



Department of
Environmental
Conservation

Long Island Pesticide Pollution Prevention Strategy

2nd TRAC Meeting – Focused P2/BMP Discussion

February 26, 2015

Agenda

- 10:00 - 10:15 Introduction
- 10:15 - 11:15 Atrazine Update and P2 Discussion
- 11:15 - 11:30 Break
- 11:30 - 12:45 Metalaxyl/Mefenoxam Update and P2 Discussion
- 12:45 - 1:15 LUNCH
- 1:15 - 2:45 Imidacloprid Update and P2 Discussion
- 2:45 - 3:30 Discussions/Thoughts/Next Steps



Today's Goals

- 1) Provide an Overview on Updates to Data Packages
- 2) Discuss BMPs/P2 Measures for Each AI
- 3) Select Highest Priority BMPs/P2 Measures
- 4) How to Implement and Reach Out to Stakeholders
- 5) Identify Stakeholders



Follow-Up Items

- 1) Possible Practices Based on Use Patterns
- 2) Integrate CCE of SC Profile Information into Documents
- 3) Prioritize Possible Measures
- 4) Identify Critical Uses
- 5) Soil Health Discussion
- 6) Outreach and Education
- 7) Expand on IPM
- 8) Co-Occurrences and Degradates in Groundwater



Atrazine

Updates & Options

Atrazine Data Package Updates

- 1) Added Sales + Use by Zip Code
- 2) Alternatives Section Expanded
- 3) Added EIQ to Pesticide Table
- 4) Added an Alternatives Matrix
- 5) Added Land Cover Figure – Residential Uses Apparent
- 6) Summary/Proposal Added

5.0 Summary of Possible Pollution Prevention Measures

As discussed in Section 2.4 (Availability of Alternatives) and summarized in the atrazine alternatives table included as Attachment 3, there are several possible pollution prevention measures that can be applied to improve the overall use of atrazine while also reducing or eliminating the movement of atrazine into Long Island's groundwater. With atrazine no longer being used for non-agricultural purposes at the higher application rates and the primary atrazine use being related to sweet corn production at rates typically below 2.5 pounds ai/acre, emphasis is placed on possible pollution prevention measures for atrazine use on sweet corn crops. The reduced frequency of atrazine detections in groundwater combined with less atrazine usage support the use of best management practices and/or pollution prevention measures as an approach to address groundwater concerns. Success in reducing and/or eliminating the leaching of atrazine to the groundwater system will not necessarily occur with adoption of an individual practice, but instead will be realized through a combination of the practices identified for atrazine.

Possible Practices to Improve Atrazine Applications

With data suggesting that atrazine remains effective as a pre and post emergent herbicide at application rates at or slightly below one pound per acre per year, a best management practice will be adopted for the use of atrazine at a maximum rate of 0.75 pounds per acre per year. The lower application rate can be accomplished in tank-mixes with other herbicides. This measure is consistent with voluntary best management practices developed by the Minnesota Department of Agriculture where atrazine should be used as part of a tank-mix at a maximum application rate of 0.8 lbs ai/acre.

In addition to a reduction in application rates, measures can be applied to more effectively apply atrazine to sweet corn crops. This includes applying atrazine by banding over the row of crops and either cultivating or using post-emergence herbicides between the rows. This practice involves applying atrazine as a focused band over the row crop at planting or during cultivation rather than over the entire field. Cultivation practices or alternative herbicides are applied to



Possible Alternatives

- 1) Modified Applications
- 2) Possible Alternative Active Ingredients
- 3) Non-Pesticide Options



Modified Applications

1) Application Modifications

- ▶ Tank mix with other herbicides.
- ▶ Apply atrazine by banding over the row and either cultivating or using post-emergence herbicides between the rows.
- ▶ Restrict the use of atrazine to one (1) spring application per year.
- ▶ Lower atrazine application rate to below 1 pound active ingredient/acre/year.
- ▶ Adjust application timing to maximize quantity staying on target and loss of atrazine through runoff.
- ▶ Restrict the use of atrazine to corn crops.
- ▶ Promote guidance on buffer zones necessary for atrazine usage.
- ▶ Rotate atrazine with other herbicides.
- ▶ Use of Precision application methods.
- ▶ Improve calibration of application equipment.

Possible Atrazine Alternatives

2) Herbicides that are Possible Alternatives to Atrazine or that can be used in Rotation with Atrazine

Active Ingredient Name (Product Trade Name)

Nicosulfuron (Accent)

Carfentrazone (Aim EC)

Bentazon (Basagran)

Mesotrione (Callisto)

Topramezone (Impact)

Tembotrione (Laudis)

Foramsulfuron (Option)

Halosulfuron (Sandea, Permit)

Pendimethalin (Prowl)

Glyphosate (Roundup Weathermax)

2,4-D (Weedar 64)

Possible Non-Pesticide Alternatives

3) Possible Non-Pesticide Alternatives

Scout and map weeds to improve selection of the most appropriate weed control practices.

Plant a cover crop after harvest to compete with weeds.

Use cultivation practices for the control or partial control of weeds.

Improve soil health and quality to promote immobilization of herbicides, increase water holding capacity, and reduce erosion while increasing crop health and yield. Can be achieved through a combination of cultivation practices and measures to increase soil organic matter.

Shorten corn crop rotations to disrupt weed cycles.

Forecasting Models - Encourage or require the use of weather information and pest models found on NEWA for timing of scouting and management applications. <http://newa.cornell.edu/>

Use of early, post-crop planting tine weeding.

Control the field through mowing after harvest to reduce weed seed production.

Plant into a killed cover crop.

Interseed cover crops after last cultivation to reduce weed development.

Flame and hot weeding in row crops.

Promote guidance on proper handling of containers and excess product to minimize potential for groundwater contamination.

Improve irrigation practices/develop an irrigation water management plan.

Prioritizing Possible Atrazine Alternatives

Cornell Cooperative Extension of Suffolk County

Implementation and Outreach - Atrazine



Identifying Stakeholders - Atrazine

- 1) Syngenta Crop Protection
- 2) Drexel Chemical Company
- 3) Sandy Menasha, CCE SC, Vegetable Specialist
- 4) John Bokina, Long Island Cauliflower Association
- 5) Steve Gardiner, Crop Protection Services



Mefenoxam

Updates & Options

Mefenoxam Data Package Updates

- 1) Added Sales + Use by Zip Code
- 2) Alternatives Section Expanded
- 3) Added an Alternatives Matrix
- 4) Added Land Cover Figure – Residential Uses Apparent
- 5) Summary/Proposal Added

5.0 Summary of Possible Pollution Prevention Measures

- Minimizing Conditions Leading to Disease Development
- Monitoring and Identifying Pathogens and Susceptibility to Mefenoxam Prior to Usage
- Possible Practices to Improve Mefenoxam Applications
- Education and Outreach
- Long-Term Monitoring and Measuring Success

Mefenoxam Possible Alternatives Tables

3 Tables

1. Fruit & Vegetable – Soil and Foliar Applications
2. Floral, Nursery, Turf – Soil Applications
3. Floral, Nursery, Turf – Foliar Applications

Maintained 3 Categories

1. Modified Applications
2. Possible Alternative Active Ingredients
3. Non-Pesticide Options



Prioritizing Possible Metalaxyl/Mefenoxam Alternatives

Cornell Cooperative Extension of Suffolk County

Implementation and Outreach – Metalaxyl / Mefenoxam

Identifying Stakeholders - Metalaxyl / Mefenoxam

- 1) Syngenta Crop Protection
- 2) Bayer Cropsience
- 3) Sandy Menasha, CCE of SC, Vegetable Specialist
- 4) Nora Catlin, CCE of SC, Greenhouse/Floriculture Specialist
- 5) Mina Vescera, CCE of SC, Nursery Specialist
- 6) Alice Wise, CCE of SC, Viticulturist
- 7) John Bokina, Long Island Cauliflower Association
- 8) Steve Gardiner, Crop Protection Services
- 9) Al Lane, Professional Tree Surgeons (PTS)
- 10) Tom Germano, Green Island
- 11) Griffin Greenhouse Supplies
- 12) Long Island Farm Bureau



Imidacloprid

Updates & Options

Imidacloprid Data Package Updates

- 1) Added Sales + Use by Zip Code
- 2) Alternatives Section Expanded
- 3) Added EIQ to Pesticide Table
- 4) Added an Alternatives Matrix
- 5) Added Land Cover Figure – Residential Uses Apparent
- 6) Summary/Proposal Added

Product Name	Active Ingredient	Restricted Use Pesticide	EIQ Total	Leaching Potential/GUS	Alternative Uses
					Greenhouse Crops, Landscape

5.0 Summary of Possible Pollution Prevention Measures

- Possible Practices to Improve Imidacloprid Applications
- Possible Non-Pesticide Practices for Pest Management
- Education and Outreach
- Long-Term Monitoring and Measuring Success

Malathion	Malathion	No	24	Low/1.28	Vegetable and Fruit Crops
Met 52	Metarhizium Anisopliae Strain 52 Spores	No	n/a	n/a	Nursery (outdoor)

Imidacloprid Possible Alternatives Tables

2 Tables

1. Fruit & Vegetable
2. Greenhouse, Nursery, Turf, & Landscape

Maintained 3 Categories

1. Modified Applications
2. Possible Alternative Active Ingredients
3. Non-Pesticide Options



Prioritizing Possible Imidacloprid Alternatives

Cornell Cooperative Extension of Suffolk County



Implementation and Outreach – Imidacloprid

Identifying Stakeholders - Imidacloprid

- 1) Bayer Cropscience
- 2) Nufarm Americas
- 3) Sandy Menasha, CCE of SC, Vegetable Specialist
- 4) Nora Catlin, CCE of SC, Greenhouse/Floriculture Specialist
- 5) Mina Vescera, CCE of SC, Nursery Specialist
- 6) Alice Wise, CCE of SC, Viticulturist
- 7) John Bokina, Long Island Cauliflower Association
- 8) Steve Gardiner, Crop Protection Services
- 9) Al Lane, Professional Tree Surgeons (PTS)
- 10) Tom Germano, Green Island
- 11) Griffin Greenhouse Supplies
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Discussion/Thoughts/Next Steps

- Stakeholder Meeting Locations
 - Region 1 Office?
 - CCE of SC Offices?
 - Farmingdale State College?

- Measuring Success
 - Groundwater Monitoring
 - Outreach Efforts
 - BMP Usage

