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October 26, 2004

8EHQ-1004-15933S

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Office of Pollution, Prevention and Toxics
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460
Attention: Section 8(e) Coordinator

Re: **TSCA Section 8(e) Submissions**

Dear Sir/Madam:

3M Company ("3M") requests that EPA place the attached studies in the TSCA Section 8(e) docket. We have included a master index for these studies identifying the study title, test substance and CAS number. A Confidential Business Information (CBI) version of this index and the studies also is being submitted today pursuant to EPA procedures. 3M has not provided CBI substantiation with this submission, but would be willing to do so at the Agency's request.

3M has concluded that data in these studies may not be, strictly speaking, "corroborative" of previously reported or published information as defined in EPA's reporting guidance or otherwise potentially may warrant 8(e) submission based on EPA's reporting guidance.

3M appreciates EPA's attention to this matter. Please contact the undersigned if you have any questions or require further information regarding this submission.

Very truly yours,

Katherine E. Reed (9.7.)

Dr. Katherine E. Reed, Ph.D
Staff Vice President
Environmental Technology and Safety Services
(651) 778-4331
kereed@mmm.com

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406

Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
(Confidential Business Information Redacted)

Title	Substance Information	CAS Information
Aquatic Toxicity Data Sheet: 48hr *Daphnia Magna*	1,4-dioxane; heptadecafluoro-1-octanesulfonic acid; linear n-ethyl perfluorooctanesulfonamide; n-ethylperfluorooctanesulfonamidoethyl alcohol; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; polyethylene glycol; water	1,4-dioxane (123-91-1); heptadecafluoro-1-octanesulfonic acid (1763-23-1); linear n-ethyl perfluorooctanesulfonamide (4151-50-2); n-ethylperfluorooctanesulfonamidoethyl alcohol (1691-99-2); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (29117-08-6); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-79-3); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-81-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (56372-23-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-80-6); polyethylene glycol (25322-68-3); water (7732-18-5)
Multigeneration Daphnid Life Cycle Test	1,4-dioxane; heptadecafluoro-1-octanesulfonic acid; linear n-ethyl perfluorooctanesulfonamide; n-ethylperfluorooctanesulfonamidoethyl alcohol; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; polyethylene glycol; water	1,4-dioxane (123-91-1); heptadecafluoro-1-octanesulfonic acid (1763-23-1); linear n-ethyl perfluorooctanesulfonamide (4151-50-2); n-ethylperfluorooctanesulfonamidoethyl alcohol (1691-99-2); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (29117-08-6); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-79-3); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-81-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (56372-23-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-80-6); polyethylene glycol (25322-68-3); water (7732-18-5)
Aquatic Invertebrate Testing - Alkyltins LR 8024-1	Alkyltins: dibutyltin laurate and dibutyltin-di(2 ethylhexoate)	Dibutyltin laurate (CAS 77-58-7); Dibutyltin-di(2 ethylhexoate) (CAS 2781-10-4)
Aquatic Invertebrate Testing - Decosheen Material (LR-8052)	Decosheen Ribbon Materials and pigments: Decosheen Blue in Green Ceres Blue ZV; Decosheen Gold Paste Pigment; Decosheen Royal Blue, Solvent Blue	Decosheen Blue in Green Ceres Blue ZV (CAS 61814-09-3); Decosheen Royal Blue, Solvent Blue [illegible]-36-6); Decosheen Gold Paste Pigment (CAS Number [illegible]
R Scratch Remover (Fathead Minnow)	55-65% Water; 20-30% Stoddard Solvent; 1-5% Sodium Silicate; 1-5% Potassium Hydroxide; 0.1-3% Nonylphenoxypoly(oxyethylene)ethanol	Water (CAS 7732-18-5); Stoddard Solvent (CAS 8052-41-3); Sodium Silicate (CAS 1344-09-8); Potassium Hydroxide (CAS 1310-58-3); Nonylphenoxypoly(oxyethylene)ethanol (CAS 9016-45-9)
S Scratch Remover (Fathead Minnow)	60-70% Water; 20-30% Stoddard Solvent; 1-5% Sodium Silicate; 0.1-3% Turgitol NP-33	Water (CAS 7732-18-5); Stoddard Solvent (CAS 8052-41-3); Sodium Silicate (CAS 1344-09-8); Turgitol NP-33 (CAS 9016-45-9)
Octanol Water Partition Coefficient	N-methylperfluorooctane sulfonamidoethanol	CAS 24448-09-7

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Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
(Confidential Business Information Redacted)

Title	Substance Information	CAS Information
CoCl2.6H2O as Co2+ Toxicity to Microtox Reagent	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1
Activated Sludge Respiration Inhibition Test on CoCl2.6H2O as Co ion	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1
Acute Toxicity of CoCl2.6H20 as Co ion to Daphnia magna under Static Exposure Conditions	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1
Acute Toxicity of CoCl2.6H20 as Co ion to Fathead Minnow under Static Exposure Conditions	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1
Freshwater Algae Growth Inhibition Test	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1
Daphnia magna 21-Day Chronic Reproduction Study	N-ethylperfluorooctane sulfonamidoethanol	CAS 1691-99-2
Plant Growth Effects of [ ]	[ ]	[ ]
Final Report (*Daphnia* and Microtox)	Monomethyl ether of hydroquinone	CAS 150-76-5
Microtox Test Results	2 Ethylhexyl Acrylate; Isooctyl Acrylate Monomer; 2-Methylbutyl acrylate; Methyl isoamyl acrylate; Isooctyl Acrylate	2 Ethylhexyl Acrylate (CAS 103-11-7); Isooctyl Acrylate Monomer (CAS 29590-42-9) 2-Methylbutyl acrylate (CAS 44914-03-6); Methyl isoamyl acrylate (CAS 18993-92-1); Isooctyl Acrylate (CAS 29590-42-9)
Phytotoxicity Test Results	[ ]	[ ]

Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
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Title	Substance Information	CAS Information
Plant Toxicity Comparison, Young Seedling Growth	[ ]	[ ]
Ceriodaphnia dubia Survival and Reproduction exposed to Opequon Creek Water Spiked with BETZ 1110 Polymer (November 4, 1987 sample) for seven days under static renewal conditions	BETZ 1110: Non-3M Product - Chemical composition not provided to 3M by manufacturer	MSDS provided by manufacturer states product is "not hazardous" and not "considered to be a carcinogen"
Ceriodaphnia dubia Survival and Reproduction exposed to Opequon Creek Water Spiked with Betz 1138 Polymer (November 4, 1987 sample) for seven days under static renewal conditions	BETZ 1138: Non-3M Product - Chemical composition not provided to 3M by manufacturer	MSDS provided by manufacturer states product is "not hazardous" and not "considered to be a carcinogen"
Toxicity of 1,6 - Hexanediol Diacrylate to *Daphnia magna*	1,6 Hexanediol diacrylate	CAS 13048-33-4
Daphnia magna Chronic Bioassay Under Static Renewal Conditions	Methyl isoamyl acrylate	CAS 18993-92-1
Estimating the Chronic Toxicity of Nalclear 7177 to *Ceriodaphnia* Survival and Reproduction Using Short-Term Tests	Nalclear 7177 wastewater treatment acrylamide/acrylate polymer - Chemical composition not provided to 3M by manufacturer	CAS Information not provided to 3M by manufacturer
Acute Toxicity of Isooctyl Acrylate to *Daphnia magna*	Isooctyl Acrylate Monomer	CAS 29590-42-9
Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna*	Tolyltriazole	CAS 29385-43-1
Static Acute Toxicity of [ ] to the Alga, *Selenastrum capricornutum*	Tolyltriazole	CAS 29385-43-1
Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna*	[ ]	[ ]
Static Acute Toxicity of [ ] to the Fathead Minnow, *Pimephales promelas*	[ ]	[ ]
Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna*	water; propylene-tetrafluoroethylene polymer; tert-butyl alcohol	water (7732-18-5); propylene-tetrafluoroethylene polymer (27029-05-6); tert-butyl alcohol (75-65-0)

Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
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Title	Substance Information	CAS Information
Isooctyl acrylate: Fish, Acute Toxicity Test	Isooctyl Acrylate Monomer	CAS 29590-42-9
Isooctyl Acrylate: *Daphnia sp.* Acute Immobilization Test	Isooctyl Acrylate Monomer	CAS 29590-42-9
Isooctyl Acrylate: Alga, Growth Inhibition Test	Isooctyl Acrylate Monomer	CAS 29590-42-9
Isooctyl Acrylate: *Daphnia sp*. Reproduction Test	Isooctyl Acrylate Monomer	CAS 29590-42-9
Acute Toxicity of [ ] to the mysid, *Mysidopsis bahia*	[ ]	[ ]
Final Report (Microtox)	[ ]	[ ]
Determination of the Partition Coefficient (N-Octanol/Water) of T-5896 by High Performance Liquid Chromatography (HPLC)	N-methyl perfluorooctane sulfonamido ethanol; N-methyl perfluorooctane sulfonamidethyl acrylate	N-methyl perfluorooctane sulfonamido ethanol (CAS 25268-77-3); N-methyl perfluorooctane sulfonamidethyl acrylate (CAS 24448-09-7)
OECD Activated Sludge Respiration Inhibition Test Results	N-Dodecyltrimethylammonium chloride	CAS = 112-00-5
Final Report (Fish Acute Toxicity)	Mirataine CB (30% Cocamidopropyl betaine = Amides, coco, N-(3-(dimethylamino)propyl), alkylation products with chloroacetic acid, sodium salts, 70% Water and Inerts); Mirataine COB (30% Coco/Oleamidopropyl Betaine = 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., inner salt)	Cocamidopropyl betaine (CAS 70851-07-9); Coco/Oleamidopropyl Betaine (CAS 61789-40-0)
A Flow-Through Life-Cycle Toxicity Test With the Saltwater Mysid (*Mysidopsis bahia*)	Perfluorooctane sulfonate	CAS 1763-23-1
Lithium: Alga, Acute toxicity Tests	Lithium Chloride	CAS 7447-41-8
An Early Life-Stage Toxicity Test With the Fathead Minnow (*Pimephales promelas*)	Perfluorooctane sulfonate	CAS 1763-23-1
Lithium: Fish, Acute toxicity Tests	Lithium Chloride	CAS 7447-41-8
Lithium: *Daphnia*, Acute toxicity Tests	Lithium Chloride	CAS 7447-41-8
Summary of Toxicity Testing on OSCl and OSF	Octane sulfonyl chloride and Octane sulfonyl fluoride	Octane sulfonyl fluoride (CAS 7795-95-1), Octane sulfonyl chloride (CAS 4063-63-5)
Toxicity to Microtox Test	Lauryldimethylamineoxide	CAS 1643-20-5

Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
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Title	Substance Information	CAS Information
Ecotoxicological Testing of CoCl2.6H2O as Co2+ ion (Seed Germination and Root Elongation)	Cobalt (as Co2+ ion) (CoCl2.6H2O)	CAS 7791-13-1

Phytotoxicity Studies with the Lightwater[ ]

A series of studies were conducted to evaluate the toxicity of the complete product as well as to evaluate the toxicity of the components. All studies were conducted with the product diluted to its highest usage concentration (6% v/v with water) or dilutions of this. Soil application strengths were equivalent to a one-inch thick layer of a 5 to 1 expanded foam. Results are summarized below.

1. This product inhibited plant emergence and early seedling growth of sweet corn, oat, perennial ryegrass, soybean, cucumber and tomato.

2. An order of magnitude dilution below the usage concentration of the product reduced the inhibition of most measured parameters to less than 20%

3. Root elongation was affected at dilutions two orders of magnitude below the usage concentration of this product.

4. Residual effects of this product applied to soil on early soybean growth decreased with time and leaching. Aging treated soil for 4 weeks with three weekly two- inch water washings reduced the inhibition of plant growth from 100% to 20% compared to the controls.

5. Early seedling growth studies of this product, applied at usage concentrations and below, demonstrated phytotoxic effects. Mortality, leaf tissue chlorosis and necrosis, and statistically significant reductions in shoot length and shoot dry weight were observed in tomato and oat.

6. Early seedling growth studies of the components of this product, tested at their concentrations in the product as applied or lower did not conclusively determine what component was inducing toxicity to terrestrial plants. The total product was divided into four parts: the fluorochemical surfactants[ ] the hydrocarbon surfactants (sodium octyl sulfate and sodium decyl sulfate), diethylene glycol butyl ether, and the minor constitutients (Dowicide A, benzotriazole, Kelco Keltrol and starch). These mixtures were diluted to the concentrations that would be present if[ ]were applied at usage strength as well as dilutions up to tenfold. None of the component systems induced lethality to the plants evaluated (oat and tomato).

7. A factory lot and a laboratory lot of this product were then tested on oat and tomato seedlings to determine if an artifact of the production method was inducing toxicity. No significant difference in toxicity was seen.

8. To evaluate possible synergistic effects of the combined hydrocarbon surfactants and fluorocarbon surfactants, a 14-day growth study was initiated with oat and tomato. There was no significant difference seen between the test and control plants.

9. Early seedling growth studies were conducted to evaluate the product as is and two reformulations: one without the presence of Dowacide A and one without benzatriazol. There was no observed difference between the three compositions.

10. No further studies were conducted.

10/17/04

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Lab Request No. D2425

Page _____ of _____

Environmental Lab – Work Sheet

Sample Description [ ] Component Systems
Total Product Effect on vegitation

Date: 3-4-87

Analyst: S+B

Observations after 1 week Exposure

Application Rate (%v/v)	Pot #	Oats	Tomatos
0.6	1	No noticeable effects	No Noticeable effects
	2	No noticeable effects	1 plant stunted
1.5	1	No noticeable effects	2 plants chlorosis/necrosis on leaves
	2	No noticeable effects	No noticeable effects
3.0	1	No noticeable effects	4 plants - chlorosis/necrosis on leaf tips
	2	No noticeable effects	1 plant - chlorosis/necrosis on leaf tips
6.0	1	3 plants Dead, 1 plant wilted	3 plants - ~½ leaf tips necrotic 1 Plant Dead, 1 plant Smal amt. Chlorosis on leaf tip.
	2	3 plants Dead	3 plants Dead, All plants have small amt. chlorosis on leaf tips

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Lab Request No. D 2425

Environmental Lab – Work Sheet

Page _____ of _____

Sample Description: Total Product

[ ] Component Systems Effect on Vegitation

Date: 3-11-87

Analyst: SMB

Observations after 2 Weeks Exposure

Application Rate (% v/v)	Pot #	Oats	Tomatos
0.6	1	1 Plant Dead 4-No observable effects	No observable effects
	2	2 Plants - Necrosis on leaf tips 2-No observable effects	1 Plant ~~SMB Dead~~ Stunted ~~Stunted~~ SMB
1.5	1	2 Plants - Necrosis on leaf tips 3-No observable effects	3 Plants - Chlorosis/Necrosis on leaves
	2	1 Plant - Necrosis on leaf tips 4-No observable effects	1 Plant - Chlorosis/Necrosis on leaves
3.0	1	3 Plants appear Stunted, Necrosis on leaf tips 1 Plant Dead	5 Plants - Chlorosis/Necrosis on leaves
	2	SMB 3-11-87 ~~1 - no other observable effects~~ 1 Plant Dead 2 - Necrosis on leaf tips	3 Plants - Chlorosis/Necrosis on leaves
6.0	1	4 Plants Dead 1 Plant - Necrosis on leaf tip	2 Plants Dead Chlorosis/Necrosis on most leaves of other 3
	2	3 Plants Dead 2 Plants - Necrosis on leaf tip	3 Plants Dead Chlorosis/Necrosis on most leaves of other 3 SMB 3-11-87

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Lab Request No. D2425

Environmental Lab – Work Sheet

Page _____ of _____

Sample Description [ ] Component Systems
Effect on Vegitation

Date: 2-21-87

Analyst: SAB

Observations 2 weeks post-exposure

Minor Constituents:

At 3.0% and 6.0% exposure, Tomato plants have noticeably bent stems

Other Components:

No noticable effects

LR D2425
SAB 2-21-87

[ ] Component Systems Effects on Vegitation

Component: [ ]

2 weeks Post Exposure

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 15 Plants — Tomato		Oat	
Control	8.6 ± 0.7 n=15	(8.3, 9.0)	17.5 ± 2.1 n=15	(16.3, 18.6)
0.6	8.2 ± 0.8 n=15	(7.8, 8.7)	14.9 ± 1.8 n=12 p=0.026	(13.8, 16.1)**
1.5	8.4 ± 0.9 n=15	(7.9, 8.9)	15.5 ± 2.6 n=15 p=0.032	(14.1, 17.0)**
3.0	7.3 ± 1.5 n=15 p=0.0055	(6.5, 8.1)**	16.4 ± 3.6 n=14 p=0.032	(14.3, 18.5)*
6.0	8.1 ± 0.9 n=15 p=0.062 p=0.029	(7.6, 8.6)** *	15.6 ± 2.0 n=15 p=0.019	(14.5, 16.7)**
		6% reduction		11%

* Significantly different (p=0.05) within Test group

** Significantly different (p=0.05) from control group

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LR D2425
SAB 3-11-87

[ ] Component Systems Effects on Vegitation

Component: [ ]

32 Days Post Exposure

Shoot Length (cm)
Mean ± S.D. (95% CI) for 15 plants

Treatment %v/v	Tomato	Oat
Control	13.3 ± 1.2* (12.7, 14.0) n=15 p = 0.036 p = 0.0051	19.6 ± 2.6 (18.2, 21.0) n=15
0.6	12.9 ± 1.4 (12.1, 13.7) n=15	16.1 ± 3.0** (14.2, 18.0) n=12 p= 0.0041
1.5	13.2 ± 1.1 (12.6, 13.8) n=15	18.7 ± 3.2 (16.8, 20.6) n=13
3.0	11.8 ± 3.1 (10.1, 13.5) n= 15	17.1 ± 3.0*** (15.2, 18.9) n=13 p= 0.014 (within Test Group) p= 0.028 (from Control)
6.0	12.7 ± 1.4* (11.9, 13.5) n=15 p= 0.037 p= 0.036	18.7 ± 2.7 (17.3, 20.2) n=15

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* Significantly different (p=0.05) within test group

** Significantly different (p=0.05) from Control Group

LR D2425
SAB 2-21-87

[ ] Component Systems Effects on Vegitation

Component: [2 weeks Post Exposure]

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 15 plants: Tomato		Oat	
Control	8.6 ± 0.7 n=15	(8.3, 9.0)	17.5 ± 2.1 n=15	(16.3, 18.6)
0.6	8.7 ± 1.2 n=14	(8.0, 9.4)	15.9 ± 1.6 n=15 p=0.032	(15.1, 16.8)**
1.5	9.1 ± 0.6 n=15	(8.8, 9.5)	15.3 ± 2.4 n=12 p=0.025	(~~11.0~~ 13.8, 16.9)**
3.0	8.9 ± 0.6 n=15	(8.5, 9.2)	16.1 ± 1.4 n=14 p=0.047	(15.2, 16.9)**
6.0	8.3 ± 0.7 n=15	(8.0, 8.7)	15.1 ± 2.1 n=14 p=0.0046	(13.9, 16.3)** 14%

* Significantly different (p=0.05) within Test group
** Significantly different (p=0.05) from Control group

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LR D2425
SAB 3-11-87

[ ] Component Systems Effects on Vegitation

Component: [ ]

32 Days Post Exposure

Shoot Length (cm)
Mean ± S.D. (95% CI) for 15 plants

Treatment %v/v	Tomato		Oat	
Control	13.3 ± 1.2* n=15 p=0.036 p=0.0051	(12.7, 14.0)	19.6 ± 2.6 n=15	(18.2, 21.0)
0.6	11.9 ± 2.0** n=13 p=0.040	(10.7, 13.1)	18.4 ± 2.2 n=14	(17.1, 19.7)
1.5	13.1 ± 1.0 n=15	(12.5, 13.6)	17.3 ± 2.4** n=12 p=0.026 (within Test Group) p=0.023 (from Control Group)	(15.7, 18.8)
3.0	12.3 ± 1.7 n=15	(11.4, 13.3)	17.9 ± 2.3 n=14	(16.5, 19.2)
6.0	12.7 ± 1.5 n=15	(11.8, 13.5)	17.9 ± 2.2 n=12	(16.5, 19.3)

* Significantly different (p=0.05) within Test Group

** Significantly different (p=0.05) from the Control Group

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SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
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LR D2425
SAB 2-21-87

[ ] Component Systems Effects on Vegitation

Component: [ ]

2 Weeks Post Exposure

Shoot Length (cm)

Mean ± S.D. (95% CI) for 15 Plants

Treatment %v/v	Tomato		Oat	
Control	8.6 ± 0.7 n=15	(8.3, 9.0)	17.5 ± 2.1 n=15	(16.3, 18.6)
0.6	8.2 ± 0.9 n=15	(7.7, 8.7)	15.5 ± 1.4 n=15 P=0.0065	(14.8, 16.3)**
1.5	7.9 ± 1.1 n=15 P=0.033	(7.3, 8.5)**	15.1 ± 2.0 n=14 P=0.0043	(13.9, 16.2)**
3.0	8.0 ± 0.8 n=15 P=0.019	(7.5, 8.4)**	15.0 ± 1.8 n=11 P=0.0037	(13.8, 16.2)**
6.0	8.1 ± 0.7 n=15 P=0.035	(7.7, 8.5)**	15.3 ± 1.9 n=15 P=0.0053 P=0.045	(14.2, 16.3)**
	6%		13% reduction	

* Significantly different (p=0.05) within test group.

** Significantly different (p=0.05) from control group.

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SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425
SAB 3-11-87

[ ] Component Systems Effects on Vegitation

Component: [ ]

32 Days Post Exposure

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 15 Plants: Tomato		Oat	
Control	13.3 ± 1.2* (12.7, 14.0) n=15 p=0.036 p=0.0051		19.6 ± 2.6 (18.2, 21.0) n=15	
0.6	12.9 ± 1.8* (11.9, 14.0) n=14 p=0.040		16.8 ± 2.7** (15.3, 18.3) n=15 p=0.0071	
1.5	12.0 ± 1.3** (11.3, 12.8) n=15 p=0.0088		15.9 ± 2.7** (14.3, 17.6) n=13 p=0.0012	
3.0	11.1 ± 1.2** (10.4, 11.7) n=15 p=0.0000		16.9 ± 3.6 (14.2, 19.6) n=9	
6.0	11.6 ± 1.3** (10.9, 12.3) n=15 p=0.0007		15.2 ± 2.2** (13.9, 16.5) n=14 p=0.0000	

* Significantly different (p=0.05) within Test Group

** Significantly different (p=0.05) from the control group

CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425
SAB 2-21-87

[ ] Component Systems Effects on Vegitation

Component: Minor Constituents

2 weeks Post Exposure

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 15 Plants: Tomato		Oat	
Control	8.6 ± 0.7 n=15	(8.3, 9.0)	17.5 ± 2.1 n=15	(16.3, 18.6)
0.6	7.2 ± 1.7 n=15 p=0.0079	(6.3, 8.2) **	16.6 ± 2.3 n=15	(15.3, 17.9)
1.5	8.8 ± 0.5 n=~~15~~ 14	(8.5, 9.0)	16.9 ± 1.2 n=15 p=0.036	(16.2, 17.6) *
3.0	8.2 ± 1.1 n=15	(7.6, 8.9)	15.9 ± 1.5 n=14 p=0.033	(15.0, 16.8) **
6.0	8.2 ± 1.1 n=15	(7.6, 8.8)	17.4 ± 4.7 n=12	(14.4, 20.4)

* Significantly different (p=0.05) within Test group

** Significantly different (p=0.05) from Control group.

CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425
SAB 3-11-87

[ ] Component Systems Effects on Vegitation

Component: Minor Constituents

32 Days Post Exposure

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 15 plants: Tomato		Oat	
Control	13.3 ± 1.2* (12.7, 14.0) n=15 p=0.036 p=0.0051		19.6 ± 2.6 (18.2, 21.0) n=15	
0.6	10.9 ± 2.6** (9.5, 12.3) n=15 p=0.0034		17.8 ± 2.8 (16.1, 19.4) n=14	
1.5	13.2 ± 0.9 (12.7, 13.7) n=14		19.4 ± 2.4 (18.1, 20.7) n=15	
3.0	11.6 ± 1.9** (10.4, 12.9) n=11 p=0.018		17.5 ± 3.9 (15.3, 19.8) n=14	
6.0	12.0 ± 2.0** (10.9, 13.1) n=15 p=0.037		19.0 ± 4.0 (16.3, 21.7) n=11	

10%

* Significantly different (p=0.05) within Test Group

** Significantly different (p=0.05) from the Control Group

CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425
SAB 3-11-87

[ ] Component Systems Effects on Vegitation

Component: [ ] Total Product

Treatment %v/v	Shoot Length (cm) Mean ± S.D. (95% CI) for 10 Plants: Tomato		Oat	
Control	13.3 ± 1.2* n=15 p=0.036 p=0.0051	(12.7, 14.0)	19.6 ± 2.6 n=15	(18.2, 21.0)
0.6	10.6 ± 1.1** n=9 p=0.0000	(9.8, 11.4)	17.5 ± 2.3 n=8	(15.6, 19.4)
1.5	10.9 ± 0.9** n=10 p=0.0000	(10.2, 11.5)	16.6 ± 1.6** n=10 p=0.0018	(15.4, 17.8)
3.0	9.9 ± 0.5** n=9 p=0.0000	(9.5, 10.3)	14.8 ± 2.0** n=6 p=0.0010	(12.7, 17.0)
6.0	8.2 ± 0.6** n=5 p=0.0000	(7.5, 8.9)	13.7 ± 1.5** n=3 p=0.0058	(9.9, 17.5)

* Significantly different (p ≤ 0.05) within Test Group

** Significantly different (p = 0.05) from the Control Group

CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425
SAB 3-24-87

[ ] Component Systems Effects on Vegitation

Component: [ ] Total Product

Treatment %v/v	Shoot Dry Weight (g) (1) Mean ± S.D. (95% CI) for 10 plants: Tomato	Oat
Control	0.0583 ± 0.0093 (0.0352, 0.0814)	0.0412 ± 0.0073 (0.0229, 0.0594)
0.6	0.0423 ± 0.0170 (-0.1108, 0.1955)	0.0353 ± 0.0039 (0.0003, 0.0702)
1.5	0.0240 ± 0.0018* (0.0075, 0.0405) p = 0.025	0.0264 ± 0.0035 (-0.0048, 0.0575)
3.0	0.0119 ± 0.0002* (0.0099, 0.0138) p = 0.013	0.0206 ± 0.0009* (0.0130, 0.0282) p = 0.041
6.0	0.0048 ± 0.0006* (-0.0003, 0.0099) p = 0.010	0.0147 ± 0.0018* (-0.0018, 0.0312) p = 0.027

* Significantly different (p = 0.05) from the Control Group

(1) Oven-dried over-night at 70°C

CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF _____ ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: Controls METHOD OF APPLICATION: Post-emergence soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	17	18	20	19	13						17.4 ± 2.7
2	17	18	17	15	20						17.4 ± 1.8
3	18	15	21	17	17						17.6 ± 2.2
4											

Mean ± SD 17.5 ± 2.1 (95% C.I. 16.3 - 18.6)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	7.0	8.0	8.5	8.5	9.0						8.2 ± 0.8
2	9.0	8.5	9.0	8.0	9.5						8.8 ± 0.6
3	9.0	8.0	9.5	9.0	9.0						8.9 ± 0.5
4											

Mean ± SD 8.6 ± 0.7 (95% C.I. 8.3 - 9.0)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6% v/v (720 mg/L) METHOD OF APPLICATION: Post-emergence ~~foot~~ soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	16	19	—	—						16.0 ± 3.0
2	14	12	14	14	16						14.0 ± 1.4
3	14	16	15	16	—						15.3 ± 1.0
4											

Mean ± SD 14.9 ± 1.8 (95% C.I. 13.8 - 16.1)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.0	8.5	9.0	10	7.5						8.6 ± 1.0
2	8.5	8.0	8.0	6.5	8.0						7.8 ± 0.8
3	8.0	9.0	8.0	8.5	8.0						8.3 ± 0.4
4											

Mean ± SD 8.2 ± 0.8 (95% C.I. 7.8 - 8.7)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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SUBJECT TO PROTECTION UNDER THE
TOXIC SUBSTANCES CONTROL ACT
AND OTHER LAWS HAS BEEN
REDACTED FROM THIS PAGE

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5% v/v (1800 mg/L) METHOD OF APPLICATION: Post-emergence ~~foliar~~ Soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	14	17	17	21						16.4 ± 3.1
2	12	15	11	17	14						13.8 ± 2.4
3	15	17	17	18	15						16.4 ± 1.3
4											

Mean ± SD 15.5 ± 2.6 (95% C.I. 14.1 - 17.0)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	8.0	8.0	7.5	8.0						8.1 ± 0.5
2	10	7.0	9.0	8.0	10						8.8 ± 1.3
3	8.5	8.0	8.0	9.5	8.0						8.4 ± 0.7
4											

Mean ± SD 8.4 ± 0.9 (95% C.I. 7.9 - 8.9)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% v/v (3600 mg/L) METHOD OF APPLICATION: Postemergence ~~foliar~~ soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Bear

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	22	25	18	17	15						19.4 ± 4.0
2	19	17	13	16	14						15.8 ± 2.4
3	14	13	13	14	—						13.5 ± 0.67
4											

Mean ± SD 16.4 ± 3.6 (95% C.I. 14.3 - 18.5)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.5	7.5	5.0	8.0	4.0						6.6 ± 2.0
2	7.5	5.0	8.5	7.0	8.0						7.2 ± 1.4
3	9.0	7.5	9.0	7.0	8.0						8.1 ± 0.9
4											

Mean ± SD 7.3 ± 1.5 (95% C.I. 6.5 - 8.1)

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate 1 p=0.032

LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % v/v (7200 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Black

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	17	16	16	15						15.4 ± 1.5
2	15	17	15	16	16						15.8 ± 0.8
3	13	19	19	12	15						15.6 ± 3.3
4											

Mean ± SD 15.6 ± 2.0 (95% C.I. 14.5 - 16.7)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.0	8.0	8.5	9.0	9.0						8.5 ± 0.5
2	8.0	8.0	7.0	8.5	10						8.3 ± 1.1
3	7.5	6.5	7.0	7.5	8.5						7.4 ± 0.7*
4											

Mean ± SD 8.1 ± 0.9 (95% C.I. 7.6 - 8.6)

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate 1

P=0.029

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6% v/v (120 mg/L) METHOD OF APPLICATION: Post-emergence ~~foliar~~ Soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	18	14	14	16	15						15.4 ± 1.7
2	14	16	17	16	16						15.8 ± 1.1
3	17	15	14	17	14						15.4 ± 1.5
4											

Mean ± SD 15.5 ± 1.4 (95% C.I. 14.8 - 16.3)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	8.5	9.0	8.0	8.0						8.5 ± 0.5
2	6.5	9.0	7.5	7.0	9.5						7.9 ± 1.3
3	8.0	7.5	8.0	9.5	8.5						8.3 ± 0.8
4											

Mean ± SD 8.2 ± 0.9 (95% C.I. 7.7 - 8.7)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LRD 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5 % v/v (300 mg/L) METHOD OF APPLICATION: ~~Post-emergence foot~~ Soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	16	17	17	13	15						15.6 ± 1.7
2	11	15	13	17	–						14.0 ± 2.6
3	16	12	16	16	17						15.4 ± 1.9
4											

Mean ± SD 15.1 ± 2.0 (95% C.I. 13.9 - 16.2)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	5.5	8.5	7.0	9.0						7.8 ± 1.5
2	9.5	8.0	7.0	8.5	7.0						8.0 ± 1.1
3	7.5	8.0	7.0	8.5	8.5						7.9 ± 0.7
4											

Mean ± SD 7.9 ± 1.1 (95% C.I. 7.3 - 8.5)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% v/v (600 mg/L) METHOD OF APPLICATION: Post-emergence ~~foliar~~ Soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	17	15	–	–						15.0 ± 2.0
2	13	16	17	13	15						14.8 ± 1.8
3	14	18	14	–	–						15.3 ± 2.3
4											

Mean ± SD 15.0 ± 1.8 (95% C.I. 13.8 - 16.2)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.5	6.5	7.5	7.5	7.5						7.5 ± 0.7
2	7.5	8.0	8.5	9.5	8.5						8.4 ± 0.7
3	7.0	8.5	7.5	9.0	8.0						8.0 ± 0.8
4											

Mean ± SD 8.0 ± 0.8 (95% C.I. 7.5 - 8.4)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LK D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % v/v (1200 mg/L) METHOD OF APPLICATION: Post-emergence ~~foliar~~ soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Black

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	14	16	13	18	13						14.8 ± 2.2
2	16	14	15	14	13						14.4 ± 1.1
3	18	14	18	16	17						16.6 ± 1.7*
4											
Mean ± SD	15.3 ± 1.9				(95% C.I. 14.2 - 16.3)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	8.0	8.0	6.5	8.0						7.9 ± 0.9
2	8.5	8.0	8.5	8.5	9.0						8.5 ± 0.4
3	8.5	8.5	7.0	8.0	7.0						7.8 ± 0.8
4											
Mean ± SD	8.1 ± 0.7				(95% C.I. 7.7 - 8.5)						

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(1) Starting with 14-day old seedlings

* Significantly different (P=0.05) from replicate 2

P = 0.045

LR D 24125

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

SAB 2-21-87

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6% v/v (180 mg/L) METHOD OF APPLICATION: Post-emergence soil-applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oats VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	16	15	18	15	17						16.2 ± 1.3
2	13	16	15	17	18						15.8 ± 1.9
3	15	15	19	15	15						15.8 ± 1.8
4											

Mean ± SD 15.9 ± 1.6 (95% C.I. 15.1 - 16.8)

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	7.5	9.0	7.5	8.5	9.5						8.4 ± 0.9
2	7.5	6.5	10.0	11.0	—						8.8 ± 2.1
3	8.5	10.0	9.0	8.0	9.5						9.0 ± 0.8
4											

Mean ± SD 8.7 ± 1.2 (95% C.I. 8.0 - 9.4)

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5% v/v (450 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	14	14	9.0	16	–						13.3 ± 3.0
2	17	15	18	14	–						16.0 ± 1.8
3	16	17	17	17	–						16.8 ± 0.5
4											

Mean ± SD 15.3 ± 2.4 (95% C.I. ~~14.0~~ 13.8 - 16.9) SAB 2-21-87

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	9.0	9.5	8.0	10.0						9.1 ± 0.7
2	10.0	8.0	9.0	9.5	9.0						9.1 ± 0.7
3	8.5	9.5	9.5	9.5	8.5						9.1 ± 0.5
4											

Mean ± SD 9.1 ± 0.6 (95% C.I. 8.8 - 9.5)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% v/v (900 mg/L) METHOD OF APPLICATION: Post-emergence Soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	19	17	17	16	14						16.6 ± 1.8
2	17	14	15	16	--						15.5 ± 1.3
3	16	16	17	17	14						16.0 ± 1.2
4											

Mean ± SD 16.1 ± 1.4 (95% C.I. 15.2 - 16.9)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.5	8.5	9.5	8.5	8.5						8.7 ± 0.4
2	8.5	8.5	9.0	9.5	9.5						9.0 ± 0.5
3	9.5	9.0	7.5	9.5	9.0						8.9 ± 0.8
4											

Mean ± SD 8.9 ± 0.6 (95% C.I. 8.5 - 9.2)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LR 521125

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % v/v (1800 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	15	16	10	17						14.2 ± 2.8
2	15	16	14	16	15						15.2 ± 0.8
3	18	13	17	16	—						16.0 ± 2.2
4											
Mean ± SD	15.1 ± 2.1				(95% C.I.		13.9 - 16.3			)	

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.5	8.0	8.0	7.5	8.5						8.3 ± 0.8
2	7.5	8.5	9.0	8.5	7.0						8.1 ± 0.8
3	8.5	9.0	9.0	8.0	8.5						8.6 ± 0.4
4											
Mean ± SD	8.3 ± 0.7				(95% C.I.		8.0 - 8.7			)	

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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TOXIC SUBSTANCES CONTROL ACT
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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6 % v/v (105 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	17	18	21	14	13						16.6 ± 3.2
2	18	19	19	16	15						17.4 ± 1.8
3	15	15	19	16	14						15.8 ± 1.9
4											
Mean ± SD	16.6 ± 2.3				(95% C.I.		15.3 - 17.9			)	

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.0	6.0	7.0	7.0	9.0						7.4 ± 1.1
2	8.5	8.0	8.0	7.5	7.0						7.8 ± 0.6
3	8.5	2.0	8.0	8.0	6.0						6.5 ± 2.7
4											
Mean ± SD	7.2 ± 1.7				(95% C.I.		6.3 - 8.2			)	

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5 % v/v (263 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan G. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	16	17	17	17	16						16.6 ± 0.5
2	18	17	14	15	17						16.2 ± 1.6
3	18	17	19	17	18						17.8 ± 0.8*
4											

Mean ± SD 16.9 ± 1.2 (95% C.I. 16.2 - 17.6)

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	8.5	9.0	8.5	—						8.8 ± 0.3
2	8.5	9.0	8.5	9.0	9.0						8.8 ± 0.3
3	10	8.0	8.5	9.0	8.0						8.7 ± 0.8
4											

Mean ± SD 8.8 ± 0.5 (95% C.I. 8.5 - 9.0)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate 1.

P=0.036

LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% v/v (525 mg/L) METHOD OF APPLICATION: Post-emergence Soil applic

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Brad

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	19	15	15	14	14						15.4 ± 2.1
2	18	17	15	17	17						16.8 ± 1.1
3	17	15	15	15	—						15.5 ± 1.0
4											
Mean ± SD	15.9 ± 1.5				(95% C.I.	15.0 - 16.8)					

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.5	9.5	8.0	8.5	7.5						8.4 ± 0.7
2	8.5	8.0	8.5	11.0	6.5						8.5 ± 1.6
3	6.5	8.0	9.0	7.5	8.0						7.8 ± 0.9
4											
Mean ± SD	8.2 ± 1.1				(95% C.I.	7.6 - 8.9)					

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

14-DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0% v/v (1050 mg/L) METHOD OF APPLICATION: Post-emergence soil applied

DATE STARTED: 2-7-87 DATE MEASURED: 2-21-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	27	18	12	15	20						18.4 ± 5.7
2	25	14	13	14	—						16.5 ± 5.7
3	16	16	19	—	—						17.0 ± 1.7
4											
Mean ± SD	17.4 ± 4.7				(95% C.I.	14.4 - 20.4)					

PLANT SPECIES: Tomato VARIETY: Rutger's

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.0	9.0	5.5	9.0	9.0						8.1 ± 1.5
2	8.0	8.5	9.5	9.0	7.5						8.5 ± 0.8
3	6.0	9.0	8.0	9.0	8.0						8.0 ± 1.2
4											
Mean ± SD	8.2 ± 1.1				(95% C.I.	7.6 - 8.8)					

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF _____ ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: Blank Control METHOD OF APPLICATION: Post-emergence, Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	15	17	19	20	21						18.4 ± 2.4
2	20	23	21	21	15						20.0 ± 3.0
3	23	22	21	19	17						20.4 ± 2.4
4											
Mean ± SD	19.6 ± 2.6 (95% C.I. 18.2 , 21.0)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	11	12	12	13						12.2 ± 0.8
2	13	13	14	14	13						13.4 ± 0.5
3	15	14	13	15	15						14.4 ± 0.9
4											
Mean ± SD	13.3 ± 1.2 (95% C.I. 12.7 , 14.0)										

Seeds planted 1-24-87

Application of Compon. 2-7-8

Application of Total Prod. 2-2

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate 1

LRD 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6 % (720 mg/L) METHOD OF APPLICATION: Postemergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	20	17	19	—	—						18.7 ± 1.5
2	13	15	19	18	12						15.4 ± 3.1
3	18	17	11	14	—						15.0 ± 3.2
4											
Mean ± SD	16.1 ± 3.0* (95% C.I. 14.2 - 18.0)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	14	14	13	12	15						13.6 ± 1.1
2	14	12	13	9.0	13						12.2 ± 1.9
3	13	14	12	14	12						13.0 ± 1.0
4											
Mean ± SD	12.9 ± 1.4 (95% C.I. 12.1 - 13.7)										

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the controls

LR 12242

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5 % (1800 mg/L) METHOD OF APPLICATION: Post-emergence, Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	12	24	16	21	18						18.2 ± 4.6
2	18	21	17	22	—						19.5 ± 2.4
3	17	17	22	18	—						18.5 ± 2.4
4											

Mean ± SD 18.7 ± 3.2 (95% C.I. 16.8 - 20.6)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	14	14	12	12						13.0 ± 1.0
2	13	13	12	15	12						13.0 ± 1.2
3	12	13	15	14	14						13.6 ± 1.1
4											

Mean ± SD 13.2 ± 1.1 (95% C.I. 12.6 - 13.8)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

CONFIDENTIAL BUSINESS INFORMATION
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TOXIC SUBSTANCES CONTROL ACT
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LR D2435

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% (3600 mg/L) METHOD OF APPLICATION: Post emergence. Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beard

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	21	21	17	17	21						19.4 ± 2.2
2	19	15	18	17	—						17.3 ± 1.7
3	14	17	11	14	—						14.0 ± 2.5*
4											
Mean ± SD	17.1 ± 3.0** (95% C.I. 15.2 - 18.9)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	7.0	14	13	7.0	14						11.0 ± 3.7
2	11	15	17	12	13						13.6 ± 2.4
3	6.0	12	12	13	11						10.8 ± 2.8
4											
Mean ± SD	11.8 ± 3.1 (95% C.I. 10.1 - 13.5)										

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate #1

** Significantly different (p=0.05) from the controls

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0% (7200 mg/L) METHOD OF APPLICATION: Post emergence. Soil Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	21	21	17	17	23						19.8 ± 2.7
2	15	16	19	16	17						16.6 ± 1.5
3	18	22	23	17	19						19.8 ± 2.6
4											
Mean ± SD	18.7 ± 2.7				(95% C.I. 17.3 - 20.2)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	13	14	12	13						13.0 ± 0.7*
2	14	15	14	14	11						13.6 ± 1.5*
3	13	10	12	11	11						11.4 ± 1.1
4											
Mean ± SD	12.7 ± 1.4				(95% C.I. 11.9 - 13.5)						

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate #3

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6 % (120 mg/L) METHOD OF APPLICATION: Post-emergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	14	20	13	15	15						15.4 ± 2.7
2	20	16	21	15	19						18.2 ± 2.6
3	19	16	17	19	13						16.8 ± 2.5
4											

Mean ± SD 16.8 ± 2.7* (95% C.I. 15.3 - 18.3)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	12	13	14	16	15						14.0 ± 1.6
2	10	12	13	11	—						11.5 ± 1.3*
3	16	13	12	12	12						13.0 ± 1.7
4											

Mean ± SD 12.9 ± 1.8 (95% C.I. 11.9 - 14.0)

(1) Starting with 14-day old seedlings.
* Significantly different (P=0.05) from the control
** Significantly different (P=0.05) from replicate #1

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LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5% (300 mg/L) METHOD OF APPLICATION: Post-emergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	18	20	16	11	17						16.4 ± 3.4
2	18	16	11	–	–						15.0 ± 3.6
3	16	19	15	16	14						16.0 ± 1.9
4											
Mean ± SD	15.9 ± 2.7 * (95% C.I. 14.3 - 17.6)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	13	12	11	13						12.4 ± 0.9
2	12	11	13	12	10						11.6 ± 1.1
3	14	9.5	14	12	11						12.1 ± 1.9
4											
Mean ± SD	12.0 ± 1.3 * (95% C.I. 11.3 - 12.8)										

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the control

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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0% (600 mg/L) METHOD OF APPLICATION: Postemergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	19	21	–	–	–						20.0 ± 1.4
2	20	19	10	13	–						15.5 ± 4.8
3	16	16	18	–	–						16.7 ± 1.2
4											
Mean ± SD	16.9 ± 3.6				(95% C.I. 14.2 - 19.6)						

PLANT SPECIES: Tomato VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	11	11	11	12	8						10.6 ± 1.5
2	11	12	12	12	11						11.6 ± 0.5
3	13	10	12	10	10						11.0 ± 1.4
4											
Mean ± SD	11.1 ± 1.2 *				(95% C.I. 10.4 - 11.7)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the control

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LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6% (1200 mg/L) METHOD OF APPLICATION: Post-emergence, Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	10	16	13	14	18						14.2 ± 3.0
2	13	17	17	15	—						15.5 ± 1.9
3	18	16	15	16	15						16.0 ± 1.2
4											
Mean ± SD	15.2 ± 2.2* (95% C.I. 13.9 - 16.5)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	10	11	11	12	12						11.2 ± 0.8
2	13	11	13	13	11						12.2 ± 1.1
3	9.0	13	12	13	10						11.4 ± 1.8
4											
Mean ± SD	11.6 ± 1.3* (95% C.I. 10.9 - 12.3)										

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the control

CONFIDENTIAL BUSINESS INFORMATION SUBJECT TO PROTECTION UNDER THE TOXIC SUBSTANCES CONTROL ACT AND OTHER LAWS HAS BEEN REDACTED FROM THIS PAGE

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6 % (180 mg/L) METHOD OF APPLICATION: Post-emergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	18	17	20	22	20						19.4 ± 1.9
2	20	21	18	16	—						18.8 ± 2.2
3	19	15	17	20	15						17.2 ± 2.3
4											
Mean ± SD	18.4 ± 2.2				(95% C.I. 17.1 - 19.7)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	10	10	12	—						11.3 ± 1.5
2	8.0	13	15	10	—						11.5 ± 3.1
3	12	14	13	11	14						12.8 ± 1.3
4											
Mean ± SD	11.9 ± 2.0*				(95% C.I. 10.7 - 13.1)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the control

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LR D 2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5% (450 mg/L) METHOD OF APPLICATION: Post-emergence. Soil Applie

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	15	13	18	15	—						15.3 ± 2.1
2	16	19	15	19	—						17.3 ± 2.1
3	18	21	18	20	—						19.3 ± 1.5*
4											
Mean ± SD	17.3 ± 2.4** (95% C.I. 15.7 - 18.8)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	13	10	13	14						12.6 ± 1.5
2	13	14	12	14	13						13.2 ± 0.8
3	14	13	14	13	13						13.4 ± 0.5
4											
Mean ± SD	13.1 ± 1.0 (95% C.I. 12.5 - 13.6)										

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from replicate #1

** Significantly different (p=0.05) from the control

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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0 % (900 mg/L) METHOD OF APPLICATION: Post-emergence, Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	22	19	19	17	16						18.6 ± 2.3
2	20	19	17	16	—						18.0 ± 1.8
3	15	19	16	21	14						17.0 ± 2.9
4											

Mean ± SD 17.9 ± 2.3 (95% C.I. 16.5 - 19.2)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	14	11	12	12						12.4 ± 1.1
2	14	14	12	14	13						13.4 ± 0.9
3	11	11	8.0	14	12						11.2 ± 2.2
4											

Mean ± SD 12.3 ± 1.7 (95% C.I. 11.4 - 13.3)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LR D24,25

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % (1800 mg/L) METHOD OF APPLICATION: Post-emergence, Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	18	17	20	–	–						18.3 ± 1.5
2	20	18	13	20	18						17.8 ± 2.9
3	20	15	18	18	–						17.8 ± 2.1
4											
Mean ± SD	17.9 ± 2.2 (95% C.I. 16.5 - 19.3)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	12	14	13	11	12						12.4 ± 1.1
2	10	14	13	14	10						12.2 ± 2.0
3	13	15	12	14	13						13.4 ± 1.1
4											
Mean ± SD	12.7 ± 1.5 (95% C.I. 11.8 - 13.5)										

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

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LK 21270

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6% (105 mg/L) METHOD OF APPLICATION: Post-emergence Soil Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	16	20	17	23	–						19.0 ± 3.2
2	21	21	15	19	14						18.0 ± 3.3
3	15	16	20	15	17						16.6 ± 2.1
4											
Mean ± SD	17.8 ± 2.8				(95% C.I. 16.1 - 19.4)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	9.0	14	11	11	8.0						10.6 ± 2.3
2	11	12	14	12	11						12.0 ± 1.2
3	9.0	9.5	5.0	15	12						10.1 ± 3.[illegible]
4											
Mean ± SD	10.9 ± 2.6*				(95% C.I. 9.5 - 12.3)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the Control

LK D2462

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5% (263 mg/L) METHOD OF APPLICATION: Post-emergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	20	22	21	19	20						20.4 ± 1.1
2	15	19	19	21	16						18.0 ± 2.5
3	24	20	20	16	19						19.8 ± 2.9
4											
Mean ± SD	19.4 ± 2.4				(95% C.I. 18.1 - 20.7)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	12	14	13	13	—						13.0 ± 0.8
2	12	15	13	13	14						13.4 ± 1.1
3	12	13	13	14	14						13.2 ± 0.8
4											
Mean ± SD	13.2 ± 0.9				(95% C.I. 12.7 - 13.7)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05)

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Miner Constituents ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0 % (525 mg/L) METHOD OF APPLICATION: Post-emergence Soil Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	16	23	11	19						16.4 ± 4.8
2	18	22	18	20	20						19.6 ± 1.7
3	19	10	20	16	—						16.3 ± 4.5
4											
Mean ± SD	17.5 ± 3.9				(95% C.I. 15.3 - 19.8)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	13	11	13	11	14						12.4 ± 1.3
2	10	—	—	—	—						10 —
3	11	10	9.0	11	15						11.2 ± 2.3
4											
Mean ± SD	11.6 ± 1.9*				(95% C.I. 10.4 - 12.9)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the control

LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF Minor Constituents ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % (1050 mg/L) METHOD OF APPLICATION: Post-emergence Soil-Applied

DATE STARTED: 2-7-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	17	24	26	20	–						21.8 ± 4.0
2	14	15	16	23	–						17.0 ± 4.1
3	19	20	15	–	–						18.0 ± 2.7
4											
Mean ± SD	19.0 ± 4.0				(95% C.I. 16.3 - 21.7)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	15	11	7.0	14	12						11.8 ± 3.1
2	11	14	13	13	12						12.6 ± 1.1
3	12	12	12	13	9.0						11.6 ± 1.5
4											
Mean ± SD	12.0 ± 2.0 *				(95% C.I. 10.9 - 13.1)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the controls

LR D3435

EFFECTS OF [ENVIRONMENTAL LABORATORY] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 0.6 % v/v METHOD OF APPLICATION: Post-emergence Soil Applic

DATE STARTED: 2-25-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	21	16	15	18	—						17.5 ± 2.7
2	15	20	16	19	—						17.5 ± 2.4
3											
4											
Mean ± SD	17.5 ± 2.3				(95% C.I. 15.6 - 19.4)						

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
~~1~~ 21	~~10~~ 12	~~14~~ 12	~~13~~ 9.5	~~14~~ 11	~~10~~ 11	SAB					11.1 ± 1.0
~~2~~ 2	11	9.0	10	10	—						10.0 ± 0.8
3											
4											
Mean ± SD	10.6 ± 1.1 *				(95% C.I. 9.8 - 11.4)						

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from controls

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LR D 2435

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 1.5 % v/v METHOD OF APPLICATION: Post emergence Soil Appli

DATE STARTED: 2-25-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beac

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	18	17	14	18	18						17.0 ± 1.7
2	15	17	14	17	18						16.2 ± 1.6
3											
4											
Mean ± SD	16.6 ± 1.6*										(95% C.I. 15.4 - 17.8)

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	11	12	9.5	12	10						10.9 ± 1.1
2	12	11	10	11	10						10.8 ± 0.8
3											
4											
Mean ± SD	10.9 ± 0.9*										(95% C.I. 10.2 - 11.5)

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from control

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LR D2425

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 3.0 % v/v METHOD OF APPLICATION: Post-emergence Soil Applied

DATE STARTED: 2-25-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	17	12	15	13	–						14.3 ± 2.2
2	15	17	–	–	–						16.0 ± 1.4
3											
4											
Mean ± SD	14.8 ± 2.0* (95% C.I. 12.7 - 17.0)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	10	9.5	10	10	9						9.7 ± 0.4
2	9.5	11	10	10	–						10.1 ± 0.6
3											
4											
Mean ± SD	9.9 ± 0.5* (95% C.I. 9.5 - 10.3)										

(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from controls

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LR D 2425

EFFECTS OF [ENVIRONMENTAL LABORATORY] ON TERRESTRIAL PLANTS

DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: 6.0 % v/v METHOD OF APPLICATION: Post Emergence Soil-Applied

DATE STARTED: 2-25-87 DATE MEASURED: 3-11-87 ANALYST: Susan A. Beach

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	14	—	—	—	—						14.0 —
2	15	12	—	—	—						13.5 ± 2.1
3											
4											
Mean ± SD	13.7 ± 1.5* (95% C.I. 9.9 - 17.5)										

PLANT SPECIES: Tomato VARIETY: Rutgers

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	8.0	8.5	8.0								8.2 ± 0.3
2	9.0	7.5	—	—	—						8.3 ± 1.1
3											
4											
Mean ± SD	8.2 ± 0.6* (95% C.I. 7.5 - 8.9)										

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(1) Starting with 14-day old seedlings.

* Significantly different (P=0.05) from the Controls

LR E 1498

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14 -DAY EARLY PLANT GROWTH ASSAY(1)

TREATMENT: [ ] METHOD OF APPLICATION: Post-emergence Soil applic

DATE STARTED: 6-3-87 DATE MEASURED: 7-2-87 ANALYST: SAB

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	21	33	25	27	23						25.8 ± 4.6
2	30	32	32	28	28						30.0 ± 2.0
3	32	29	30	29	33						30.6 ± 1.8
4											

OATS
Control group
vs
Treated group
p= 0.88

Mean ± SD 28.8 ± 3.6 (95% C.I. 26.8 - 30.8)

PLANT SPECIES: Tomato VARIETY: Burpee's Big Boy

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	11.0	10.5	9.5								10.3 ± 0.8
2	12.0	12.0	10.5								11.5 ± 0.0
3	11.5	11.0	13.0								11.8 ± 1.0
4											

Tomato
Control group
vs
Treated group
p= 0.24

Mean ± SD 11.2 ± 1.0 (95% C.I. 10.4 - 12.0)

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(1) Starting with 15-Day old Seedlings

* Significantly different (P=0.05)

LR E1498

ENVIRONMENTAL LABORATORY

EFFECTS OF [ ] ON TERRESTRIAL PLANTS

14 -DAY EARLY PLANT GROWTH ASSAY(1)

SHOOT LENGTH, cm

TREATMENT: Blank Control METHOD OF APPLICATION: Post-emergence Soil applied

DATE STARTED: 6-3-87 DATE MEASURED: 7-2-87 ANALYST: SAB

PLANT SPECIES: Oat VARIETY:

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	26	28	33	30	30						29.4 ± 2.6
2	25	28	29	28	26						27.2 ± 1.6
3	37	25	30	31	23						29.2 ± 5.5
4											

Mean ± SD 28.6 ± 3.5 (95% C.I. 26.6 , 30.6)

PLANT SPECIES: Tomato VARIETY: Burpee's Big Boy

No. of Replicate	1	2	3	4	5	6	7	8	9	10	Mean ± SD
1	10.5	11.0	9.5								10.3 ± 0.8
2	12.0	11.5	—								11.8 ± 0.4
3	11.0	9.0	10.5								10.2 ± 1.0
4											

Mean ± SD 10.6 ± 1.0 (95% C.I. 9.8 , 11.4)

(1) Starting with 15-Day old Seedlings

* Significantly different (P=0.05)

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