

The 2020 NYS Field Crops Weekly Pest Report and Evaluation

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Cooperators

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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 as a Cornell Cooperative Extension Blog <http://blogs.cornell.edu/ipmwpr/>. Subscribers (160) to this blog include: Extension Educators, crop consultants, growers, agribusiness associates, and Cornell University Faculty. We also place the blog link on the NYS IPM Facebook page (1200 followers) and NYS IPM Field Crops Twitter account (535 followers). Seventeen issues of the NYS Weekly Pest Report were published in 2020. 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 that users extended articles from the report to approximately 3000 individuals by re-publication in newsletters or forwarding the report on their own listserv. Many crop consultants who responded indicated they used pest report information directly with growers.

Background and Justification

The NYS IPM Field Crops Pest Report (WPR) is designed to inform growers, extension educators, crop consultants and 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. The report is a compilation of recent pest observations, potential geographic areas or cropping scenarios affected and the amount and potential significance of observed or anticipated pest infestations. 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 and faculty.

Extension educators and crop consultants are responsible for providing their clientele with timely information to help enhance crop and pest management decisions. The report provides educational information that can be used in programming, newsletters, list-serves and outreach efforts. Readers can select the pest information that best fits their county situation and clientele's needs.

The report, now in its 19th 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 <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, faculty 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 with 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, western bean cutworm, growing degree days and alfalfa weevil, seed corn maggot & 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, subscribers to the WPR blog were invited to complete a survey to evaluate usefulness and the potential impact of the 2020 NYS Field Crop Weekly Pest Report. The evaluation survey was conducted using a google forms on-line survey. An email was sent to subscribers of the blog and on the in-house Cornell Field Crops Staff listserv and the General Cornell Field Crops listserv.

Results and Discussion

This was the 19th season of the Weekly Field Crop Pest Report. Seventeen issues were released this season between May–September. The WPR newsletter template contains several standard sections: a view from the field summarizing pest observations made and shared for that week, pest degree day models and pest alerts, one or more timely articles on pests of importance and a weekly checklist of suggested IPM activities for the following week.

The weekly pest report helped field crop producers and others stay 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 (small grains), corn fungicide use considerations, soybean disease identification and management, western bean cutworm updates on risk to field corn and dry bean, weed management recommendations and decision making, vertebrate damage to field crops, sharing of timely resources and field monitoring reminders.

Weekly Report Evaluation

To obtain feedback on the effectiveness of the weekly pest report our users were invited to respond to an online survey questionnaire. Evaluation questions ranged from “How useful was the pest report?” to “What did you like the most about it?” The survey questionnaire can be viewed at: [NYS IPM Weekly Field Crops Pest Report Impact Survey](#). Twenty individuals completed the online survey. 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 1: 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.”

N=20	Very Useful	Somewhat Useful	Not sure	Not Useful	Not at all useful
The NYS 2020 Weekly Field Crops Pest Report was:	65%	35%	0%	0%	0%
View from the field	70%	30%	0%	0%	0%
Pest Images / Photographs	90%	10%	0%	0%	0%
Western Bean Cutworm, Black Cutworm and True Armyworm Alerts	60%	40%	0%	0%	0%
Growing Degree Days Pest Models	50%	45%	5%	0%	0%
Clipboard Checklist	20%	35%	40%	0%	5%

Table 2: Responses to by participants on the impacts of the pest report.

N=19	Yes	No
Have you used or shared articles from the NYS Weekly Field Crops Pest Report in your newsletters/email list server or social media?	70%	30%

Results from the evaluation survey indicate users extended articles from the report to approximately 3000 individuals by re-publication in newsletters or emails. Many extension educators and 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.

Table 3: Demographics on those that use the pest report.

N=20	
Farmer/Producer	15%
Extension Educator	50%
Professional Crop/Farmer Consultant	25%
Government Agricultural Professional	5%
Non-Profit Agricultural Organization	10%
Other	15%

Table 4: Assessing future needs of field crop and livestock cliental: “What online resources would be useful to you?”

N=20	Very Useful	Somewhat Useful	Not sure	Not Useful	Not at all useful
Short on-line demonstration videos (You Tube) on specific pest issues	55%	25%	10%	10%	0%
Downloadable IPM management pocket guides	40%	50%	5%	5%	0%
Pest images and identification information	90%	10%	0%	0%	0%
Use Twitter to disseminate IPM information	10%	10%	45%	20%	15%
Use Facebook to disseminate IPM information	15%	15%	40%	15%	15%
Downloadable IPM scouting guides	70%	25%	0%	5%	0%
Downloadable IPM fact sheets	65%	35%	0%	0%	0%

Table 5: Assessing future needs of field crop clientele.

	Yes	No	Maybe
Do you see value in a statewide survey for Soybean Cyst Nematode? N=20	75%	0%	25%
Have you tested any of your fields for soybean cyst nematode?" N=18	17%	83%	
If yes, and if you received a positive result, what are your plans for managing SCN on your farm? N=8	38%	62%	
Would you like to be included in free SCN testing in 2021? N=15	40%	60%	

Highlight 1: Western Bean Cutworm

Western bean cutworm (WBC) poses risk to field corn. This insect, a native of western US high plains states, was unique to that area until the late 1990's. Since then, its range has expanded eastward and was first detected in NY, PA and Quebec in 2009, CT in 2010 and MA, ME and VT in 2011. The NYS trapping network has revealed western bean cutworms are widely distributed across the state and populations are increasing, posing a potential risk to dry beans and the over 1 million acres of corn grown in NY. We keep clientele informed weekly by having an update in each issue of the pest report. In 2020 the NYS trapping network has shown caught a total of 35,383 moths caught in field corn trapping efforts. We had an average of 478 moths caught per trap with a range of 0 to 2364 moths/trap.

- Peak flight statewide was the earliest (week of July 27th) it had been since we started monitoring in 2010.
- Peak flight for NYS when Northern NY is excluded was a week earlier (week of July 20th)
- Northern NY has extremely high populations and flights of western bean cutworm.
- The rest of NYS has moderately high populations depending on the year.
- There are very high population hotspots in areas outside of Northern NY depending on the year.
- Northern NY is at high risk of economic losses due to western bean cutworm to grain corn when resistant corn is not grown.
- It is important to continue to monitor for western bean cutworm to measure its expansion and alert growers to potential infestations during the growing season.

Highlight 2: Black Cutworm and True Armyworm

Black cutworm and true armyworm were found at moderate to high levels around NYS in forage grasses, small grains and corn this growing season in several areas of NY. These are migratory insect pests that travel on weather fronts from the South and Midwest. We developed a pheromone trapping network to better understand when they arrived and at what levels they might have been at. We were able to alert farmers, extension field staff and crop consultants about the potential of the infestation. Many extension educators and crop consultants were able to educate the growers on correct identification and how to access a population in the field and when a control might be needed. Armyworm was less of the problem in NYS this last season. There are generally isolated fields that have armyworm infestations each year. The following is the number of moths caught in 20 traps across the state by week.

- We had significant issues with black cutworm and true armyworm in 2020.
- We will continue to improve our black cutworm and true armyworm degree day models to better predict when larvae are feeding in fields.
- With climate change and increases in weather fronts there could be increases in the level of black cutworm and true armyworm infestations/flights in the spring.
- True armyworm was an issue later in the summer in sorghum-Sudan grass. This may have been a second generation or traveled on storms later than normal.
- We will continue to monitor for true armyworm over the course of the summer and not just throughout the spring
- We will expand the number of traps to better capture when and where black cutworm and true armyworm flights occur in 2021.

Highlight 3: Potato Leafhopper

Statewide potato leafhopper (PLH) infestations on alfalfa were moderate to high in 2020. Many alfalfa fields were over threshold for PLH over the course of the summer. In some cases, PLH populations were several times the normal economic threshold. Last summer being hot and dry increases the risk of PLH populations damaging alfalfa. In response to these populations, we developed educational information for extension educators and crop consultants on PLH. In turn educators and consultants took the information and educated growers how to correctly identify the pests and monitor fields to determine if infestation levels were at an economic threshold.

Highlight 4: Soybean Cyst Nematode

Based on our 2019 survey results, we expanded our SCN survey to include 100 fields in 2020, which revealed an additional 23 counties positive for this pest. That means that we have now confirmed SCN in 30 counties across NY. This potentially devastating pest is here to stay, and now requires active management.

Highlight 5: Soybean Diseases

The 2020 growing season was not conducive for any major soybean disease epidemics. There were low levels of downy mildew, Cercospora leaf blight, sudden death syndrome, bacterial

pustule and Septoria leaf blight reported across the state. None of these diseases caused significant yield losses.

Highlight 6: Corn Diseases

Due to dry weather, corn diseases were fairly low in 2020. There were reports of gray leaf spot, eyespot and northern corn leaf spot in typical river valley regions that experience these issues annually. There were no significant reports of stalk rots or mycotoxin issues.

Highlight 7: Small Grains Diseases

There were a number of reports of early season foliar diseases of wheat and barley in 2020, including powdery mildew, Stagonospora leaf blight and barley scald. Some growers did spray early for powdery mildew. Fusarium head blight was not significant, and neither were issues with mycotoxins. Our growers have adapted to selecting and planting varieties with good disease resistance, and actively manage for Fusarium Head Blight annually.

Highlight 8: Alfalfa Diseases

There were very few reports of disease outbreaks in alfalfa in 2020. Low levels of spring black stem and leaf spot and Leptosphaerulina leaf spot were reported, but none at particularly damaging levels.

Highlight 9: Hemp Diseases

As hemp acreage continues to expand, so do the diseases. In 2020, the primary disease was Septoria leaf spot. Downy mildew was a new find on hemp in NY for the first time in 2020. And the rust discovered in 2019 appeared again in 2020. Hemp growers have few, if any, pesticide options for disease management. It will be important for the hemp team to conduct variety evaluations to determine which cultivars are best suited for production in the northeast and identify those with disease resistance.

Qualitative responses to the NYS IPM Weekly Field Crops Pest Report

What did you like most about the NYS IPM Weekly Field Crops Pest Report?

- timely info on pests and disease identification and management
- view from the field and in-depth information and pictures of pests
- helps as an alert to which pests are active across the state
- Pest information
- Real time weather & pest reports.
- GDU for different insects and diseases, Report findings from other areas, view from the field.
- timely information
- The report has been extremely useful to me and our readers. Thank you for all the hard work you've put in with providing the weekly updates along with excellent scouting information and management advice.

- Sharable info, hearing from experts
- Current crop related updates
- Up to date information

What else would you like to see in the NYS IPM Weekly Field Crops Pest Report?

- more articles with pictures for identification
- Weekly Forage Reports, more on how Nutrient Management Affects Insects and Diseases, more Cultural Methods in suppressing Insects and Diseases, more on how Cover Crops help with Weed Suppression, Insect and Disease Suppression, more research in these areas is needed because Agri Businesses are already ahead of you doing any research!
- When control options are given, it would be useful to regularly list options for certified organic growers as well.
- nothing in mind