WISCONSIN INSECT SURVEY RESULTS 2017 AND OUTLOOK FOR 2018

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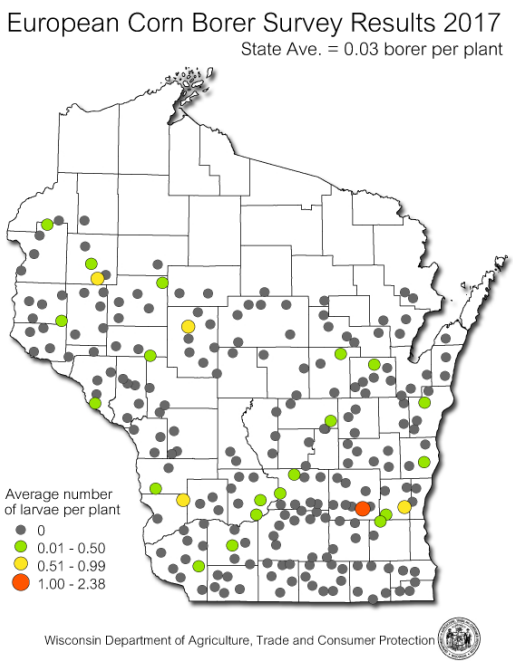
European Corn Borer

The fall European corn borer population declined to 0.03 larva per plant, tying 2012 and 2014 as the second lowest state average in the survey's 76-year history. The lowest average of 0.02 larva per plant was recorded in 2015. Minor population reductions from 2016 were found in six of the state's nine agricultural districts, while an insignificant increase was noted in the east-central area. The northeast and southeast district averages remained unchanged at 0.0 and 0.04 larva per plant, respectively. One hundred and ninety-six of the 229 (86%) fields examined showed no evidence of corn borer infestation. Results of the 2017 survey suggest that Wisconsin corn producers are maintaining a high Bt use rate which continues to provide overall effective suppression of the European corn borer.



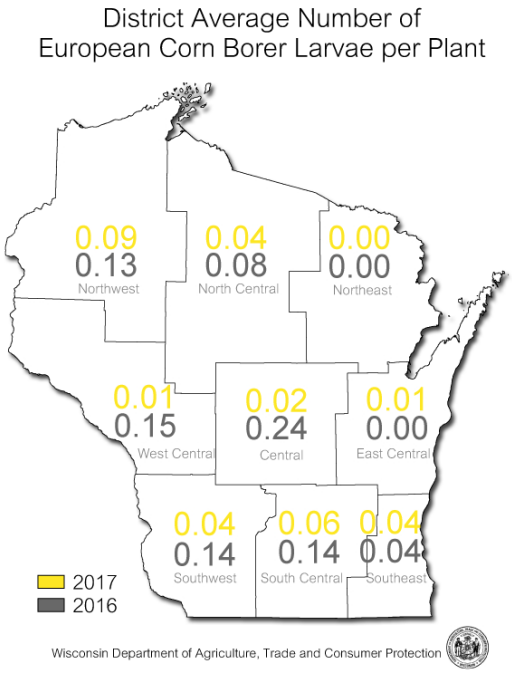


Table 1. European corn borer fall survey results 2008-2017 (Average no. borers per plant).

District	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10-Yr
NW	0.12	0.06	0.08	0.15	0.04	0.07	0.06	0.03	0.13	0.09	0.08
NC	0.18	0.10	0.02	0.07	0.01	0.02	0.04	0.00	0.08	0.04	0.06
NE	0.12	0.12	0.19	0.13	0.05	0.02	0.01	0.04	0.00	0.00	0.07
WC	0.04	0.10	0.08	0.12	0.09	0.06	0.12	0.03	0.15	0.01	0.08
C	0.11	0.06	0.06	0.05	0.01	0.01	0.00	0.01	0.24	0.02	0.06
EC	0.20	0.09	0.01	0.03	0.01	0.01	0.01	0.04	0.00	0.01	0.04
SW	0.05	0.06	0.12	0.03	0.03	0.06	0.00	0.03	0.14	0.04	0.06
SC	0.07	0.02	0.07	0.20	0.01	0.08	0.01	0.02	0.14	0.06	0.07
SE	0.04	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.04	0.04	0.01
WI Ave.	**0.09**	**0.06**	**0.07**	**0.09**	**0.03**	**0.04**	**0.03**	**0.02**	**0.11**	**0.03**	**0.06**

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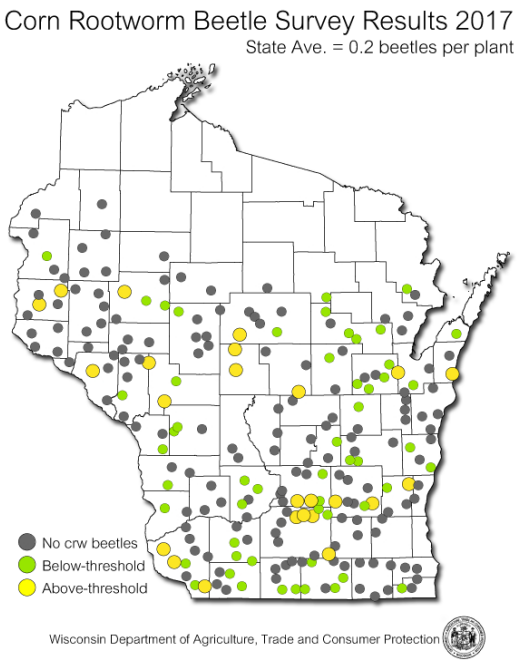
Black Cutworm

Many corn acres were under a high threat of infestation in May and June. Delayed spring tillage and planting, wet field conditions, and late weed control all favored black cutworm oviposition and larval development, while repeated heavy flights of 200-635 moths per week throughout April and May signaled an elevated risk for widespread, damaging problems. Larval feeding in emerging corn became noticeable by early June, but most injury observed in fields surveyed by DATCP was light and involved less than 1-2% of plants. Although the spring cumulative count of 3,228 moths in 45 traps was substantially larger than last year's capture of 1,835 moths in 43 traps, economic injury (>3% of plants damaged) was rare.

Corn Rootworm

Adult corn rootworm counts decreased to the lowest level since surveys for this pest began in Wisconsin in 1971. The annual survey conducted from July 28-August 16 found a state average of just 0.2 beetle per plant, less than half of last year's average of 0.5 per plant and far below the 0.75 beetle per plant economic threshold used to inform rootworm management decisions for the following season. Numbers declined across all nine crop districts as compared to 2016, with district averages ranging no higher than 0.3 per plant. Only 24 of the 229 (10%) cornfields sampled had above-threshold averages of 0.8-2.9 beetles per plant, while 54 (24%) had below-threshold averages in the range of 0.1-0.7 per plant. No corn rootworm beetles were observed in 151 (66%) of the fields.

Reasons for the historic decrease in beetle abundance are unclear but likely include a combination of factors such as heavy spring rains that led to saturated soils during larval hatch in June, the significant use of pyramided Bt-rootworm (Bt-RW) hybrids, and the practice of overlaying soil insecticides on Bt-RW hybrids during planting. The low beetle pressure documented this season may have resulted in fewer eggs being deposited into cornfield soils, and an overall lower risk of larval root damage next summer.



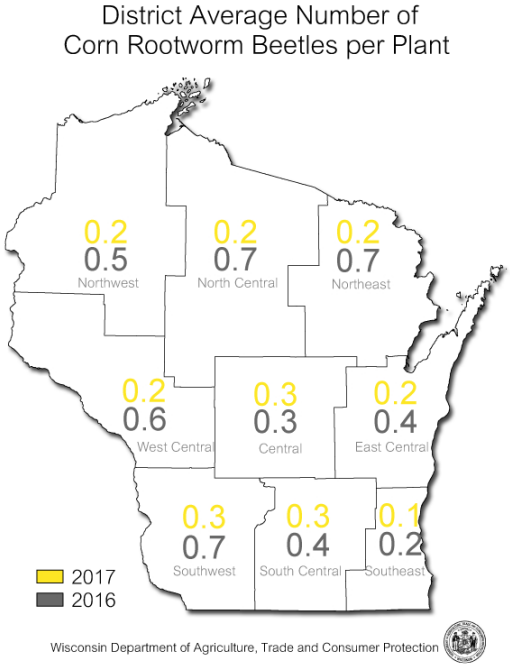
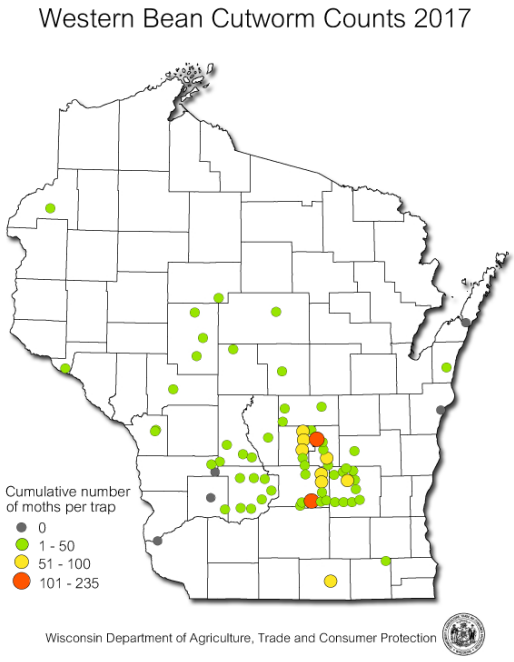


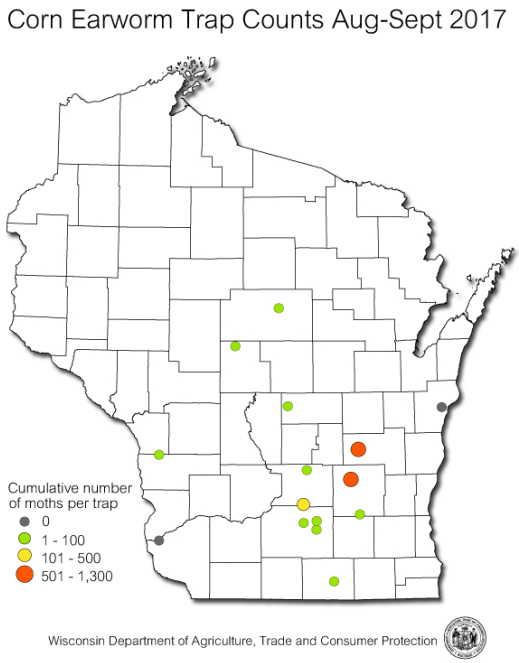
Table 2. Corn rootworm beetle survey results 2008-2017 (Average no. beetles per plant).

District	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10-Yr
NW	0.5	0.4	0.3	0.1	0.5	0.7	0.5	0.2	0.5	0.2	0.4
NC	0.9	0.4	0.1	0.1	0.3	0.2	0.2	0.5	0.7	0.2	0.4
NE	0.6	0.6	0.1	0.3	0.6	0.2	0.1	0.2	0.7	0.2	0.4
WC	0.6	0.5	0.4	0.6	0.4	0.4	0.6	0.3	0.6	0.2	0.5
C	0.5	0.4	0.4	0.8	0.5	0.2	0.2	0.5	0.3	0.3	0.4
EC	1.0	0.6	0.3	0.5	0.4	0.3	0.3	0.8	0.4	0.2	0.5
SW	1.1	0.7	0.3	1.1	0.8	0.6	0.9	0.8	0.7	0.3	0.7
SC	1.5	1.1	0.3	1.4	0.9	0.5	0.3	0.8	0.4	0.3	0.8
SE	1.6	0.3	0.2	0.7	0.9	0.8	0.4	0.7	0.2	0.1	0.6
WI Ave.	**1.0**	**0.6**	**0.3**	**0.7**	**0.6**	**0.5**	**0.4**	**0.6**	**0.5**	**0.2**	**0.5**

Western Bean Cutworm

Moth counts increased from 2016 and larval injury to corn was slightly more common in 2017. The state trapping program captured a total of 1,856 moths in 70 traps (27 per trap average) from June 18-August 23, which was larger than last year's 1,530 moths in 75 traps (20 per trap average) and also higher than the 13-year survey average of 23 moths per trap. Larval infestations were found in approximately 10% of the 458 corn sites surveyed in August and September, compared to 9% last year.





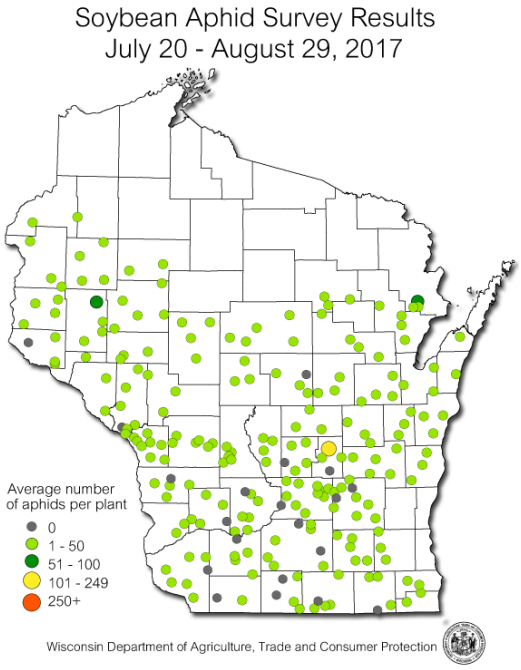
Corn Earworm

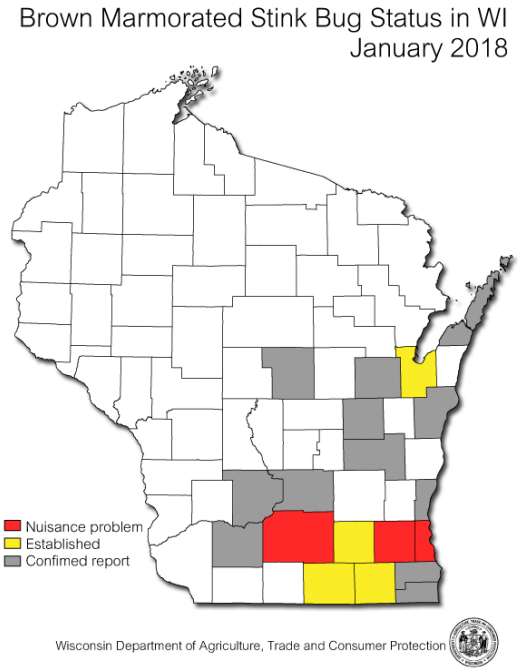
The late-season trapping survey captured a cumulative total of 2,760 moths in 15 traps. Nearly one-half of the moths (1,284) were collected at the Ripon monitoring location, most of which arrived during the last two weeks of September. Compared to 2016 when 6,402 moths were captured in 16 traps, this year's migration was much smaller, with the heaviest flights (>250 moths) limited to three sites in Columbia, Dodge and Fond du Lac counties.

Twelve other pheromone traps in Dane, Grant, Manitowoc, Marathon, Rock, Vernon, Waushara and Wood counties all captured fewer than 100 moths from August through September. Corn earworm flights ended about October 9.

Soybean Aphid

Densities were the lowest since the first detection of soybean aphid in Wisconsin 17 years ago. The annual survey found a statewide average count of six aphids per plant, a slight decline from eight aphids per plant in 2016 and the lowest on record. Two hundred and twenty-eight soybean fields in the R2-R6 growth stages were sampled from late July through August. Aphid populations were below 50 aphids per plant in 96% of the fields and only 4% had moderate averages in the range of 51-100 per plant. A single Green Lake County field had the survey's highest average of 163 aphids per plant, while no fields sampled by DATCP had an above-threshold count of 250 per plant. Results of the survey confirm that aphid densities were low in most fields this season and insecticidal control was generally unwarranted.





Brown Marmorated Stink Bug

Established populations of this invasive pest now occur in at least seven Wisconsin counties. Dane and Rock have been generally infested for 2-5 years, while Brown, Jefferson, Milwaukee, Walworth and Waukesha counties were added to the list in 2017. Citizen reports indicate the actual distribution of brown marmorated stink bug (BMSB) in the state is much wider. Specimens have been confirmed by the UW and DATCP from 19 counties since 2010, with most reports concentrated near Madison, Waukesha and Green Bay. Densities in the Madison, Milwaukee and Waukesha areas are high enough that BMSB can be considered an urban nuisance.