

IWM  
PCS 84069

**Buell, Thomas**

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**From:** Buell, Thomas  
**Sent:** Wednesday, March 17, 2021 1:15 PM  
**To:** Scott Tingelhoff  
**Cc:** Pracheil, Brad  
**Subject:** Sampling Results -- Biochar  
**Attachments:** 20210305-004 - biochar partial.pdf

Scott:

Attached are partial results from the biochar sampling the Department conducted on March 3, 2021; the biochar results start on page 7. Based on these results the biochar contains pesticides. Please do not sell or remove any biochar from the facility. When the Department receives full analytical results we will transmit the results to the facility.

Please let me know if you have any questions.

**Tom Buell**

DIVISION ADMINISTRATOR, MONITORING AND REMEDIATION DIVISION

**Nebraska Department of Environment and Energy**

**P.O. Box 98922**

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**Collected By:**

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**Report Date: 2021-03-12****Preliminary Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-004  
Lab Sample Id : 21PE001509  
Customer Sample Id : Test #1-1444  
Sample Description : Water  
Date Collected : 2021-03-01  
Date Received : 2021-03-05

**RESULTS**

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	Pending		LC-MS/MS		
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	Pending		LC-MS/MS		
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	Pending		LC-MS/MS		
Desthio-Prothioconazole	ppb	Pending		LC-MS/MS		
Difenoconazole	ppb	Pending		LC-MS/MS		
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	Pending		LC-MS/MS		
Fluconazole	ppb	Pending		LC-MS/MS		
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	Pending		LC-MS/MS		
Isavuconazole	ppb	Pending		LC-MS/MS		
Itraconazole	ppb	Pending		LC-MS/MS		
Metconazole	ppb	Pending		LC-MS/MS		
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Posaconazole	ppb	Pending		LC-MS/MS		
Propiconazole	ppb	Pending		LC-MS/MS		
Prothioconazole	ppb	Pending		LC-MS/MS		
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	Pending		LC-MS/MS		

Sulfonic Acid Prothioconazole	ppb	Pending		LC-MS/MS		
Tebuconazole	ppb	Pending		LC-MS/MS		
Tetraconazole	ppb	Pending		LC-MS/MS		
Thiabendazole	ppb	Pending		LC-MS/MS		
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-08	2021-03-09
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	Pending		LC-MS/MS		
Voriconazole	ppb	Pending		LC-MS/MS		

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb					
Acetamprid	ppb	21PE001504	106	ND	ND	ND
Azoxystrobin	ppb	ND	102	ND	ND	ND
Brassinazole	ppb					
Clothianidin	ppb	21PE001504	86.7	ND	ND	ND
Cyproconazole	ppb					
Desthio-Prothioconazole	ppb					
Difenoconazole	ppb					
Dimoxystrobin	ppb	ND	110	ND	ND	ND
Dinotefuron	ppb	21PE001504	109	ND	ND	ND
Epoxiconazole	ppb					
Fluconazole	ppb					
Fluoxastrobin	ppb	ND	108	ND	ND	ND
Glufosinate	ppb	ND	98.9	ND	ND	ND
Glyphosate	ppb	ND	102	ND	ND	ND
Imidacloprid	ppb	21PE001504	109	ND	ND	ND
Ipconazole	ppb					
Isavuconazole	ppb					
Itraconazole	ppb					
Metconazole	ppb					
Nitenpyram	ppb	21PE001504	108	ND	ND	ND
Orysastrobin	ppb	ND	95.4	ND	ND	ND
Picoxystrobin	ppb	ND	98.2	ND	ND	ND
Posaconazole	ppb					
Propiconazole	ppb					
Prothioconazole	ppb					
Pyraclostrobin	ppb	ND	86.9	ND	ND	ND
Ravuconazole	ppb					
Sulfonic Acid Prothioconazole	ppb					
Tebuconazole	ppb					
Tetraconazole	ppb					
Thiabendazole	ppb					
Thiacloprid	ppb	21PE001504	102	ND	ND	ND
Thiamethoxam	ppb	21PE001504	105	ND	ND	ND
Trifloxystrobin	ppb	ND	79.1	ND	ND	ND
Uniconazole	ppb					
Voriconazole	ppb					

## Comments:

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### Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

## BRIEF METHOD DESCRIPTION

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### Strobins in Water - Purpose and Scope

Strobins are fairly polar and are usually determined by LC-MS/MS. The limits of detection for the strobins are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Strobins in Water - References

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### Strobins in Water - Basic Principles

Strobin water samples are extracted into aqueous methanol followed by filtration and preparation for LC-MS/MS.

**This SOP is for the determination of Strobins in soil, water and vegetation. The limits of detection for soil, water and vegetation range from 1 ppb to 2 ppb. The limit of quantitation is 5 ppb for soil, water and vegetation.**

**The Strobins include: Fluoxastrobin, Trifloxystrobin, Orysastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.**

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### Azoles in soil, vegetation and water - Purpose and Scope

Azoles are not ionic and are soluble in many organic solvents. Several of them are volatile enough for gas chromatography, but in this laboratory, LC-MS/MS has been used for azole analysis. The limits of detection for the azoles are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Azoles in soil, vegetation and water - References

Analytical Methods for Pesticides and Plant Growth Regulators. (G. Zweig, ed.) Vol.X, pp. 347 19.1.2.2 Klein and Alder. JAOAC. 86(5): 1015-37 (2003). 19.1.2.3 Ramsteiner et al. JAOAC. 57(1): 192-201 (1974).

### Azoles in soil, vegetation and water - Basic Principles

Azole soil, vegetation, and water samples can be extracted in aqueous methanol, filtered and prepared for LC-MS/MS analysis.

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### Neonicotinoids in soil, water and vegetation - Purpose and Scope

Neonicotinoids are a class of neuro-active insecticides chemically similar to nicotine. The limits of detection for the neonicotinoids are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Neonicotinoids in soil, water and vegetation - References

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### Neonicotinoids in soil, water and vegetation - Basic Principles

Neonicotinoids are fairly polar and are extracted with aqueous acetonitrile, filtered and prepared for LC-MS/MS analysis.

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**Reviewed and approved by Regina Wixon, Ph.D.**



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**Report Date: 2021-03-12****Preliminary Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-004  
Lab Sample Id : 21PE001510  
Customer Sample Id : Test #2-1443  
Sample Description : Water  
Date Collected : 2021-03-01  
Date Received : 2021-03-05

**RESULTS**

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	Pending		LC-MS/MS		
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	Pending		LC-MS/MS		
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	Pending		LC-MS/MS		
Desthio-Prothioconazole	ppb	Pending		LC-MS/MS		
Difenoconazole	ppb	Pending		LC-MS/MS		
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	Pending		LC-MS/MS		
Fluconazole	ppb	Pending		LC-MS/MS		
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	Pending		LC-MS/MS		
Isavuconazole	ppb	Pending		LC-MS/MS		
Itraconazole	ppb	Pending		LC-MS/MS		
Metconazole	ppb	Pending		LC-MS/MS		
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Posaconazole	ppb	Pending		LC-MS/MS		
Propiconazole	ppb	Pending		LC-MS/MS		
Prothioconazole	ppb	Pending		LC-MS/MS		
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	Pending		LC-MS/MS		

Sulfonic Acid Prothioconazole	ppb	Pending		LC-MS/MS		
Tebuconazole	ppb	Pending		LC-MS/MS		
Tetraconazole	ppb	Pending		LC-MS/MS		
Thiabendazole	ppb	Pending		LC-MS/MS		
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-08	2021-03-09
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	Pending		LC-MS/MS		
Voriconazole	ppb	Pending		LC-MS/MS		

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb					
Acetamprid	ppb	21PE001504	106	ND	ND	ND
Azoxystrobin	ppb	21PE001509	102	ND	ND	ND
Brassinazole	ppb					
Clothianidin	ppb	21PE001504	86.7	ND	ND	ND
Cyproconazole	ppb					
Desthio-Prothioconazole	ppb					
Difenoconazole	ppb					
Dimoxystrobin	ppb	21PE001509	110	ND	ND	ND
Dinotefuron	ppb	21PE001504	109	ND	ND	ND
Epoxiconazole	ppb					
Fluconazole	ppb					
Fluoxastrobin	ppb	21PE001509	108	ND	ND	ND
Glufosinate	ppb	21PE001509	98.9	ND	ND	ND
Glyphosate	ppb	21PE001509	102	ND	ND	ND
Imidacloprid	ppb	21PE001504	109	ND	ND	ND
Ipconazole	ppb					
Isavuconazole	ppb					
Itraconazole	ppb					
Metconazole	ppb					
Nitenpyram	ppb	21PE001504	108	ND	ND	ND
Orysastrobin	ppb	21PE001509	95.4	ND	ND	ND
Picoxystrobin	ppb	21PE001509	98.2	ND	ND	ND
Posaconazole	ppb					
Propiconazole	ppb					
Prothioconazole	ppb					
Pyraclostrobin	ppb	21PE001509	86.9	ND	ND	ND
Ravuconazole	ppb					
Sulfonic Acid Prothioconazole	ppb					
Tebuconazole	ppb					
Tetraconazole	ppb					
Thiabendazole	ppb					
Thiacloprid	ppb	21PE001504	102	ND	ND	ND
Thiamethoxam	ppb	21PE001504	105	ND	ND	ND
Trifloxystrobin	ppb	21PE001509	79.1	ND	ND	ND
Uniconazole	ppb					
Voriconazole	ppb					

## Comments:

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### Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

## BRIEF METHOD DESCRIPTION

---

### Strobins in Water - Purpose and Scope

Strobins are fairly polar and are usually determined by LC-MS/MS. The limits of detection for the strobins are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Strobins in Water - References

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### Strobins in Water - Basic Principles

Strobin water samples are extracted into aqueous methanol followed by filtration and preparation for LC-MS/MS.

**This SOP is for the determination of Strobins in soil, water and vegetation. The limits of detection for soil, water and vegetation range from 1 ppb to 2 ppb. The limit of quantitation is 5 ppb for soil, water and vegetation.**

**The Strobins include: Fluoxastrobin, Trifloxystrobin, Orysastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.**

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### Azoles in soil, vegetation and water - Purpose and Scope

Azoles are not ionic and are soluble in many organic solvents. Several of them are volatile enough for gas chromatography, but in this laboratory, LC-MS/MS has been used for azole analysis. The limits of detection for the azoles are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Azoles in soil, vegetation and water - References

Analytical Methods for Pesticides and Plant Growth Regulators. (G. Zweig, ed.) Vol.X, pp. 347 19.1.2.2 Klein and Alder. JAOAC. 86(5): 1015-37 (2003). 19.1.2.3 Ramsteiner et al. JAOAC. 57(1): 192-201 (1974).

### Azoles in soil, vegetation and water - Basic Principles

Azole soil, vegetation, and water samples can be extracted in aqueous methanol, filtered and prepared for LC-MS/MS analysis.

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### Neonicotinoids in soil, water and vegetation - Purpose and Scope

Neonicotinoids are a class of neuro-active insecticides chemically similar to nicotine. The limits of detection for the neonicotinoids are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### Neonicotinoids in soil, water and vegetation - References

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### Neonicotinoids in soil, water and vegetation - Basic Principles

Neonicotinoids are fairly polar and are extracted with aqueous acetonitrile, filtered and prepared for LC-MS/MS analysis.

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Reviewed and approved by Regina Wixon, Ph.D.



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**Report Date: 2021-03-12****Preliminary Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-004  
Lab Sample Id : 21PE001511  
Customer Sample Id : Biochar Bagged  
Sample Description : Biochar  
Date Collected : 2021-03-03  
Date Received : 2021-03-05

**RESULTS**

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	Pending				
Acetamiprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Azoxystrobin	ppb	208	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	Pending		LC-MS/MS		
Clothianidin	ppb	8790	5	JAOACI 86(5)	2021-03-08	2021-03-09
Cyproconazole	ppb	Pending		LC-MS/MS		
Desthio-Prothioconazole	ppb	Pending		LC-MS/MS		
Difenoconazole	ppb	Pending		LC-MS/MS		
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuran	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Epoxiconazole	ppb	Pending		LC-MS/MS		
Fluconazole	ppb	Pending		LC-MS/MS		
Fluxastobin	ppb	1860	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Glyphosate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Imidacloprid	ppb	449	5	JAOACI 86(5)	2021-03-08	2021-03-09
Ipconazole	ppb	Pending		LC-MS/MS		
Isavuconazole	ppb	Pending		LC-MS/MS		
Itraconazole	ppb	Pending		LC-MS/MS		
Metconazole	ppb	Pending		LC-MS/MS		
Nitenpyram	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Orysastobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Posaconazole	ppb	Pending		LC-MS/MS		



Propiconazole	ppb	Pending		LC-MS/MS		
Prothioconazole	ppb	Pending		LC-MS/MS		
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	Pending		LC-MS/MS		
Sulfonic Acid Prothioconazole	ppb	Pending		LC-MS/MS		
Tebuconazole	ppb	Pending		LC-MS/MS		
Tetraconazole	ppb	Pending		LC-MS/MS		
Thiabendazole	ppb	Pending		LC-MS/MS		
Thiacloprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Thiamethoxam	ppb	213	5	JAOACI 86(5)	2021-03-08	2021-03-09
Trifloxystrobin	ppb	98.1	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	Pending		LC-MS/MS		
Voriconazole	ppb	Pending		LC-MS/MS		

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb					
Acetamiprid	ppb	ND	102	ND	ND	ND
Azoxystrobin	ppb	216	112	ND	ND	ND
Brassinazole	ppb					
Clothianidin	ppb	7880	127	ND	ND	ND
Cyproconazole	ppb					
Desthio-Prothioconazole	ppb					
Difenoconazole	ppb					
Dimoxystrobin	ppb	ND	109	ND	ND	ND
Dinotefuran	ppb	ND	88.7	ND	ND	ND
Epoxiconazole	ppb					
Fluconazole	ppb					
Fluoxastrobin	ppb	1990	119	ND	ND	ND
Glufosinate	ppb	ND	103	ND	ND	ND
Glyphosate	ppb	ND	101	ND	ND	ND
Imidacloprid	ppb	430	108	ND	ND	ND
Ipconazole	ppb					
Isavuconazole	ppb					
Itraconazole	ppb					
Metconazole	ppb					
Nitenpyram	ppb	ND	125	ND	ND	ND
Orysastrobin	ppb	ND	96.4	ND	ND	ND
Picoxystrobin	ppb	ND	113	ND	ND	ND
Posaconazole	ppb					
Propiconazole	ppb					
Prothioconazole	ppb					
Pyraclostrobin	ppb	ND	107	ND	ND	ND
Ravuconazole	ppb					
Sulfonic Acid Prothioconazole	ppb					
Tebuconazole	ppb					
Tetraconazole	ppb					
Thiabendazole	ppb					
Thiacloprid	ppb	ND	106	ND	ND	ND
Thiamethoxam	ppb	205	97.6	ND	ND	ND

Trifloxystrobin	ppb	106	115	ND	ND	ND
Uniconazole	ppb					
Voriconazole	ppb					

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**Comments:**

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**Definitions:**

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

**Reviewed and approved by Regina Wixon, Ph.D.**

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**Report Date: 2021-03-12****Preliminary Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-004  
Lab Sample Id : 21PE001512  
Customer Sample Id : Biochar Furnace  
Sample Description : Biochar  
Date Collected : 2021-03-03  
Date Received : 2021-03-05

**RESULTS**

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	Pending				
Acetamiprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Azoxystrobin	ppb	6.91	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	Pending		LC-MS/MS		
Clothianidin	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Cyproconazole	ppb	Pending		LC-MS/MS		
Desthio-Prothioconazole	ppb	Pending		LC-MS/MS		
Difenoconazole	ppb	Pending		LC-MS/MS		
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuran	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Epoxiconazole	ppb	Pending		LC-MS/MS		
Fluconazole	ppb	Pending		LC-MS/MS		
Fluoxastrobin	ppb	120	5	LC-MS/MS	2021-03-08	2021-03-10
				J. Agric. Food		
Glufosinate	ppb	ND	10	Chem. 34 535-538	2021-03-08	2021-03-11
				J. Agric. Food		
Glyphosate	ppb	ND	10	Chem. 34 535-538	2021-03-08	2021-03-11
Imidacloprid	ppb	<5	5	JAOACI 86(5)	2021-03-08	2021-03-09
Ipconazole	ppb	Pending		LC-MS/MS		
Isavuconazole	ppb	Pending		LC-MS/MS		
Itraconazole	ppb	Pending		LC-MS/MS		
Metconazole	ppb	Pending		LC-MS/MS		
Nitenpyram	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Posaconazole	ppb	Pending		LC-MS/MS		



Propiconazole	ppb	Pending		LC-MS/MS		
Prothioconazole	ppb	Pending		LC-MS/MS		
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	Pending		LC-MS/MS		
Sulfonic Acid Prothioconazole	ppb	Pending		LC-MS/MS		
Tebuconazole	ppb	Pending		LC-MS/MS		
Tetraconazole	ppb	Pending		LC-MS/MS		
Thiabendazole	ppb	Pending		LC-MS/MS		
Thiacloprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Thiamethoxam	ppb	10.7	5	JAOACI 86(5)	2021-03-08	2021-03-09
Trifloxystrobin	ppb	5.43	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	Pending		LC-MS/MS		
Voriconazole	ppb	Pending		LC-MS/MS		

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb					
Acetamiprid	ppb	21PE001511	102	ND	ND	ND
Azoxystrobin	ppb	21PE001511	112	ND	ND	ND
Brassinazole	ppb					
Clothianidin	ppb	21PE001511	127	ND	ND	ND
Cyproconazole	ppb					
Desthio-Prothioconazole	ppb					
Difenoconazole	ppb					
Dimoxystrobin	ppb	21PE001511	109	ND	ND	ND
Dinotefuran	ppb	21PE001511	88.7	ND	ND	ND
Epoxiconazole	ppb					
Fluconazole	ppb					
Fluoxastrobin	ppb	21PE001511	119	ND	ND	ND
Glufosinate	ppb	21PE001511	103	ND	ND	ND
Glyphosate	ppb	21PE001511	101	ND	ND	ND
Imidacloprid	ppb	21PE001511	108	ND	ND	ND
Ipconazole	ppb					
Isavuconazole	ppb					
Itraconazole	ppb					
Metconazole	ppb					
Nitenpyram	ppb	21PE001511	125	ND	ND	ND
Orysastrobin	ppb	21PE001511	96.4	ND	ND	ND
Picoxystrobin	ppb	21PE001511	113	ND	ND	ND
Posaconazole	ppb					
Propiconazole	ppb					
Prothioconazole	ppb					
Pyraclostrobin	ppb	21PE001511	107	ND	ND	ND
Ravuconazole	ppb					
Sulfonic Acid Prothioconazole	ppb					
Tebuconazole	ppb					
Tetraconazole	ppb					
Thiabendazole	ppb					
Thiacloprid	ppb	21PE001511	106	ND	ND	ND
Thiamethoxam	ppb	21PE001511	97.6	ND	ND	ND

Trifloxystrobin	ppb	21PE001511	115	ND	ND	ND
Uniconazole	ppb					
Voriconazole	ppb					

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**Comments:**

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**Definitions:**

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

**Reviewed and approved by Regina Wixon, Ph.D.**

Submitted by the customer:

AZOTES, Neonics, Strobilins, OP,



20210305-004  
21PE001509-001512

Abamectin

Pesticide Residue Sample Submission Form

South Dakota Agricultural Laboratories  
1335 Western Avenue  
Brookings, SD. 57006  
(605) 692-7325

20210305-004

21PE001509-1512

Test #1-1444 1509

Test #2-1443 1510

Bio Char Bagged 1511

Bio Char Furnace 1512

Name: Dave Schumacher

\*Sample ID:

Address: 245 Fallbrook Blvd. City: Lincoln

State: NE

Zip: 68521

Phone: (402) 471-4709

\*\*Email: david.schumacher@nebraska.gov

\*Sample ID must be marked clearly on the sample you submit. \*\*Results will be emailed to the provided email address.

Billing Information: ☐ Check box if billing is the same as the customer information

Name: Nebraska Dept. of Environment and Energy

Address: 245 Fallbrook Blvd.

City: Lincoln

State: NE

Zip: 68521

Phone: (402) 471-4709

Email: NDEE.accounting@nebraska.gov

Individual tests are \$162 each, unless otherwise marked. Scans are \$212 and include all of the compounds in a particular category. Acceptable samples include Vegetation, Water or Soil. Call to confirm other substrates. Invoices can be sent ~~electronically~~ to: NDEE.accounting@nebraska.gov

Thank you for choosing South Dakota Agricultural Labs! We do add analytes to our testing regimen throughout the year. If a chemical of interest is not listed, please call us:

(605) 692-7325.

**How much sample should you send?**

Please send 30g of vegetation or 100g of soil to run an individual test. What does this look like? For vegetation, it would be about a quart sized bag packed full. If more than one test is required, please fill a gallon sized bag. For soil samples, please send 2 cups, if more than one test is required send 4 cups.

**Analyses offered**

Please turn page over to view the current pesticide analyses.

If you are interested in a screen of active ingredients, please check the box next to the **bold-faced** heading. This will include all active ingredients within the PGR screen for \$212.

Example: PGR Screen ☒

If you are interested in single analyses, please circle the active ingredients. The cost of each individual analyte is \$162 unless otherwise marked.

Example: Mesotrione

Sample(s) Received at SD Ag Labs

Date: 2021-03-05

Received by  
Alyssa Kennedy