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Jennifer:

The following is my final report for the project “**A sentinel plot program for detection of insect pests and diseases in Pennsylvania soybeans,**” which the Soybean Board generously funded this past year.

This was the third year in a row that we have conducted this project, the goal of which is to track insect and disease pest populations in typical soybean fields around the state and share this information with growers.

Thirteen extension educators around PA participated in this effort, tracking populations in 23 fields in 16 counties (four more fields than 2013 and two more counties; Table 1). Seven of the educators scouted fields themselves and reported the data to me. For these educators, Soybean Board funds paid for travel to sites and any supplies they needed. Five educators hired interns to handle scouting and reporting, so Soybean funds paid the wages for these scouts and their mileage to fields. Oddly, the educators have consistently not spent their allotment of funds to facilitate their efforts. In future years, we will take into account the actual funds that educators use to reduce our funding request. Unused funds are of course returned to the Board.

Table 1. Penn State Extension Educators who scouted sentinel soybean fields in 2014.

| County | Extension Educator | Number of fields to be scouted |
|---------------------|--------------------|--------------------------------|
| Armstrong | Alicia Snyder | 2 |
| Berks | Mena Hautau | 2 |
| Blair | Elina Snyder | 1 |
| Crawford | Joel Hunter | 1 |
| Elk, McKean, Potter | Nicole Santangelo | 3 |
| Lancaster | Jeff Graybill | 2 |
| Lebanon | Del Voight | 2 |
| Mercer | Gary Misky | 1 |
| | Andrew | 1 |
| Montgomery | Frankenfield | |
| Schuylkill | Dwane Miller | 1 |

| | | |
|------------------------------------|-----------------|---|
| Tioga | Craig Williams | 2 |
| Union, Columbia, Northumberland | Chris Houser | 3 |
| Westmoreland | Alicia Spangler | 1 |
| York | John Rowehl | 1 |

Fields used in the project were established in May to mid June and scouting began upon emergence. We began reporting pest populations on 10 June and made 13 reports over the course of the season. We reported our findings in the Field Crop News (<http://extension.psu.edu/field-crop-news>), which during the growing season is published online weekly, and announced via an email list that reaches about 1200 agricultural professionals. We also posted the data on an entomology website (<http://ento.psu.edu/extension/field-crops/soybean-sentinel-plot-program>).

Our scouting efforts in 2014 discovered a narrow range of insects and only a few diseases, but importantly, none of the pest populations exceeded economic thresholds, thus none of the fields so far have required pesticide treatments. This was also the case the last three years, and this is an important message for growers to hear: pest populations are not pervasive and always threatening soybean yield. In fact, in many locations and in most years, pest populations do not develop and thus pesticide use should provide no advantage. Thus, scouting is key to soybean pest management; growers need to know the pest populations in their fields to effectively manage them.

To further market the findings of our project, we have already discussed the results with growers during the winter extension season. The sentinel plot program was mentioned at the four Soybean Workshops that were offered in December, and our crop management team will have at least 10 events across Pennsylvania for winter 2014-2015. With every opportunity, we have emphasized that the Pennsylvania Soybean Utilization Board funds our efforts. As I mentioned in my interim report, I have received inquiries from other states (New York, Ohio) asking about the program, so there is wider interest beyond Pennsylvania and some of those states might end up establishing similar efforts.

Thank you very much for your generous support.

Best regards,



John Tooker

Associate Professor & Extension Specialist