

Northern NY Agricultural Development Program 2006 Project Report

Field Survey of Alfalfa Snout Beetle

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Background:

Alfalfa Snout Beetle is a pest only found in N.Y.S. and Canada in North America. Much time, effort and resources have been spent to better understand and control this pest. The six counties of Northern New York all have documented infested areas of Snout Beetle. For the past several years' researchers have run major studies to learn more about this insect. Recently, the question has been asked, "Just how bad and widespread is this insect?" In order to answer this question, more field assessment must be done. This is a costly and time-consuming venture.

The field crop staff of the North Country was approached by members of the NNYADP Committee to consider doing a field assessment of the problem. Dr. Elsen Shields, Extension Entomologist at Cornell has agreed to backstop this project. Dr. Shields will offer training in identification and field assessment.

Methods:

Surveys for the presence of the alfalfa snout beetle were conducted in the Fall of 2005 and 2006 as follows.

Farms were selected in each county, such that the survey started at the edge of the previously known infestation. Alfalfa and clover fields with alfalfa and clover plants present were selected for digging to inspect for snout beetle larval feeding. Field surveys radiated out from the areas of known infestations. If three consecutive fields in a direction were inspected and found free from snout beetle, the survey returned to the edge of the known infestation and surveyed in a different direction. For survey purposes, older fields with surviving alfalfa and clover were best to detect ASB infestations. In most cases, 3 year and older fields were selected.

To survey effectively, plants were selected which had either died, were declining with yellow foliage or were generally unthrifty. Particular attention was directed to the edges of fields adjoining older grass/alfalfa fields where ASB may have moved into the field. These selected plants were dug and the roots inspected for the characteristic severing of the taproot or the spiral groves in the taproot. One ASB damaged plant is sufficient to designate the field infested. If 50 plants were inspected throughout the field without sign of ASB feeding damage, the field was considered free from ASB infestation. GPS coordinates were taken in each field found to be infested with snout beetle. The GPS coordinates allowed the infested areas to be mapped with some accuracy.

Results:

Franklin County:

1. 2005

- 19 farms, 106 fields
- No evidence of ASB: Burke-Chateaugay area; Fort Covington-Constable area; west side of Brushton to Dickenson and N. of Rte 11 east of Malone
- 5 Farms Positive for ASB. They cover the following areas. Malone to Brushton between Rte 11 and 11B and some fields south of 11B; some fields east of Malone (as far as 6 miles.)

2. 2006 –No survey was conducted due to a staff vacancy in CCE Franklin County.

Clinton County:

1. 2005--4 farms at high risk for infestation; at least 2 fields per farm--No evidence of

2. 2006—3 high farms at high risk for infestation; at least 2 fields per farm—no evidence of ASB

Essex County:

1. 2005--No survey

2. 2006--Cornell E.V. Baker Research Farm---Beetles continue to be present in 2006, but not in sufficient numbers to continue the insecticidal fungi expt.

Lewis County:

1. 2005

- 102 fields --Number of farms not specified
- Compared to 1998 --Infestation in Lowville area has spread north to Copenhagen and South to Martinsburg and stretches west to rte 12 and east of rte 26
- Confirmed ASB in Croghan, but unable to determine if it has spread.

- Infestation now covers 90 sq. miles (56,000 acres). In 1998 "only a few acres" in a small area North of Lowville.

2. 2006

- Sampled 7 fields in 5 towns where ASB had not previously been found.
- One positive field which was adjacent to and directly south of a field that tested positive in 2005

St. Lawrence County:

1. 2005

- 26 farms; 88 fields
- Area above Black Lake and west of the Oswegatchie River has been infected for several years and continues to be so
- Infested area has move west, north and east and doubled in size (Lisbon)
- Hopkinton--new area of infestation
- Madrid-Waddington Area (adjacent to the Lisbon area)--no ASB
- Depeyster area--No ASB

2. 2006

- 19 farms; 90 fields
- No new infested fields.

Jefferson County:

1. 2005

- 8 farms; 24 fields in 8 different townships
- ABS not found in towns of Rodman or Hounsfield
- ABS present in town of Philadelphia in one area of lighter soil and in Rutland, Ellisburg, Adams and Henderson.

2. 2006

- 23 farms and 63 fields in 15 townships,
- ASB found in 9 of 44 fields studied in 6 new townships

Conclusions/Outcomes/Impacts:

The areas infested with the alfalfa snout beetle continue to expand in counties where the insect was found in 1008 (Lewis, Jefferson, St. Lawrence and Franklin Counties.) The expansion of the area of infestation in these counties is extensive and significant.

Although ASB was detected at one site in Clinton County in the '90s, that particular field was rotated out of alfalfa for several years and is now free of ASB. ASB has not spread from this confirmed site, nor has it migrated from Clinton County. ASB infestation in Essex County seems confined to the Cornell E.V. Baker Research Farm in Willsboro and the population there has apparently diminished. Surveys should continue to monitor the spread of this insect pest. Farmers, custom operators, construction companies and other businesses that move soil from one location to another (like road crews who are cleaning ditches adjacent to hedgerows adjacent to alfalfa fields) should be alerted to the danger of inadvertently enhancing the migration of this pest to new farms and fields.