Western Bean Cutworm Trapping and Monitoring

2020 Summary

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Western bean cutworm (WBC) continues to be a pest of field corn in Ohio. Within the past few years, reports of WBC resistance to Cry1F hybrids have increased. To assist growers, monitoring efforts have been implemented to provide timely, localized information that identifies counties in Ohio where scouting for WBC activity is high and fields are at greater risk. WBC adults lay their egg masses on the upper leaves of corn plants from late June to early August (Figure 1a). Soon after hatching the larvae (caterpillars) take shelter in the corn silks and feed on developing corn, making monitoring and treatments difficult. Due to the evasiveness of WBC larvae, monitoring for adult moths using a lure and bucket trap offers growers a practical solution. Adult moths can be identified by the features on their wings including a boomerang and dot (Figure 1b). Traps are placed on the edge of corn fields at the end of June and checked weekly through August (Figure 1c). Monitoring this pest also helps researchers understand WBC populations better, to help growers make decisions.

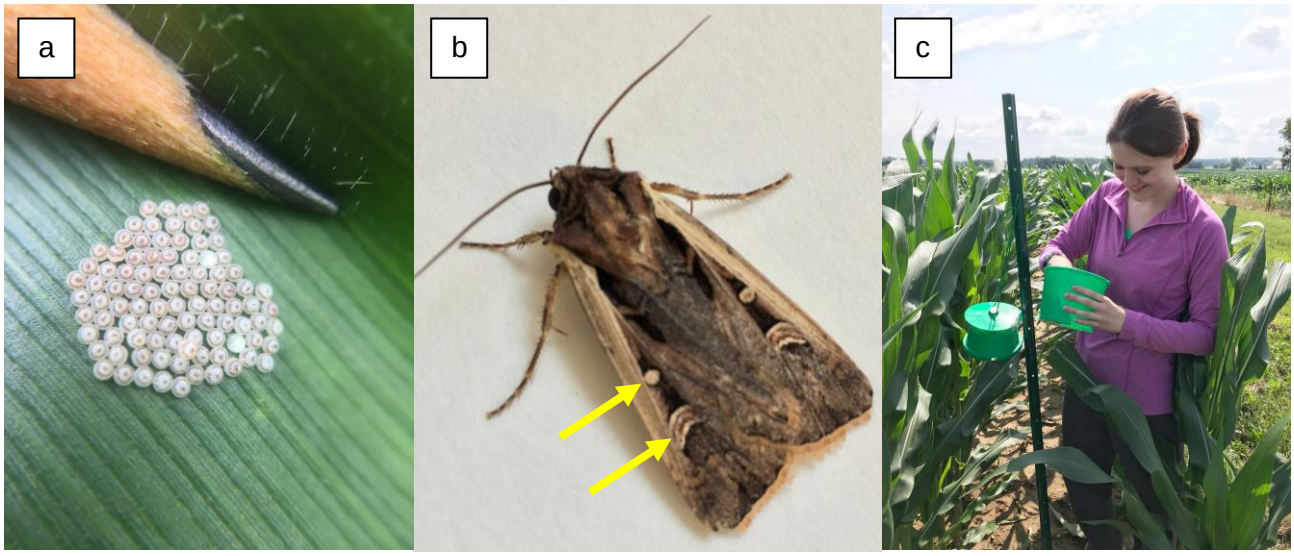

Figure 1. a) WBC egg mass with pencil for size reference, b) Western bean cutworm (WBC) adult moth. Yellow arrows point out identifying features on the wings including a boomerang structure and dot, and c) WBC bucket trap set up in corn field.

The Ohio State University WBC monitoring network had its highest participation to date, monitoring a total of 95 traps in 28 Ohio counties (Figure 2). Traps were monitored from June 15 through August 30. Overall trap count was the lowest we have observed since 2016 with a grand average of only 2.3 moths per trap in 2020. This number is down from an average of 9.7 moths per trap in 2019 (Figure 3). The overall peak week this year was the fourth week in July, with an average of 7.2 WBC/trap. Similar to previous years, the peak week varied by county. The cause for the decrease in the WBC population in 2020 is unknown; however, the significant rainfall observed in 2019 may have played a role in causing longer-term effects on the population. Future monitoring of WBC in 2021 will be necessary to determine if decreased population size will continue.

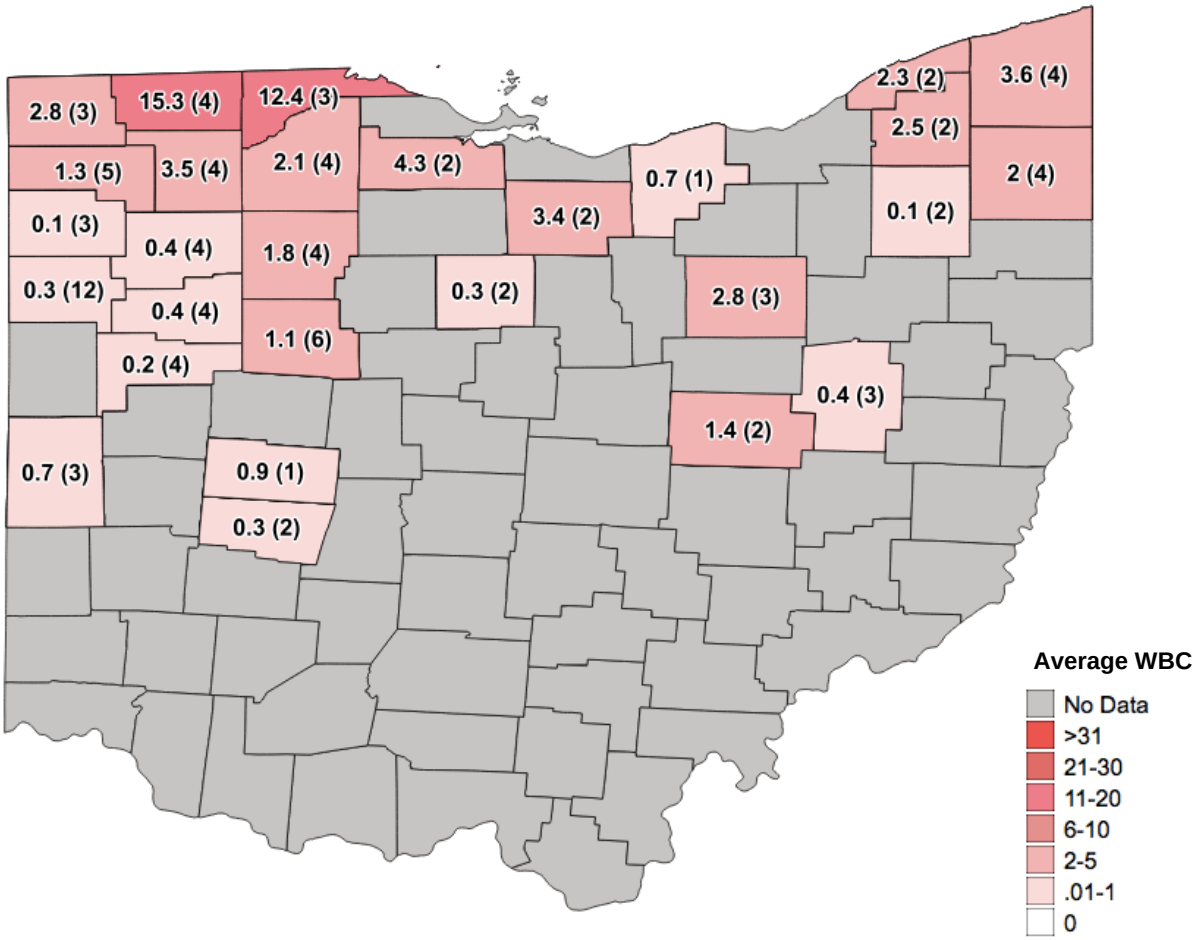

Figure 2. Map of Ohio counties that participated in Western bean cutworm (WBC) trapping in 2020. Number in each county signifies the overall season average followed by number of traps monitored each week in parentheses.

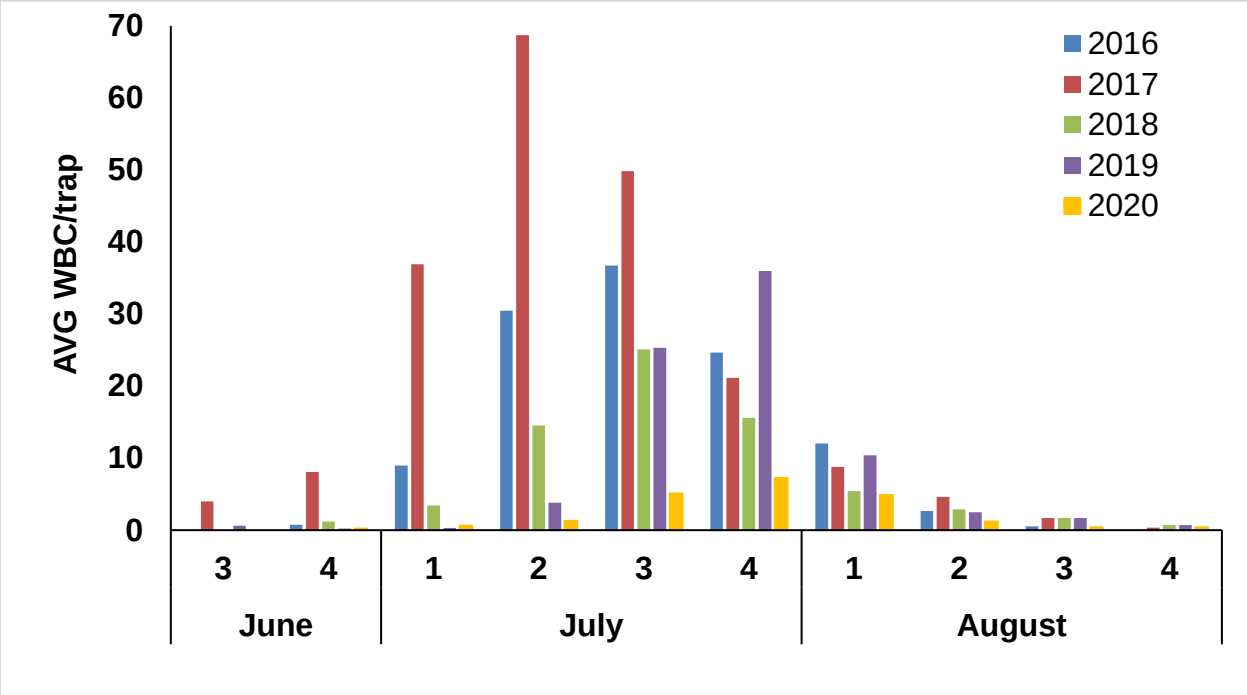

Figure 3. Average number of Western bean cutworm (WBC) adults recorded in traps in 2016 (blue), 2017 (red), 2018 (green) 2019 (purple) and 2020 (yellow).