

PCS 84069

Buell, Thomas

From: Schumacher, David
Sent: Thursday, March 18, 2021 1:44 PM
To: Buell, Thomas
Subject: FW: Lab Test Results - 20210301-009
Attachments: 20210301-009.pdf

Public water
Supply Sampling
results.

David Schumacher
Monitoring Section Supervisor
Nebraska Department of Environment and Energy P.O. Box 98922
245 Fallbrook Blvd.
Lincoln, NE 68521
(402) 471-4709

-----Original Message-----

From: regina.wixon@sdaglabs.com <regina.wixon@sdaglabs.com>
Sent: Monday, March 15, 2021 3:43 PM
To: Schumacher, David <david.schumacher@nebraska.gov>
Cc: regina.wixon@sdaglabs.com; katie.ahlstrom@sdaglabs.com; terri.vanerem@sdaglabs.com
Subject: Lab Test Results - 20210301-009

Please find the results of analysis for your recent submission to South Dakota Agricultural Laboratories. These results are indicative of the sample(s) as received at the laboratory. We invite you to visit our website at <https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.sdaglabs.com%2F&data=04%7C01%7Cthomas.buell%40nebraska.gov%7C246953ec48d64c3fc67108d8ea3dd564%7C043207dfe6894bf6902001038f11f0b1%7C0%7C0%7C637516898701431110%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IkhWwWlCjXVCI6Mn0%3D%7C1000&data=%2FyjY7WKPrOcRx9meqMNZHR1iswHbJUkON%2BBH9ZI25sw%3D&reserved=0> for submission forms, definitions for symbols and abbreviations used in the report, interpretation documents, a complete listing of services and fees, sampling instructions and other information. We appreciate comments to improve our website and its usefulness to you.

Thank you very much for supporting our laboratory. If there is anything we can do to further assist you, please let us know.

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20210023782

Performed By:

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
Lab Sample Id : 21PE001399
Customer Sample Id : Army National Guard - CATS - West Well #1
Sample Description : WATER
Date Collected : 2021-02-26
Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	ND	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	ND	87.5	ND	ND	ND
Glyphosate	ppb	ND	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
Lab Sample Id : 21PE001400
Customer Sample Id : Army National Guard - CATS - East Well #2
Sample Description : WATER
Date Collected : 2021-02-26
Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	ND	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	ND	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	ND	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	ND	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	ND	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	ND	108	ND	ND	ND
Thiamethoxam	ppb	ND	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

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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 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.

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

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.

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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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

Performed By:

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
 Lab Sample Id : 21PE001401
 Customer Sample Id : Army National Guard - CATS -East Well #2
 Sample Description : WATER
 Date Collected : 2021-02-26
 Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	ND	100	ND	ND	ND
Brassinazole	ppb	ND	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	ND	118	ND	ND	ND
Desthio-Prothioconazole	ppb	ND	111	ND	ND	ND
Difenoconazole	ppb	ND	87.8	ND	ND	ND
Dimoxystrobin	ppb	ND	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	ND	101	ND	ND	ND
Fluconazole	ppb	ND	125	ND	ND	ND
Fluoxastrobin	ppb	ND	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	ND	99.7	ND	ND	ND
Isavuconazole	ppb	ND	102	ND	ND	ND
Metconazole	ppb	ND	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	ND	107	ND	ND	ND
Picoxystrobin	ppb	ND	86.9	ND	ND	ND
Propiconazole	ppb	ND	93.1	ND	ND	ND
Prothioconazole	ppb	ND	103	ND	ND	ND
Pyraclostrobin	ppb	ND	79.0	ND	ND	ND
Ravuconazole	ppb	ND	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	ND	109	ND	ND	ND
Tebuconazole	ppb	ND	122	ND	ND	ND
Tetraconazole	ppb	ND	120	ND	ND	ND
Thiabendazole	ppb	ND	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	ND	55.0	ND	ND	ND
Uniconazole	ppb	ND	96.9	ND	ND	ND
Voriconazole	ppb	ND	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
 Lab Sample Id : 21PE001402
 Customer Sample Id : UNL - Well #9
 Sample Description : WATER
 Date Collected : 2021-02-26
 Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
Lab Sample Id : 21PE001403
Customer Sample Id : UNL - Well #27
Sample Description : WATER
Date Collected : 2021-02-26
Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
Lab Sample Id : 21PE001404
Customer Sample Id : Village of Mead, East Well #58-1
Sample Description : WATER
Date Collected : 2021-02-26
Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

Performed By:

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 E-Mail: regina.wixon@sdaglabs.com

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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
 Lab Sample Id : 21PE001405
 Customer Sample Id : Village of Mead, West Well #92-1
 Sample Description : WATER
 Date Collected : 2021-02-26
 Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001399	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
Picoxystrobin	ppb	21PE001401	86.9	ND	ND	ND
Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
Prothioconazole	ppb	21PE001401	103	ND	ND	ND
Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

Performed By:

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 245 Fallbrook Blvd
 Lincoln ,NE 68521
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Report Date: 2021-03-15**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210301-009
 Lab Sample Id : 21PE001406
 Customer Sample Id : Trip Blank
 Sample Description : WATER
 Date Collected : 2021-02-26
 Date Received : 2021-03-01

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Fluoxastrobins	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-02	2021-03-05
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-02	2021-03-02
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-02	2021-03-02
Orysastrobins	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-02	2021-03-02
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-02	2021-03-02
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-03
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-02	2021-03-02

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	ND	81.1	ND	ND	ND
Acetamprid	ppb	21PE001400	111	ND	ND	ND
Azoxystrobin	ppb	21PE001401	100	ND	ND	ND
Brassinazole	ppb	21PE001401	125	ND	ND	ND
Clothianidin	ppb	21PE001400	98.8	ND	ND	ND
Cyproconazole	ppb	21PE001401	118	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001401	111	ND	ND	ND
Difenoconazole	ppb	21PE001401	87.8	ND	ND	ND
Dimoxystrobin	ppb	21PE001401	127	ND	ND	ND
Dinotefuron	ppb	21PE001400	109	ND	ND	ND
Epoxiconazole	ppb	21PE001401	101	ND	ND	ND
Fluconazole	ppb	21PE001401	125	ND	ND	ND
Fluoxastrobin	ppb	21PE001401	106	ND	ND	ND
Glufosinate	ppb	21PE001399	87.5	ND	ND	ND
Glyphosate	ppb	21PE001399	78.8	ND	ND	ND
Imidacloprid	ppb	21PE001400	100	ND	ND	ND
Ipconazole	ppb	21PE001401	99.7	ND	ND	ND
Isavuconazole	ppb	21PE001401	102	ND	ND	ND
Metconazole	ppb	21PE001401	109	ND	ND	ND
Nitenpyram	ppb	21PE001400	113	ND	ND	ND
Orysastrobin	ppb	21PE001401	107	ND	ND	ND
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Propiconazole	ppb	21PE001401	93.1	ND	ND	ND
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Pyraclostrobin	ppb	21PE001401	79.0	ND	ND	ND
Ravuconazole	ppb	21PE001401	112	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001401	109	ND	ND	ND
Tebuconazole	ppb	21PE001401	122	ND	ND	ND
Tetraconazole	ppb	21PE001401	120	ND	ND	ND
Thiabendazole	ppb	21PE001401	102	ND	ND	ND
Thiacloprid	ppb	21PE001400	108	ND	ND	ND
Thiamethoxam	ppb	21PE001400	111	ND	ND	ND
Trifloxystrobin	ppb	21PE001401	55.0	ND	ND	ND
Uniconazole	ppb	21PE001401	96.9	ND	ND	ND
Voriconazole	ppb	21PE001401	85.8	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

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ND - Not Detected above the limit of quantification

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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

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BRIEF METHOD DESCRIPTION

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Strobins in Water - References

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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.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

Submitted by the customer:

20210301-009
21PE001399-1406



Pesticide Residue Sample Submission Form

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

20210301-009
21PE001399-1406

Well 1, Well 2, Well 3, Well 4,
Well 5, Well 1 - Replicate,

Name: David Schumacher *Sample ID: Well 1, Well 2, Well 3, Well 4, Well 5, Well 1 - Replicate,
Address: 245 Fallbrook Blvd. City: Lincoln State: NE Trip Blank
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: P.O. Box 98922
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.

Thank you for choosing South Dakota Agricultural Labs! We do add analytes to our testing regiment throughout the year. If a chemical of interest is not listed, please call us: sample received at SD Ag Labs
(605) 692-7325 Date: 2021-03-01

How much sample should you send?

Received by
Emilie Rodengen

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

Electronic invoice can be sent to NDEE.accounting@nebraska.gov

20210301-009
21PF001399-001400

AltEN-PWS

Station ID: Well 1
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(Army National Guard - CATS - West Well #1)

AltEN-PWS

Station ID: Well 2
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(Army National Guard - CATS - East Well #2)

AltEN-PWS

Station ID: Field Replicate - Well 2
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(Army National Guard - CATS - East Well #2)

AltEN-PWS

Station ID: Well 3
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(UNL - Well #9)

AltEN-PWS

Station ID: Well 4
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(UNL - Well #27)

AltEN-PWS

Station ID: Well 5
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(Village of Mead, East Well #58-1)

AltEN-PWS

Station ID: Well 6
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic
(Village of Mead, West Well #92-1)

AltEN-PWS

Station ID: Trip Blank - AltEN PWS
Sample Date: 2-26-21
Collector: Tim Thares
500 ml, plastic

