Northern NY Agricultural Development Program
2011 Project Report

Project Title: Hands on Training for On-farm Application of Nematodes to Control Alfalfa Snout Beetle

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Collaborator(s):

Elson Shields, Professor, Department of Entomology, Cornell University
Antonio Testa, Research Support Specialist, Department of Entomology, Cornell University
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Julie Hansen Senior Research Associate, Cornell Department of Plant Breeding and Genetics, Cornell University
Anita Deming, Cornell Cooperative Extension Essex County
Rick LeVitre, Cornell Cooperative Extension Franklin County
Brent Buchanan, Cornell Cooperative Extension St. Lawrence County

Cooperating Producers:

Alfalfa Snout Beetle Workshops 2012, Farmer Participants

Shelmidine, Doug	Jefferson	Fox , Jason	Franklin
Sullivan, Gary	Lewis	Martin , Clinton	Franklin
Sullivan, Kristy	Lewis	Ooms, Josh	Franklin
Mahoney, Jackie	Lewis	DeBeer, Mary	Franklin
Jones, Zach	Lewis	Choiniere, Real	Franklin
Greip, Jacob	Jefferson	Choiniere, Jean Louis	Franklin
Yousey, Nathan	Lewis	Mallette, Rod	Franklin
Schrag, Wilfred	Lewis	Dimock, Bruce	Clinton
Bonowski, Tom	Oswego	Beane, John	Franklin
Gohlert, Bernie	Lewis		

*Meeting was also attended by local agri-service professionals.

Background:

Alfalfa snout beetle remains the single most important limiting factor for alfalfa production in the NNY region where larval feeding kills out large portions of alfalfa stands each year. Long-term support from NNYADP has helped to identify biological control nematodes which have been demonstrated to be very effective in controlling alfalfa snout beetle in fields when applied. Since the nematodes are native to NNY, they persist in the fields after application for many years.

The Shields Lab, in cooperation with CCE and local farmers, have developed and fine tuned a very straight forward and low cost method for farmers to apply these nematodes to their own fields. To date, bio-control nematodes have been applied to 137 NNY alfalfa fields infested with alfalfa snout beetle. The current breakdown of nematode applied fields across the NNY 6 county region is: Lewis – 43 fields, St Lawrence – 39 fields, Jefferson – 25 fields, Franklin – 16 fields, Essex – 7 fields, Clinton – 7 fields. Since 2009, 24 farmers have self-applied nematodes to 48 of their own fields and the farmers reared the nematodes themselves for 20 of the 48 fields.

Farmers who have utilized this method have found the application technique to be very user friendly and several now have several years of experience rearing and applying nematodes on their own farms. We have also observed great collaboration between farms in sharing low cost, homemade nematode applicators (sprayers).

However, there are also a number of farmers who have been hesitant to implement this control. We believe that despite a highly visible educational presence on the topic at various meetings and through newsletter articles, etc. that many farms need to see the process in person to fully understand how it works before they are willing to try it.

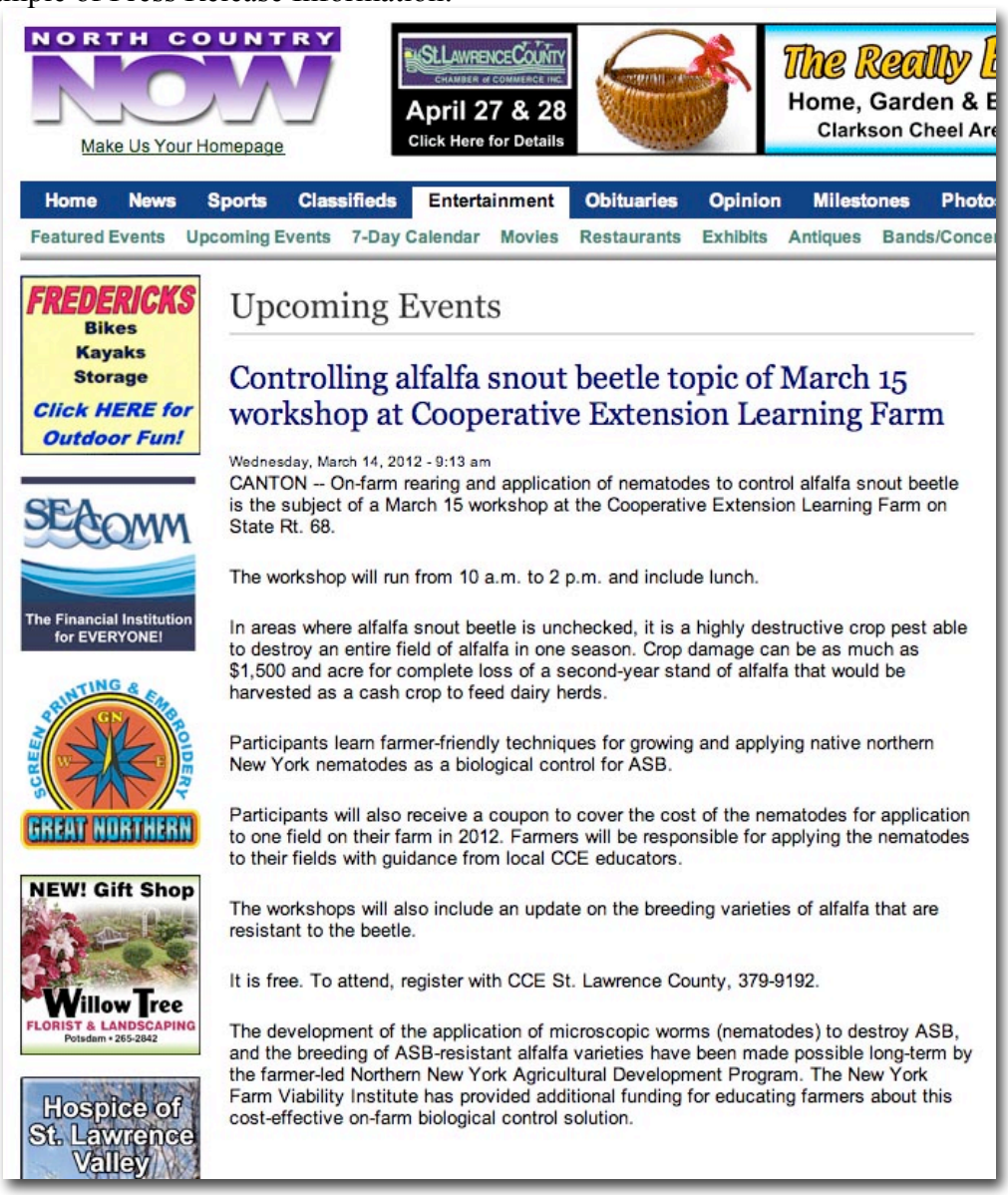
Methods:
Three hands-on farmer workshops were organized across Northern NY. These workshops were held in Copenhagen (Lewis County) on March 6, 2012; Malone (Franklin County) on March 14, 2012 and Canton (St Lawrence County) on March 15, 2012.

The workshops were advertised through Cornell Cooperative Extension newsletters, websites and electronic communications. In addition a Press Release was issued to area media outlets and appeared in several publications and websites; including, Watertown Daily Times, Lowville Journal and Republican, Syracuse Post Standard, North Country Now, Jefferson County Journal, Farming Online, CCE News, Morning Ag Clips, Plattsburgh Press Republican and the NNY Gazette.

At each workshop farmers and agri-service professionals received hands-on instruction from Antonio Testa, Department of Entomology, Cornell and Dr. Julie Hanson, Department of Plant Breeding and Genetics, Cornell. The training included updates on research pertaining to both the biological control of Alfalfa Snout Beetle by Nematodes and the Plant Breeding effort to develop a variety of alfalfa with resistance to the damage done by Alfalfa Snout Beetle Larvae. The hands-on portion of the workshop allowed farmers to go through the process of growing their own nematodes and preparing them for field application.

As a result of attending a workshop each farmer received the supplies needed to for application of nematodes to a subset of fields on their farm in the summer of 2012.

Example of Press Release Information:



Results:

Despite the extensive efforts to promote the workshops attendance varied across the three workshop locations. Total attendance was 23 for the three workshops representing an estimated 10,000 acres of cropland across Northern NY. In addition to farm attendants several agri-service professionals attended which will result in a greater dissemination of the information as they will be able to share the information with a larger number of their farm clients.

Conclusions/Outcomes/Impacts:

While we always strive for greater attendance this effort was successful in providing a means for farmers to receive hands-on training, equipping them to utilize this beneficial and environmentally friendly control measure for Alfalfa Snout Beetle on their farms.

Feedback from the workshops was very positives and farmers that attended said they were more comfortable with implementing the process on their farms as a result of attending. Directly through this project the farmers that attended are equipped to apply nematodes to approximately 1,200 acres of land in 2012. Indirectly, what they learned through the workshops will encourage them to apply this control method to all of their land as it is rotated into Alfalfa production in the coming years.

Successful use of these methods by the farms that attended will be utilized as an example for other farmers in their community to show this as an effective and economical means of reducing the impact of Alfalfa Snout Beetle on their farms leading to more acres being treated.

Outreach:

Cornell Cooperative Extension educators continue to promote the use of nematodes as a biological control for Alfalfa Snout Beetle to farmers through a variety of mechanisms, including farm visits, newsletter articles and demonstrations.

Additionally CCE educators continue to work with Cornell Staff to promote these methods including through the release of electronic communication resources such as the new Alfalfa Snout Beetle website which was developed with support from the Northern NY Agricultural Development Program.

Publicist Kara Dunn has done follow up interviews with a subset of the farmers who attended the workshops and a press release is being generated to publicize what was learned through the workshop and encourage other farmers to learn more about this as a control method for Alfalfa Snout Beetle on their own farms.

Next steps if results suggest continued work is needed in the areas of research, demonstration and/or education.

Cooperative Extension Educators will be working closely with farmers who attended the workshops, providing technical support throughout the 2012 growing season to assure that they properly utilized the resources provided to them through the workshops to apply nematodes to their fields.

Cornell staff will monitor fields that will be inoculated in 2012 to assure that the nematode application are successful and persist in the fields to assure continued control of Alfalfa Snout Beetle.

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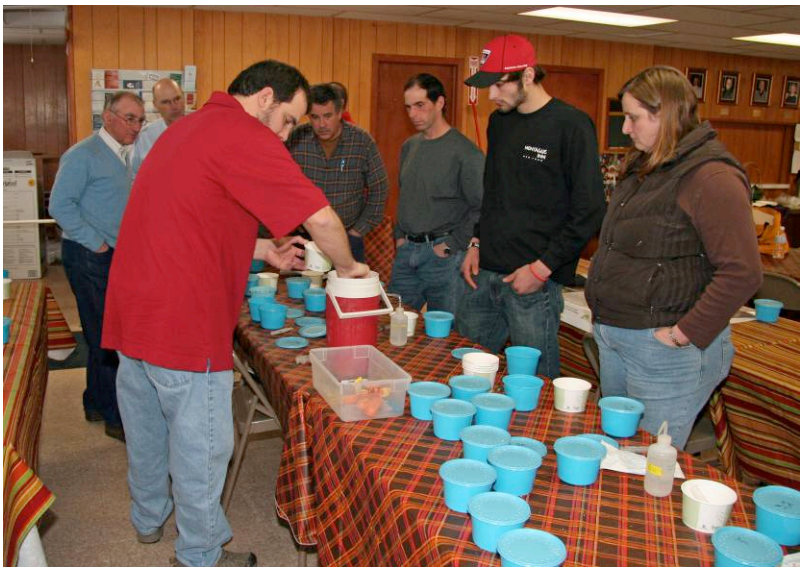
Photos

Copenhagen Workshop: Back Row: (L to R) Doug Shelmidine, Sheland Farm, Jefferson County; Antonio Testa, Cornell; Mike Hunter, CCE Jefferson County; Joe Lawrence, CCE Lewis County. Front Row: (L to R) Gary Sullivan, Sullivan's Heifer Hotel, Lewis County; Julie Hanson, Cornell. Photo credit: Kara Dunn



Antonio Testa, Cornell demonstrates the process of raising the nematodes to participants. Photo credit: Kara Dunn

Participants practice nematode rearing procedures. Photo credit: Kara Dunn