

**Northern NY Agricultural Development Program
2011-2012 Project Report**

Project Title:

On Farm Rearing of Biocontrol Nematodes for Alfalfa Snout Beetle: Improving outreach communications with multimedia approaches.

Project Leader(s):

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Cooperating Producers:

There are no producers to list for this project report. The following research activities were accomplished at Cornell University in our research facilities and did not require cooperation from outside producers;

- 1) Update all pertinent information about alfalfa snout beetle, damage, management with biological control nematodes, and rearing / application procedures for web publication.
- 2) Format all documents and pictures for web publication.
- 3) Create a Facebook page dedicated to alfalfa snout beetle, rearing and application of biological control nematodes.
- 4) Create and upload formatted documents to the NNYADP web master to be included in new alfalfa snout beetle web page.
- 5) Record “Nematode Rearing” instructional videos and upload to NNYADP web page, Facebook, and YouTube.

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. To date, biocontrol 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, farmers have self-applied nematodes to 48 of their own fields and the farmers reared the nematodes themselves for 20 of the 48 fields. Nematode treated areas of all fields have been recorded and those areas are visited annually to document nematode persistence for the duration of the alfalfa stand and nematode persistence across a corn rotation. This persistence database will allow estimates to be made about the necessity of reapplication of biocontrol nematodes to newly seeded alfalfa fields to prevent alfalfa snout beetle reinvasion.

In the initial 2009 pilot program effort funded by NYFVI to teach farmers to rear and apply their own nematodes, 10 farmers successfully participated. A second grant to expand the pilot program to a larger group of NNY farmers was funded by NYFVI in 2010-11 and then pulled back due to NYS financial problems before the program was initiated. Subsequently, funds were “borrowed” from other projects in the Shields’ lab to assist 6 additional farmers with rearing and applying their own nematodes in 2010. In 2011, assistance was provided to 8 farmers from “borrowed” funds to continue the nematode rearing/application process across the North Country. In a continuing effort to expand the “Farmer Nematode Rearing and Application” program, a proposal was funded by Cornell Extension with monies available in the October 2011 – September 2014. These funds will partially support expanded efforts to work with NNY farmers and will be focused primarily on “hands on” instruction/assistance during the application season (April-October). This “Hands On” project would be greatly enhanced with a greater web presence, improved manual (electronic) and instructional videos and was the focus of this NNYADP proposal.

During the past six months our program has developed a Facebook page that allows individuals to have access to alfalfa snout beetle information, links to the various publications and videos on YouTube, while also updating visitors on recent activity by the program which include workshops and adult migrations.

The Shields’ lab, with assistance from NNYADP and Riverside Media Group has developed a web page that will be located on the new NNYADP website. Visitors clicking on the Alfalfa Snout Beetle title will be taken to the snout beetle web page where all the pertinent information about the insect can be now found in one location. Instructional videos, rearing manuals, management tools, and the county maps showing treated areas, can all be found on the web page.

Methods & Results

Alfalfa Snout Beetle Project on Facebook

In December 2011, the Shields's lab developed a public page on Facebook dedicated to all information relating to the alfalfa snout beetle project. This page allows the farming community with internet access an easy way to keep current on information relating to the project. A public Facebook page allows the Shields' lab to post updates on adult emergence and movement, extension workshops, recent publications, biological control rearing techniques using nematodes, and upload links to training videos which are hosted on YouTube. Visitors can also find links to ASB documents, the ASB Rearing Manual, and the NNYADP website on the page. We encourage everyone to take a look.

Northern NY Agricultural Development Program Website

Beginning in January 2012, all current alfalfa snout beetle information including general information, management, biological control, publications, and the location of infested counties where ASB is a problem was updated and formatted into documents for uploading to a web page. With assistance from our student researcher and Riverside Media Group, we designed the site to allow visitors easy access to our information. Visitors are able to view an assortment of information on our page without having to leave the site. The alfalfa snout beetle web page can be found on the NNYADP website looking under Field Crop>Research>Crop Pests. Interested visitors can also go directly to our page by typing in <http://www.alfalfasnoutbeetle.org/>. The NNYADP website was re-launched in March 2012 to allow visitors easier access to the available information.

Nematode Rearing Videos

The Shields lab developed two instructional videos that were utilized in NNY Hands on Training for On-farm Application of Nematodes to Control Alfalfa Snout Beetle in March 2012. These two videos were the first in a series of instructional videos that will allow farmers the ability to view and understand the steps necessary in rearing biological control nematodes for field application against the alfalfa snout beetle located in their area. The first video focuses on the materials and supplies that a farmer should have on hand before starting the rearing process. The second video focuses on a step by step the process to initiate the nematode rearing process. These videos were developed using web cam technology and software purchased from TechSmith® called Camtasia Studio®. Live footage was recorded then edited to create the videos. The final videos for the instructional series will be completed during the summer of 2012 and will focus on washing the field cups, preparing the sprayer for application, and recording an actual application. A video camera was purchased using the funds allocated for this project to further develop and create these videos. These videos were uploaded to YouTube in March 2012 and can be found at:

<http://www.youtube.com/watch?v=QNpNjFImrN0>

<http://www.youtube.com/watch?v=aD0eqbCfYAAQ>

Conclusions/Outcomes/Impacts:

The initial feedback from the NNY workshops in March was encouraging and positive. Workshop participants found the videos and the web page information very helpful. We expect the web page and Facebook page to show increased traffic once the 2012 growing season begins. CDs with the manual and videos will be made available on request to further assist farmers choosing to rear biocontrol nematodes.

We plan to follow up our educational efforts with a survey to better evaluate and improve our program. We will be adding a post-doc position to focus on these aspects the next 18 months and will have an intern during summer 2012 to interview and collect feedback to assist these goals.

Outreach:

2012 NNY workshops:

CCE – Jefferson and Lewis Counties – March 6, 2012

CCE – Franklin County – March 14, 2012

CCE – St. Lawrence County – March 15, 2012

Syracuse Post-Standard

http://blog.syracuse.com/farms/2012/03/programs_deal_with_nematodes_t.html

NNY Agricultural Development Program Website

<http://www.nnyagdev.org/index.php>

<http://www.alfalfasnoutbeetle.org/>

Alfalfa Snout Beetle Project on Facebook

[https://www.facebook.com/#!/pages/Alfalfa-Snout-Beetle-](https://www.facebook.com/#!/pages/Alfalfa-Snout-Beetle-Project/154247237964180)

[Project/154247237964180](https://www.facebook.com/#!/pages/Alfalfa-Snout-Beetle-Project/154247237964180)

Next steps:

- 1) Evaluate the effectiveness of the multi-media educational tools currently developed and used in workshops.
- 2) Evaluate the effectiveness of the current on-going Extension educational program focused on teaching farmers to grow their own biocontrol entomopathogenic nematodes for alfalfa snout beetle control
- 3) Develop new video modules to complement existing modules.