

AGENDA

Long Island Pesticide Pollution Prevention Strategy Atrazine Stakeholder Meeting – June 23, 2015

- 9:00 - 9:10 Introduction
- Meeting Goals
 - History
 - Comment Cards
 - Implementation Plans
- 9:10 - 9:20 Atrazine Overview
- Atrazine Usage & Background
- 9:20 - 9:30 Atrazine in Long Island Groundwater
- Groundwater Sampling Program
 - Groundwater Sampling Statistics
 - 2013 Groundwater Data
 - Groundwater Monitoring for Measuring Success
- 9:30 - 10:15 Atrazine Application Modifications – Discussion on Possible P2/BMPs
- Presentation with Discussion on Options
 - Identification of Priority P2/BMPs
- 10:15 - 10:30 Break
- 10:30 - 11:00 Possible Alternative/Rotational Herbicides
- Presentation with Discussion on Possible Alternative Herbicides
 - Identification of Alternative Herbicides
- 11:00 - 11:45 Possible Non-Pesticide Alternatives – Discussion on Possible Non-Pesticide P2/BMPs
- Presentation with Discussion on Options
 - Identification of Priority P2/BMPs
- 11:45 - 11:50 Meeting Summary
- 11:50 - 12:00 Comment Card Completion
- Staff Available for Question and Answer
 - Please Hand-In Prior to Leaving

AGENDA

Long Island Pesticide Pollution Prevention Strategy Metalaxyl/Mefenoxam Stakeholder Meeting – June 23, 2015

- 1:00 - 1:15 Introduction
- Meeting Goals
 - History
 - Comment Cards
 - Implementation Plans
- 1:15 - 1:25 Metalaxyl/Mefenoxam Overview
- Metalaxyl/Mefenoxam Usage & Background
- 1:25 - 1:35 Metalaxyl/Mefenoxam in Long Island Groundwater
- Groundwater Sampling Program
 - Groundwater Sampling Statistics
 - 2013 Groundwater Data
 - Groundwater Monitoring for Measuring Success
- 1:35 - 2:15 Metalaxyl/Mefenoxam Application Modifications – Discussion on Possible P2/BMPs
- Presentation with Discussion on Options
 - Identification of Priority P2/BMPs
- 2:15 - 2:30 Break
- 2:30 - 3:00 Possible Alternative/Rotational Fungicides
- Presentation with Discussion on Possible Alternative Fungicides
 - Identification of Alternative Fungicides
- 3:00 - 3:45 Possible Non-Pesticide Alternatives – Discussion on Possible Non-Pesticide P2/BMPs
- Presentation with Discussion on Options
 - Identification of Priority P2/BMPs
- 3:45 - 3:50 Meeting Summary
- 3:50 - 4:00 Comment Card Completion
- Staff Available for Question and Answer
 - Please Hand-In Prior to Leaving

AGENDA

Long Island Pesticide Pollution Prevention Strategy Imidacloprid Stakeholder Meeting – June 24, 2015

- 9:00 - 9:10 Introduction
- Meeting Goals
 - History
 - Comment Cards
 - Implementation Plans
- 9:10 - 9:20 Imidacloprid Overview
- Imidacloprid Usage & Background
- 9:20 - 9:30 Imidacloprid in Long Island Groundwater
- Groundwater Sampling Program
 - Groundwater Sampling Statistics
 - 2013 Groundwater Data
 - Groundwater Monitoring for Measuring Success
- 9:30 - 10:30 Imidacloprid Significant/Critical Uses on Long Island
- Presentation on Significant Long Island Use Patterns
 - Identification of Possible Modified Application Approaches
 - Identification of Alternative Insecticides
 - Identification of Possible Non-Pesticide Alternatives
- 10:30 - 10:45 Break
- 10:45 - 11:15 Imidacloprid Significant/Critical Uses on Long Island - **Continued**
- 11:15 - 11:45 Summary of Additional Alternatives
- Presentation with Discussion on Options
- 11:45 - 11:50 Meeting Summary
- 11:50 - 12:00 Comment Card Completion
- Staff Available for Question and Answer
 - Please Hand-In Prior to Leaving

Long Island Pesticide Pollution Prevention Strategy

Summary of the June 2015 Stakeholder Meeting

The NYSDEC Bureau of Pest Management convened three separate Stakeholder meetings on Tuesday, June 23 and Wednesday, June 24, 2015 to introduce possible best management practices (BMPs)/pollution prevention (P2) measures that are being considered for atrazine, imidacloprid, and metalaxyl/mefenoxam. The meetings were held at the Suffolk County Water Authority in Hauppauge, NY. Each meeting included a brief update on the Long Island Pesticide Pollution Prevention Strategy, a presentation on an anticipated education and outreach approach, a discussion on groundwater quality, and an introduction to the BMPs/P2 measures for each of the active ingredients. The BMPs/P2 measure discussion was divided into three categories: modified application approaches, alternative pesticides, and non-pesticide options/integrated pest management practices. More than 130 stakeholders were in attendance at the three meetings. A summary of the major points discussed for each of the three active ingredients is included in the tables below.

Atrazine

Selection of Primary Topics Discussed
<ul style="list-style-type: none">• When atrazine was first registered in 1958, the application rates were considerably higher than the current rates and atrazine had a larger number of crop and non-crop uses.• Atrazine is an important herbicide for farmers on Long Island. According to a local farmer, hay/straw and compost are coming into New York State from other states, which is bringing new species of weeds onto Long Island. Atrazine works extremely well and is economical to manage the existing weeds as well as the new weed species. It is too costly to use manual labor to remove weeds, and herbicides like atrazine are needed. Farmers do not want this active ingredient taken away.• Modified Applications:<ul style="list-style-type: none">○ The current maximum application rate for atrazine is 2.5 pounds active ingredient per acre per year (lbs ai/acre/yr). A possible BMP was presented that involved the use of atrazine at or below 1 lb ai/acre/yr. According to a local farmer, that proposed application would not work. There are weeds (i.e. lambs quarter) that are becoming resistant to herbicides. One application per year at the rate of 2 lbs/acre would be the ideal BMP (several farmers already practice this). However, if applied at 1 lb/acre then it would need to be mixed with other products. Going below 1 lb ai/acre/yr could lead to weed resistance development, but tank mixing atrazine with other herbicides is an effective option to manage weeds that may also address resistance.○ Limiting atrazine use to one seasonal application/year per planting of sweet corn may be an option. This is especially true as more products/techniques become available for managing weeds.○ Banding over the row crops and using other weed management techniques in between rows was discussed as an option. This option may require costly equipment. The Natural Resources Conservation Service (NRCS) may have funding to provide for system/equipment retrofitting/upgrades. A local farmer indicated that this is not a practical BMP and should be reconsidered. Cultivation between the rows does not necessarily eliminate the weeds, but instead moves them around, where they can then start to grow again.○ Rotation of atrazine with other herbicides was presented and was generally agreed as representing a good option, is a currently applied BMP, and is good for crop rotation.○ Use of precision application methods was discussed as an approach to reduce the potential for over-applying atrazine. This option would involve the use of global positioning system (GPS) technology and may require operator training. A grower had mentioned that this is an exciting field, but more research is needed at this point. The practice is being considered in western New York

where there are larger farms. This option may not be as applicable to the smaller farms located on Long Island.

- Some farmers are already successfully implementing core/standard BMP's (i.e. application timing, calibration of equipment, buffer zones etc.).

- Active Ingredient Alternatives:

- The active ingredient pendimethalin contained in Prowl is an effective alternative pesticide, but there could be some concerns with late season use on corn. Cornell is currently looking for better ways to use Prowl.
- Callisto would be better for grasses and will be worked into the overall recommendations.
- Leaching characteristics of the various alternative herbicides need to be made available when considering possible alternatives to atrazine.
- The SCWA laboratory has limitations to what parameters can be detected; currently, they may not be able to detect the proposed alternative active ingredients.

- Non-Pesticide Alternatives:

- Many farmers are practicing IPM techniques including: scouting & mapping weeds, utilizing cover crops at the end of the season, and shortening the corn crop rotation.
- The Suffolk County Soil and Water Conservation District can help farmers establish buffer zones. Avoiding atrazine applications in buffer zones is important because these zones prevent the rapid movement of herbicides to sensitive/susceptible areas.
- Tine weeding is being used, but on a very small scale. This is ideal for delicate plants (i.e. lettuce) and not necessarily for sweet corn crops.
- Improvements to irrigation techniques with the use of irrigation sensors was discussed as an alternative. There may be some NRCS funding to help with irrigation sensor costs and/or retrofitting existing irrigation systems.
- Improving soil health and quality is imperative to getting a better crop. Zone tillage and interseeding will really improve soil health, however it also requires new equipment. Zone tillage is also recommended over cultivation as cultivation will reduce soil health which, in turn, will increase leaching.
- An important part to some of the non-pesticide options is the development of a cultivation management plan. A management plan will allow growers to see the outcome of weed control techniques that are being applied.
- Flame and heat weeding was presented as an option for weed control. Growers indicated that this option is not used much. This option is limited to when it can be applied and it is dangerous. It was mentioned that this can be removed from the list of possible options.

Metalaxyl/Mefenoxam

Selection of Primary Topics Discussed

- Mefenoxam is a very effective fungicide as it moves through the whole plant. It is the only active ingredient that can stop and reverse late blight infection.
- Modified Application approaches were discussed:
 - Rotation with other fungicides – This is important for minimizing resistance buildup. The option however may actually increase costs and possibly unnecessarily increase the use of other fungicides. The leaching potential of alternative fungicides needs to be understood.

Selection of Primary Topics Discussed

- Limit the use of mefenoxam to a maximum of 2 annual applications per crop cycle. Currently, considerably more than 2 applications can be made. Reducing the volume of mefenoxam being applied by limiting the application to a maximum of two applications per year is a viable option. Some growers are already using this option.
- Improved calibration and properly working application equipment was discussed as an option to avoid misapplications. This practice can be improved, but may require equipment upgrades and increased costs.
- Utilizing treated seed would result in using considerably less fungicide than applying directly to vegetation. Additional fungicide treatment may still be required however, especially for vegetable crops. The treated seed option does not apply to each of the use patterns.
- Active Ingredient Alternatives
 - It was discussed that chlorothalonil, copper fungicides, and mancozeb can be effectively used in conjunction with mefenoxam.
 - Suffolk County laboratory is currently developing a list of analytes for some of the alternative active ingredients to expand the list of parameters that can be detected.
- Non-pesticide Alternatives:
 - Encourage the use of resistant cultivars. This mostly applies to tomato crops. It may apply to some apple farms and vineyards, but tends to be a very expensive option. However, for ornamentals, this may not be the best BMP as the market commonly demands an attractive plant rather than a disease resistant plant. This option is complicated because a plant may be resistant to one disease but not another. In some cases, even though a resistant strain was used, treatment with a fungicide may still be required.
 - Network for Environment and Weather Applications (NEWA) is a good resource for identifying pest pressure and for wind speed/directions. The University of Albany will be installing weather stations on two to three additional Long Island farms. If multiple crops are grown on a single farm, then this may make weather modeling difficult.
 - Crop rotation is a good option with some crops but not others. In particular, crop rotation does not work well with crops susceptible to late blight and downy mildew which have spores that can be easily transported by wind.
 - Improving soil health and quality is extremely important with all of the major use patterns. Aerating soil and reducing the compaction layer will ensure proper drainage of water and will reduce/lessen the chance of disease from spreading. Research is currently being conducted on biochar as a soil amendment.
 - Improving sanitation practices, including removal of infected vegetation, cleaning equipment and sanitizing surfaces are all important practices to prevent the spread of disease. It was agreed that these practices should be included as part of BMPs. It is also important to ensure that compost being used does not contain pathogens. Growers often put diseased plants and fruits into compost piles and if the piles are not heated to high enough temperatures to kill diseases they will persist and infect healthy plants.
 - Improving irrigation practices/development of irrigation management plan is important to avoid conditions that favor disease development. Some organisms (pythium/phytoptera) move in water and this allows the disease to rapidly spread. The type of irrigation system (drip vs. spray) and moisture monitoring to determine when irrigation is necessary are also important in managing disease. A lot of the sprinkler systems currently in use are old and could be upgraded. There may be some NRCS funding to help with irrigation sensor costs and/or retrofitting existing irrigation systems.

Imidacloprid

Selection of Primary Topics Discussed

- Imidacloprid was first registered for use in New York in 1995 and replaced older pesticides including Diazinon. Imidacloprid has a diverse array of uses.
- For imidacloprid, seven (7) major imidacloprid use patterns were discussed separately. This included:
 - 1) Food Crops – Potatoes, Fruiting Vegetable (soil treatment)
 - 2) Food Crops – Cucurbits (soil treatment)
 - 3) Food Crops – Greenhouse Tomato/Cucumber Production (soil treatment)
 - 4) Greenhouse Ornamental Crops
 - 5) Nursery Ornamental Crops
 - 6) Landscapes - Woody and herbaceous ornamentals
 - 7) Turf
- For each major use pattern, modified application approaches, possible alternative pesticides, and possible no-pesticide alternatives were discussed.
- In addition to the alternatives presented for potatoes and fruiting vegetables with an imidacloprid soil treatment, the addition of organic compost for soil health purposes and the use of wetting agents are additional options that can be considered. The use of a wetting agent retains more product in the upper two to three inches; it is commonly used on golf courses and works well. It was generally agreed that the lowest labeled rates should be used.
- Cucumber beetle alternative pesticides involve foliar applications and include: acetamiprid, pyrethroids, carbaryl, and methomyl. These are all registered in New York. There are additional pesticides used in other states that growers would like to use, but that have not been approved for use on Long Island. The overall behavior and use patterns would need to be fully understood.
- Seed treatment has been used for some cucurbits and the use of mulch that has been properly heated should be added to the list of alternatives.
- For landscape uses, imidacloprid is commonly used as a soil application for woody and herbaceous ornamentals.
- In NYS, the neighbor notification requirements apply. This results in less imidacloprid being applied foliarly and more as a soil application.
- Light irrigation and equipment that relies on sensors to prevent over-irrigation are options to reduce the off-target loss of imidacloprid.
- It may be beneficial to contact associations for a program for irrigation to avoid watering when it is not needed. For instance, irrigation controls could be outside homes so service can be turned off if needed.
- Nematodes with the right properties can be effective in some instances for managing grub populations. With additional research, areas can be determined where nematodes can be used and promote their use as a form of biological control.
- Through improved calibration and properly working application equipment, product would be applied more efficiently. If equipment is not properly calibrated, then the correct rates are not being applied. For this BMP, there should be training for workers.
- Spray application onto turf provides a more precise application versus a drop spreader. However, the liquid form is more expensive than the granular form and is more labor intensive. It was discussed that when using a drop spreader, the spreader should be fitted with a shield.
- There should also be outreach to homeowners for educational purposes so that they understand what is being applied by their landscapers. For instance, homeowners should be informed of the “BeGreen” program so that they have a choice when selecting landscapers.

General Discussion

- Have training programs for applicators/landscapers in both a video and in a classroom format. This should include being available in dual languages (Spanish and English).
- Provide DEC credits for participating in the training and provide additional credits for the high priority training (i.e. soil health).
- Education programs should be provided at the beginning of the season.
- NRCS may be able to provide funding for irrigation sensors. This funding is available and should be utilized.