

Title: The 2013 NYS Field Crops Weekly Pest Report and Evaluation

Project Leaders:

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Cooperators: Cornell Cooperative Field Crop Extension Educators and Faculty

Type of project: Public Education

Project location: New York State

Abstract

The NYS Field Crop Weekly Pest Report provides timely pest information to field crop extension educators and agricultural professionals. The report compiles weekly pest and crop observations collected by field crop extension personnel across NYS. In addition, the weekly report provides a vehicle to disseminate other relevant IPM information such as pest identification, scouting techniques and a calendar with suggestions for pest management activities. The pest report is distributed on a Cornell Cooperative Extension Blog site <http://blogs.cornell.edu/ipmwpr/>. Subscribers (100) to this blog include: Extension Educators, crop consultants, growers, agribusiness, and Cornell University Faculty. We also place the blog link on the NYS IPM facebook page (160 followers) and NYS IPM Field Crops Twitter account (40 followers). Twenty-three issues of the NYS Weekly Pest Report were published in 2013. Extension Educators and crop consultants utilize the Weekly Report as an overview of timely pest information, and have found the report useful in alerting their local clientele regarding pest management issues. Results from an evaluation survey indicate users extended articles from the report to approximately 3000 individuals by republication in newsletters. Many crop consultants who responded indicated they used pest report information directly with growers.

Background and Justification

The NYS IPM Field Crops Pest Report is designed to inform growers, Extension Educators, crop consultants, agricultural professionals on items of immediate pest management concern and provide a convenient news summary that can also be used in an outreach multiplier capacity with their clientele. For Extension Educators, crop consultants and agribusiness personnel the report is written to provide educational information that can be used in their programming, newsletters, list-serves and outreach efforts. Extension Educators and crop consultants are responsible for providing their clientele with timely information to help enhance crop and pest management decisions. These readers can select the pest information that best fits their county situation and clientele's needs. The report is a compilation of recent pest observations, and the amount and potential significance of their crop infestation. The pest report is short, concise and contains links to pest identification photographs and additional management information. Much of the pest alert information is obtained through a weekly conference call with field crop extension educators.

The report, now in its twelfth year of publication, was developed by the NYS Livestock and Field Crop IPM Program Team with the involvement of field crop extension educators and faculty across NYS. The pest report is distributed electronically through a Cornell Cooperative Extension Blog site <http://blogs.cornell.edu/ipmwpr/>.

Objectives:

1. Provide current pest information to field crop extension educators, crop consultants, growers, agribusiness, and Cornell Faculty on a weekly basis
2. Evaluate the impacts of the weekly pest report

Procedures:

The NYS IPM Program Livestock and Field Crop (LFC) team worked with extension educators to identify timely pest and crop management issues. The LFC team collaborated with Extension Educators and crop consultants from across NYS who shared their local pest and crop observations. The LFC Team prepared the report based on anticipated pest occurrence and feedback on timely field observations. Many of these field observations were communicated by extension educators via a weekly field crop IPM conference call. The report used a concise newsletter format and targeted educational articles. The LFC Team was responsible for developing, compiling and publishing the Weekly Pest Report. Regular features of the weekly report included a view from the field, weather outlook, timely updates on current pest issues such as fusarium head blight, soybean aphid and western bean cutworm, growing degree days and alfalfa weevil & black cutworm life stage predictions, livestock pest updates, articles highlighting critical, timely or emerging pest issues and a clipboard checklist highlighting suggested activities for the following week. Photographs and internet links to identification pictures and in-depth management practices were provided within articles when possible.

The information was formatted into the weekly report and shared with clientele via the NYS IPM Weekly Field Crops Pest Report Blog Site <http://blogs.cornell.edu/ipmwpr/>. The weekly report blog link was also posted on our facebook(<https://www.facebook.com/NYSIPM>) and twitter pages (<https://twitter.com/NYSFieldCropIPM>).

At the completion of the growing season, Cornell extension personnel and field crop consultants were invited to complete a survey to evaluate usefulness and the potential impact of the 2013 NYS Field Crop Weekly Pest Report. The evaluation survey was conducted electronically to subscribers of the blog and via the In-house Cornell Field Crops Staff list-serve and the General Cornell Field Crops list-serve.

Results and Discussion:

This was the 12th season of the Weekly Field Crop Pest Report (WPR). The report moved from a list serve MS Word posting of the newsletter to a blog format which allowed an easier more time efficient means to post the newsletter and for users an automated self subscription feature, automatic archiving and easy article retrieval (<http://blogs.cornell.edu/ipmwpr/#>). Ninety Nine subscribers including extension educators, private consultants, agribusiness and growers are currently subscribing to the WPR. Twenty-three issues were released this season between April 25 – October 10, 2013. The WPR has a built in search engine to locate articles on pests of interest however the process is somewhat cumbersome and creating into a summary pest or topic index requires extra work. This challenge will be addressed before the 2014 season.

The WPR newsletter template contains several standard sections: a view from the field summarizing pest observations made and shared for that week, a weather forecast for the next week's weather, 1 or more timely articles on pests of importance and a weekly checklist of suggested IPM activities for the following week.

The 2013 growing season was marked by early season rainy weather conditions that delayed planting, affected weed control efforts including timing of pre- and post-plant herbicide applications. Insect and

disease issues were generally moderate to low this season with the exception of potato leafhopper populations in eastern NY, an increase in western bean cutworm populations, late season issues with northern corn leaf blight and gray leaf spot in corn and the Fusarium Head Blight (wheat) prediction model did not hold up particularly well this season. Bird damage to corn and wheat presented issues again this season.

The weekly pest report helped field crop producers and others keep informed on current status of statewide pest issues and provided a forum for detailed discussions on a variety of topics including: updates on the Fusarium Head Blight prediction model and fungicide use decision making (wheat), corn fungicide use considerations, western bean cutworm updates on risk to sweet and field corn and dry bean, weed management recommendations and decision making, vertebrate damage to field crops, sharing of timely resources and field monitoring reminders.

The 2013 report contained a total of 88 individual articles addressed a wide variety of field crop insects, plant diseases, weeds, and vertebrate pests of concern this past season.

An index of the insect, disease, weed and “other” pest topics that were presented in the 2013 weekly pest report is provided in Appendix 1

Weekly Report Evaluation:

To obtain feedback on the effectiveness of the weekly pest report our users were invited to respond to a survey questionnaire. Evaluation questions ranged from “How useful was the pest report?” to “What did you like the most about it?” The survey questionnaire is presented in Appendix 2. Twenty-four individuals returned completed surveys via email. Survey responses were very positive indicating satisfaction with the Report’s content, format, timeliness, and usefulness as a source of valuable subject matter information for use in additional outreach situations. The following tables and figures summarize responses to survey questions:

Table 2: Responses to “We are interested in your assessment of the usefulness of the following topic items that regularly appeared in the Field Crops IPM Weekly Pest Report.”

	Very Useful	Somewhat Useful	Not Useful
The NYS 2013 Weekly Field Crops Pest Report was:	92%	8%	0%
View from the field	90%	10%	0%
Weather Outlook	17%	83%	0%
Weekly Featured article(s)	90%	10%	0%
Pest Images / Photographs	92%	8%	0%
Western Bean Cutworm Update	65%	35%	0%
Growing Degree Days	65%	35%	0%
Clipboard Checklist	36%	70%	4%

Table 3: Responses to by participants on the impacts of the pest report.

	Yes	No
Have you used articles from the NYS Weekly Field Crops Pest Report in your newsletters?	22%	78%

Results from the evaluation survey indicate users extended articles from the report to approximately 3000 individuals by republication in newsletters. Many crop consultants who responded indicated they used pest report information directly with growers. These included: field meetings with growers, one on one contact with growers, as forwarded emails to growers and agribusiness personnel, enhanced personal knowledge of what pest problems are occurring in NYS, and providing a direct internet link from to pest report article topics to related website resources. Some information and photos were also used on local news networks in Western NY.

Several 2013 pest issues were particularly significant and worthy highlighting:

Highlight I : Corn Rootworm Bt Control Failure (September 20th issue)

A corn field in Cayuga County, NY showed symptoms of a (Cry3Bb1) Bt hybrid corn rootworm control failure. The field planted to a Monsanto VT3 single event Bt hybrid had extensive goose necking, lodging and severely pruned roots characteristic of corn rootworm (CRW) injury. Other states have reported performance problems with Cry3Bb1 including Minnesota and Iowa in 2009 and Nebraska in 2007. Since then similar reports have emerged from locations in Colorado, Illinois, Kansas, Missouri, Nebraska, South Dakota, and Wisconsin. The New York observation is the first reported in the northeast. Some factors likely to have contributed to this failure include: planting corn continuously for multiple years (typically more than four years), using the same (Cry3Bb1) Bt trait year after year as a single event and poor refuge compliance (no/not enough refuge, or refuge too far from the Bt field) Warning signs of potential corn rootworm resistance include: large numbers of CRW beetles in the field, possibly leaf feeding, clipped silks resulting in poor pollination (this is a very weak indicator since the beetles are strong fliers), unexpected lodging and root damage that cannot be explained by an agronomic or environmental problem, or presence of another root-feeding pest. This issue serves as an example of raised concerns regarding pesticide resistance management issues with the use of Bt crops and other pesticides.

Highlight II: Field crop diseases are a potential risk each year. It is speculated that the increase in certain corn diseases may be directly attributed to previous crop soil surface residue. Crop residue is left on the surface to protect soil from water erosion. This same residue, however, may harbor disease inoculum that can infect the next corn crop. Some of the more noteworthy relatively late season diseases this and last season were northern corn leaf blight and gray leaf spot. Northern corn leaf blight was found at very high levels in many fields in NY including in areas that have not had it in the past. Gray leaf spot is being found in the Hudson and other river valleys at very high incidence of infection. In addition to local dispersal, these two diseases are known to be aurally distributed through wind currents and weather patterns. Some other diseases found at higher than normal levels this season were several leaf spot diseases on soybeans, northern corn leaf spot and eyespot on corn, snow mold in cereal grains, fusarium head blight in cereal grains, and early season diseases of cereal grains like powdery mildew, rust, and Stagonospora nodorum blotch. Collaborating with Gary Bergstrom, Cornell's field crop plant pathologist, we prepared and published timely newsletter articles on the diseases of concern. This information helped enhance grower decisions on regarding control measures.

Highlight III: Western bean cutworm (WBC) is native to North America, but has historically been restricted to the Great Plains and westward. Over the past decade, WBC has expanded its range through the Midwest into the northeastern United States and Canada. As WBC has moved eastward, its caterpillars have caused economic damage, particularly in Michigan and Ontario, where growers have reported 8-10% losses in dry beans and 40% losses in field corn. WBC moths were first discovered in

Pennsylvania and New York in 2009 and Vermont in 2011. Pheromone trapping was initiated in NY and PA in 2010 and in VT in 2011 in collaboration with scientists from Penn State University and University of Vermont to gain knowledge about WBC populations and better assess their potential risk to corn and dry bean acres in the Northeast. The trapping network has revealed western bean cutworms are becoming more widely distributed and populations are increasing, posing a potential risk to dry beans and the over 3.5 million acres of corn grown in NY, PA, and VT. Thus far, only non-economic larval infestations have been found in the Northeast, but damaging populations may potentially develop soon. We keep clientele informed weekly by having an update in each issue of the pest report.

Highlight IV: Crane flies are relatively new to New York and have been reported as a pest of lawns and turf including golf courses. Two species of crane fly appear to be involved. Over the past two years we have had reports of this pests occasionally causing significant damage to corn and alfalfa seedings in western New York following a sod. According to a Cornell Crane Fly factsheet, authored by Dr. Dan Peck, the two species of invasive crane flies (*Tipula oleracea* and *Tipula paludosa*), also known as leatherjackets and were first reported in NY in 2004. These insects are native to Europe. *Tipula paludosa* (the European crane fly) has been detected in western and central NY, ranging from Erie county in the east to Oneida county in the west and Chautauqua county in the south. *Tipula oleracea* (the common crane fly) is more widespread having been detected in broadly across western, central, and downstate counties. We have added this insect to our potential pest watch list and will continue to monitor and report on it's activities.

The pest report is distributed on a Cornell Cooperative Extension Blog site <http://blogs.cornell.edu/ipmwpr/>. Subscribers to this blog include: Extension Educators, crop consultants, growers, agribusiness, and Cornell University Faculty. We also place the blog link on the NYS IPM facebook page (<https://www.facebook.com/NYSIPM>) (160 followers) and NYS IPM Field Crops Twitter account (<https://twitter.com/NYSFieldCropIPM>) (40 followers). Many articles from the report were additionally used in extension newsletters that reached about 3,000 people. We are reaching many growers with critical pest information and alerts weekly in NYS both through extension educators and crop consultants. One trend that is positive is the crop consultants are using the pest report information directly with growers. This has a direct impact with growers to alert them to pest issue and IPM practices.

The weekly report has been an effective means to share timely Livestock and Field Crop IPM information with clientele including extension personnel, consultants, growers, and others in the agriculture community. We have been pleased with the positive feedback from clientele responding to our end of season survey, the use of articles in county extension publications and the ease of access afforded by the report being available on the world wide web.

Samples of materials:

A link to archived NYS IPM Field Crops Pest Reports is available on-line at:
<http://nysipm.cornell.edu/fieldcrops/tag/pestrpt/default.asp>

Key Words: alfalfa, armyworm, clover, field corn, small grains, soybeans, wheat, insect pests, leaf diseases, pod diseases, root diseases, stalk diseases, stem diseases, weeds, biological control, chemical control, cultural control, demonstration/implementation (TAG), economic analysis, monitoring, research & education, IPM, integrated pest management,

Appendix 1: 2013 Field Crops Weekly Pest Report-Index of Articles

<i>Insects, Mites/Beneficial Organisms/Natural Enemies/Biological Control</i>	Articles By Dates
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Alfalfa Snout Beetle	
View From the Field	5/9
Alfalfa Snout Beetles Begin Spring Emergence	5/9
Fall IPM for Alfalfa	8/23
Alfalfa Weevil	
View From the Field	4/24 , 5/2 , 5/9 , 5/16 , 5/23 , 5/31 , 6/11 , 6/14 , 6/21
GGD and Alfalfa Weevil	4/24 , 5/2 , 5/9 , 5/16 , 5/23 , 5/31 , 6/11 , 6/14 , 6/21 , 6/28 , 7/22
Biological Control of Alfalfa Weevil with Parasitoids	5/23 ,
Alfalfa Weevils Monitoring after First Cutting	6/11
Fall IPM for Alfalfa	8/23
Biological Control of Alfalfa Weevil	
Bird Cherry Oat Aphid	
View from the Field	6/14
Black Cutworm	
View from the Field	5/23 , 5/31 , 6/11 , 6/14
Black Cutworm in 2013?	5/16 ,
Growing Degree Days	5/31 , 6/11 , 6/14 , 6/21 , 6/28 , 7/22
Bean Leaf Beetle	
View from the Field	8/30
Brown Marmorated Stink Bug	
Brown Marmorated Stink Bug—a possible visitor in corn and soybeans fields	8/9
Cereal Leaf Beetle	
View From the Field	5/9 , 5/16 , 5/23 , 5/31 , 6/11
Cereal Rust Mite	
View From the Field	5/16 ,

Corn Rootworm	
View from the Field	6/11 , 6/21
Corn Silks Gone?	8/2
Corn Rootworm Resistant to (Cry3Bb1) Bt hybrid detected in Cayuga County	9/23
Clover Root Curculio	
View from the Field	5/9
Deer Flies	
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22
Dung Beetles	
Dung Beetles in Your Pasture?	8/9
English Grain Aphid	
View from the Field	6/14
European Corn Borer	
View from the Field	7/17
European Crane Fly	
View from the Field	5/9 , 6/28
Crane flies? What's up with that?	5/16 ,
Face Flies	
View From the Field	6/21 , 7/22 , 9/9
Fireflies	
View From the Field	6/11
Granary weevil	
View From the Field	8/23
Horn Flies	
View From the Field	6/21 , 7/22 , 8/30
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22
House Flies	
Barn Flies? – Early Season Efforts Will Pay Off!	5/23 ,
View From the Field	6/14 , 6/21 , 9/9
Horse Flies	
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22 ,
View From the Field	9/9
Hessian Fly	
Planting Wheat? Hessian Fly-Safe Date is Not Only about Hessian Fly	9/9
Japanese Beetles	
Japanese Beetles in Soybeans	7/29
Corn Silks Gone?	8/2
Parasitoids	
View from the Field	6/14

Potato leafhopper	
View From the Field	5/31 , 6/11 , 6/14 , 6/21 , 6/28 , 7/17 , 7/22 , 7/29 , 8/2 , 8/9 , 8/23 , 8/30 , 9/13
Partial Alfalfa Field Harvest Increases PLH risks	7/17
How to Scout for Potato leafhopper	6/11
Predatory Stink Bug	
View from the Field	5/23
Red Headed Flea Beetles	
View from the Field	7/29
Spider Mites	
View from the Field	8/30
Soybean Aphids	
View from the Field	6/14 , 7/17 , 7/29 , 8/2 , 8/23 , 8/30
Soybean Aphid Watch Begins	6/28
Stable Flies	
View From the Field	5/23 , 6/14 , 6/21 , 7/17 , 7/22 , 7/29 , 9/9
Stable Flies Attack Dairy Cattle	6/11
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22
Slugs	
View from the field	6/14 , 6/28
True Armyworm	
View from the field	6/11 , 6/14 , 6/28 , 7/22 , 7/29
Western Bean Cutworm	
View from the Field	7/22 , 8/23 , 9/9
Western Bean Update	6/21 , 6/28 , 7/17 , 7/29 , 8/2 , 8/9 , 8/23 , 8/30 , 9/9 , 9/13
Winter Cutworm	
View From the Field	4/24 , 5/9 ,
Plant Diseases	
Alfalfa/Forages-Plant Diseases	

Anthracnose	
Fall IPM for Alfalfa	8/23
View from the Field	6/28
Crown rots	
View from the Field	5/2 ,
Root and Crown Diseases in Alfalfa and Clover	5/2 ,
Fall IPM for Alfalfa	8/23
Downy Mildew	
View from the Field	6/28
Fusarium wilt	
Fall IPM for Alfalfa	8/23
View from the Field	6/28
Leaf spots	
Fall IPM for Alfalfa	8/23
View from the Field	6/28
Leptosphaerulina Leaf Spot (Lepto leaf spot)	
View from the Field	6/28
Verticillium wilt	
Fall IPM for Alfalfa	8/23
View from the Field	6/28
Corn-Plant Diseases	
Damping Off	
View From the Field	6/21
Gray Leaf Spot	
View from the Field	7/22 , 7/29 , 8/2 , 8/30 , 9/23
Northern Corn Leaf Blight	
View from the Field	7/17 , 7/22 , 8/9 , 8/23 , 8/30 , 9/23
Northern Corn Leaf Spot	
View from the Field	8/2 , 8/9
Soybean-Plant Diseases	
Bacterial Pustule	
View from the Field	8/30
Brown Stem Rot	
View from the Field	9/9

Downy Mildew	
View from the Field	7/29
Soybean Vein Necrosis Virus	
View From the Field	8/23
White Mold	
Sclerotinia Stem Rot/White Mold: in Soybeans	8/2
View From the Field	8/30
Wheat and Small Grains-Plant Diseases	
Crown Rust of Oats	
View from the Field	6/28
Fusarium head blight	
View from the Field	5/23 , 6/14 , 6/28 , 6/28 , 7/17
Fusarium head blight Update	5/23 , 6/11 , 6/14
How to Recognize Scab (Fusarium head blight) on Wheat	6/14
Leaf, stem and strip rust	
View from the Field	6/28
Early Season Diseases: Evaluating Winter Wheat!	4/24 ,
Net blotch of barley	
View From the Field	6/28
Powdery mildew	
View From the Field	4/24 , 5/9 , 5/16 , 6/14 ,
Early Season Diseases: Evaluating Winter Wheat!	4/24 ,
Root Rot	
View from the Field	5/2
Root and Crown Diseases in Alfalfa and Clover	5/2
Soilborne Wheat Mosaic Virus	

View from the Field	4/24
Snow Mold	
View from the Field	4/24
Snow Mold in Small Grains	4/24
<i>Stagonospora nodorum</i> blotch	
View from the Field	6/14 , 6/28
Early Season Diseases: Evaluating Winter Wheat!	4/24
Stored Grain Pests	
Not too Early to think about Stored Grain Pests	6/21
Weeds	
Alfalfa Weed Issues	
View from the Field garlic mustard	5/9
Vertebrates in Field Crops	
Birds	
View from the Field	6/21
Livestock pests	
Barn Flies	
Barn Flies? – Early Season Efforts Will Pay Off!	5/23
Pasture Flies	
View From the Field	
Deer Flies	
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22
Dung Beetles	
Dung Beetles in Your Pasture?	8/9
Face Flies	
View From the Field	6/21 , 7/22 , 9/9
Horn Flies	
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View From the Field	9/9
Stable Flies	

View From the Field	5/23 , 6/14 , 6/21 , 7/17 7/22 , 7/29 , 9/9
Stable Flies Attack Dairy Cattle	6/11
Fly Traps for Biting Flies of Attacking Animals on Pasture	7/22

Other	
Fall Weed Survey – Invasive species and Plants affecting Livestock	8/23

Appendix 2. Weekly Report Evaluation Instrument:

Your input on the effectiveness of the NYS Weekly Field Crops Pest Report is important to us. By providing your perspective you can help us design the report to better fit your extension needs in the future. Please take a minute to complete the following survey questionnaire. Indicate your answer by placing an "X" on the line or a response to the specific questions about the 2012 Weekly NYS Field Crops Pest Report. *Thanks for your help!*

1. The NYS 2013 Weekly Field Crops Pest Report was:

Very Useful _____ Somewhat Useful _____ Not Useful _____

2. We are interested in your assessment of the usefulness of the following topic items that regularly appeared in the Field Crops IPM Weekly Pest Report.

	Very Useful	Somewhat Useful	Not Useful
View from the field	_____	_____	_____
Weather Outlook	_____	_____	_____
Weekly featured article(s)	_____	_____	_____
Pest Images / Photographs	_____	_____	_____
Western bean cutworm	_____	_____	_____
Update	_____	_____	_____
Growing Degree Days in NYS	_____	_____	_____
Clipboard Checklist	_____	_____	_____

3. Have you used articles from the NYS Weekly Field Crops Pest Report in your newsletters?

Yes _____ No _____

-If yes, please indicate the name of the newsletter and the number of people that are targeted to receive it.

_____ Name of Newsletter

_____ Number of people that receive the newsletter

6. How do you access or receive the NYS IPM weekly field crops pest report:

Email Field Crops list-serve: _____

Pest Report Blog Site: _____

Twitter: _____

Facebook: _____

5. How else have you used information from the NYS IPM Weekly Field Crops Pest Report in your extension programming, outreach or farm (*other* than in newsletters)?

Thank you for taking the time from your busy schedule to complete this evaluation.

Your input is greatly appreciated!