31.751	27.385	135.3%
5	V-1011 17Y-5	40.107	1.575	38.532	32.993	18.5%
6	V-1011 17Y-6	38.946	1.543	37.403	33.060	15.7%
7	V-1011 17Y-7	30.817	1.353	29.464	25.671	17.5%
8	V-1011 17Y-8	41.645	1.538	40.107	34.972	16.6%
9	V-1011 17Y-9	30.567	1.569	28.998	25.466	17.6%
10	V-1011 17Y-10	29.801	1.570	28.231	25.078	16.7%
11	V-1011 17Y-11	36.131	1.582	34.549	30.767	15.5%
12	V-1011 17Y-12	44.832	1.557	43.275	38.249	15.2%
13	V-1011 17Z-1	35.393	1.555	33.838	30.786	13.6%
14	V-1011 17Z-2	39.653	1.543	38.110	32.955	17.6%
15	V-1011 17Z-3	39.852	1.570	38.282	32.871	18.2%
16	V-1011 17Z-4	36.844	1.541	35.303	30.252	18.7%
17	V-1011 17Z-5	40.615	1.532	39.083	33.477	18.3%
18	V-1011 17Z-6	34.092	1.541	32.551	28.709	16.5%
19	V-1011 17Z-7	44.770	1.548	43.222	37.948	15.8%
20	V-1011 17Z-8	39.717	1.560	38.157	33.900	15.2%
21	V-1011 17Z-9	40.180	1.546	38.634	33.783	16.6%
22	V-1011 17Z-10	42.295	1.550	40.745	36.299	14.7%
23	V-1011 17Z-11	46.933	1.554	45.379	40.015	15.2%
24	V-1011 17Z-12	42.603	1.549	41.054	36.706	14.4%

ANALYST L. Posey
DATE 11/2/92

METHOD: 135 C FOR 2 HOURS IN OVEN.
MOISTURE BALANCE: B18

VALENT TRIAL NUMBER: V-1011-A 6

D.3 PLOT PLAN



The Geometric Layout of the Plot Design in Figure 1 on Page 6 of the Protocol was utilized exactly as shown on that Page (See Protocol).

• = Soil Core Taken Here for A+L Midwest Laboratories. See Comments below.

Provide Dimensions -- Include sprayed area and buffer area measurements.

COMMENTS: Soil Cores for A+L Midwest Laboratories were taken in Subplot 13 (Center of this subplot) for the UTC Plot and for Sections A, B, C, D and E of the Treated Plot.

COMPLETED BY (SIG): John R. Hammer DATE: 6/21/90

VALENT TRIAL NUMBER: V-1011-A 8

E.2 CROP AND PESTICIDE HISTORY

CROP HISTORY

YEAR: 1990 CROP(S): FALLOW

YEAR: 1989 CROP(S): SOYBEANS

YEAR: 1988 CROP(S): FALLOW

PESTICIDE HISTORY

CHEMICAL - FORMULATION	RATE LBS ai/A	PURPOSE	DATE APPL.
SELECT 2 EC	0.250	RESIDUE TRIAL	6/21/89
COC	1.0 QT/A	Adjuvant	6/21/89
SELECT 2 EC	0.250	RESIDUE TRIAL	6/7/89
COC	1.0 QT/A	Adjuvant	6/7/89
TREFLAN 4 EC	1.00	WEED CONTROL	5/23/89
Lexone 75 DF	0.375	WEED CONTROL	5/23/89

COMMENTS: Common name of SELECT is Clethodim. Common name of TREFLAN is TRIFLURALIN. Common name of Lexone is METRIBUZIN.

COMPLETED BY (SIG): John R. Cramer DATE: 6/24/91

VALENT TRIAL NUMBER: V-1011-A 47

J. MAINTENANCE CHEMICALS

You will be provided with a list of materials approved by the Study Director. Use approved pesticides only.

BRAND NAME AND FORMULATION	BATCH OR LOT #	RATE ai/A	APPLIC. METHOD	PURPOSE	DATE APPLIED	ENTRY DATE/ INIT.
TREFLAN 4EC	309W1B	1.00 LB	PPI	Weed Control	6/5/91	6/5/91/JRC
Scepter 70DG	D41	0.125 LB	PPI	Weed Control	6/5/91	6/5/91/JRC
Paraquat 2.5EC	E00005IB	0.94 LB	Post	Weed Control	7/20/92	7/20/92/JRC
X-77 100 SD	1068-27	0.25% v/v	Post	Weed Control	7/20/92	7/20/92/JRC
Roundup 4 SC	LTRP01008B	1.00 LB	Post	Weed Control	8/28/92	8/28/92/JRC

John R. Cranmer 11/30/92

COMMENTS: The Paraquat applied was sold under the Trade Name Gramoxone Extra. John R. Cranmer 7/20/92