

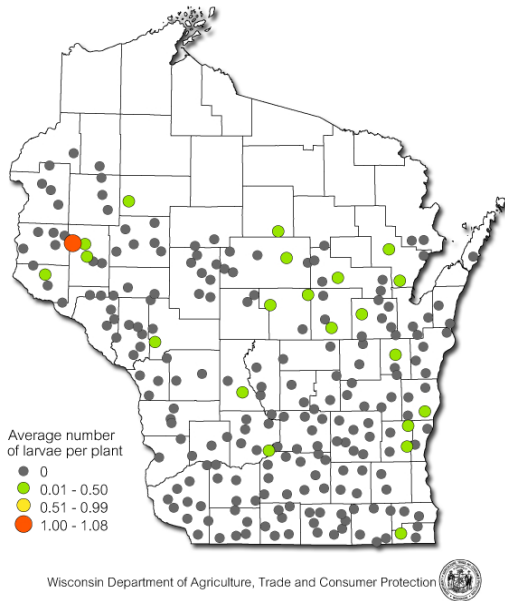
A REVIEW OF DATCP'S INSECT SURVEY RESULTS FROM 2018

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European Corn Borer

Larval counts in September and October were the lowest in 77 years of annual surveys. The 2018 state average European corn borer (ECB) population decreased to 0.01 borer per plant or one larva per 100 plants, falling below the previous record of 0.02 borer per plant set in 2015. Seven of the state's nine agricultural districts showed averages less than or equal to 2017 levels, while negligible increases were noted in the west-central and northeast areas. Larvae were found in only 10% of the fields, with infestation rates below 36% at all but one Dunn County site which averaged 108%. The exceptionally low ECB pressure documented by the fall survey should provide reassurance to growers who opted to plant non-trait corn seed, though conventional acreage will continue to require a higher level of scouting and management to address local variability in seasonal ECB abundance.

European Corn Borer Survey Results 2018
State Ave. = 0.01 borer per plant



District Average Number of European Corn Borer Larvae per Plant

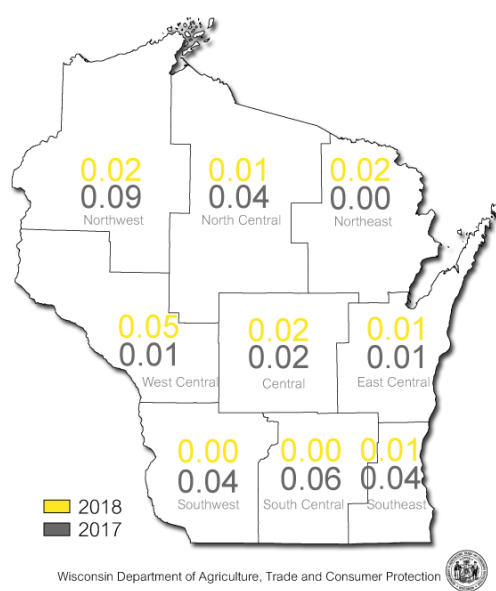


Table 1. European corn borer fall survey results 2009-2018 (Average no. borers per plant).

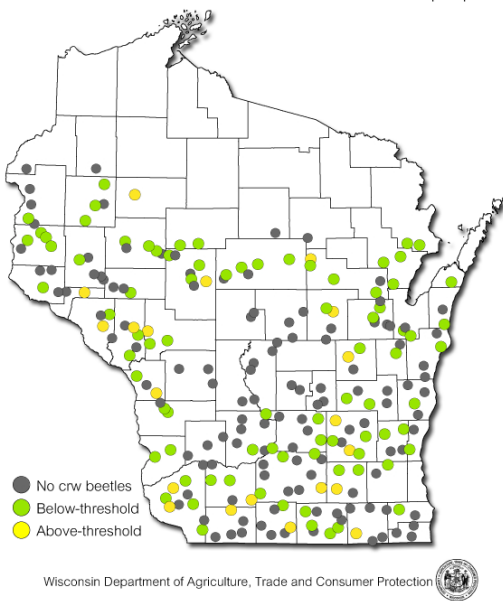
District	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10-Yr
NW	0.06	0.08	0.15	0.04	0.07	0.06	0.03	0.13	0.09	0.02	0.07
NC	0.10	0.02	0.07	0.01	0.02	0.04	0.00	0.08	0.04	0.01	0.04
NE	0.12	0.19	0.13	0.05	0.02	0.01	0.04	0.00	0.00	0.02	0.06
WC	0.10	0.08	0.12	0.09	0.06	0.12	0.03	0.15	0.01	0.05	0.08
C	0.06	0.06	0.05	0.01	0.01	0.00	0.01	0.24	0.02	0.02	0.05
EC	0.09	0.01	0.03	0.01	0.01	0.01	0.04	0.00	0.01	0.01	0.02
SW	0.06	0.12	0.03	0.03	0.06	0.00	0.03	0.14	0.04	0.00	0.05
SC	0.02	0.07	0.20	0.01	0.08	0.01	0.02	0.14	0.06	0.00	0.06
SE	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.04	0.04	0.01	0.01
WI Ave.	0.06	0.07	0.09	0.03	0.04	0.03	0.02	0.11	0.03	0.02	0.05

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Corn Rootworm

Beetle populations were historically low again in 2018. The state average count of 0.2 beetle per plant was equivalent to the 2017 average, while numbers in all nine crop reporting districts remained at or below 0.4 beetle per plant for the second year in a row. The only district-level increases in 2018 occurred in the west-central and northeast areas, where the averages rose from 0.2 beetle per plant in 2017 to 0.3 per plant and from 0.2 to 0.4 per plant, respectively. A minor decrease was recorded in the central district. Above-threshold counts of 0.75 or more beetles per plant were found in 21 of 229 (yellow circles) fields surveyed, low to moderate counts of 0.1-0.7 per plant were found in 81 fields (green circles), and no beetles were observed at 127 (gray circles) of the survey sites.

Corn Rootworm Beetle Survey Results 2018
State Ave. = 0.02 beetle per plant



District Average Number of
Corn Rootworm Beetles per Plant

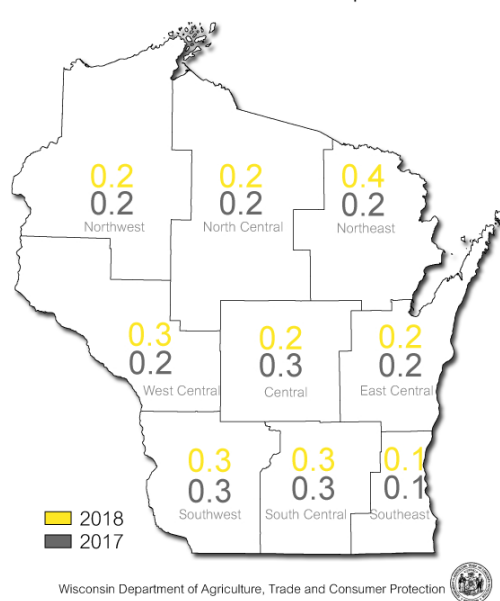


Table 2. Corn rootworm beetle survey results 2008-2017 (Average no. beetles per plant).

District	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10-Yr
NW	0.4	0.3	0.1	0.5	0.7	0.5	0.2	0.5	0.2	0.2	0.4
NC	0.4	0.1	0.1	0.3	0.2	0.2	0.5	0.7	0.2	0.2	0.3
NE	0.6	0.1	0.3	0.6	0.2	0.1	0.2	0.7	0.2	0.4	0.3
WC	0.5	0.4	0.6	0.4	0.4	0.6	0.3	0.6	0.2	0.3	0.4
C	0.4	0.4	0.8	0.5	0.2	0.2	0.5	0.3	0.3	0.2	0.4
EC	0.6	0.3	0.5	0.4	0.3	0.3	0.8	0.4	0.2	0.2	0.4
SW	0.7	0.3	1.1	0.8	0.6	0.9	0.8	0.7	0.3	0.3	0.7
SC	1.1	0.3	1.4	0.9	0.5	0.3	0.8	0.4	0.3	0.3	0.6
SE	0.3	0.2	0.7	0.9	0.8	0.4	0.7	0.2	0.1	0.1	0.4
WI Ave.	0.6	0.3	0.7	0.6	0.5	0.4	0.6	0.5	0.2	0.2	0.4

True Armyworm

Conditions favored mid-season armyworm populations and outbreaks developed in July in scattered areas of the state. Reports of severe infestations in barley, corn, oats, peas, and

wheat were received from several counties, including Clark, Columbia, Eau Claire, Marquette, La Crosse, Rusk, Taylor and Vernon, with a few accounts of masses of caterpillars migrating across roadways. The armyworm outbreak subsided by late July due to pupation of second-generation larvae and insecticide treatment of many acres of cropland.

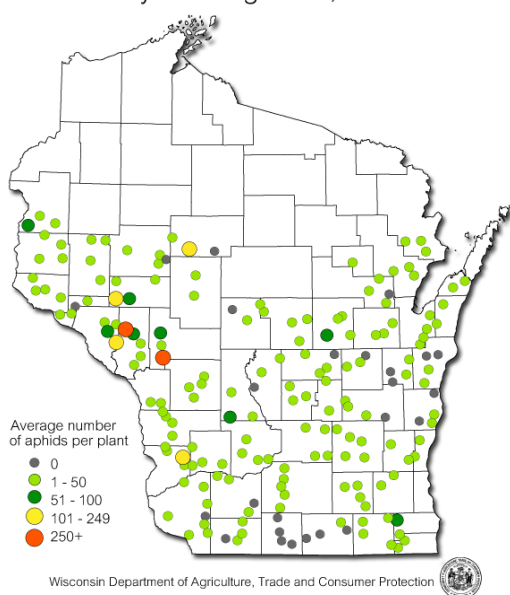
Corn Earworm

The DATCP network of 14 pheromone traps captured a cumulative total of 7,905 moths, with the majority arriving during the six-week period from August 2-September 12. More than one-quarter of the migrants (2,269) were collected at the Beaver Dam (Dodge County) location. Three other sites in Dane, Dodge and Fond du Lac counties also reported high cumulative counts of 500 or more moths. This year's total count was nearly three times larger than that of 2017 when 2,760 moths were captured in 15 traps. Corn earworm flights ended about September 26.

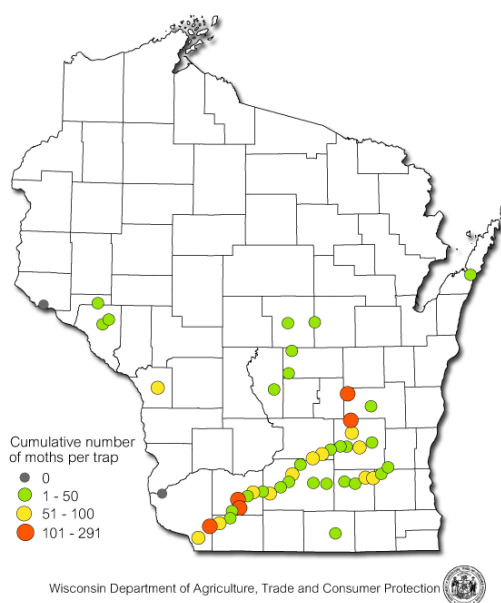
Soybean Aphid

Aphid populations reached the 250 aphid-per-plant treatment threshold in scattered fields during the first two weeks of August, but densities on a statewide scale were mostly low this season. The annual survey conducted from July 23-August 21 found a statewide average count of 14 aphids per plant. This was an increase from six aphids per plant last year and eight aphids per plant in 2016, still far below the threshold. One hundred and eighty-nine soybean fields in the R2-R6 growth stages were surveyed, with aphids counted on 40 plants per field. Only two sites, one each in Jackson and Trempealeau counties, contained above-threshold populations of 260 and 290 aphids per plant. Densities were below 100 aphids per plant in 96% of fields, and the majority of those sites (86%) had average counts of less than 25 per plant.

Soybean Aphid Survey Results
July 23 - August 21, 2018



Black Cutworm Counts 2018



Results of the survey suggest that while aphid pressure was slightly higher in 2018 than in the previous two years, most sampled soybean fields did not meet treatment guidelines during the

survey timeframe. In addition, no cases of pyrethroid insecticide failure were reported or confirmed in the state.

Black Cutworm

Larval feeding injury was encountered in unexpectedly few cornfields surveyed in spring of 2018, despite planting delays and large moth flights throughout May. The cumulative total count for the April 12-June 13 survey period was 2,217 moths in 47 traps, with an individual high of 291 moths near Waupun in Dodge County. In 2017, the survey captured 3,228 moths in 45 traps. Although this year's trap counts indicated a large and threatening spring moth migration, economic damage to emerging corn was not as common as anticipated.

Japanese Beetle

This insect was a leading pest of concern to Wisconsin soybeans again in 2018, second only to the soybean aphid. Surveys in July and August found defoliation in 72% of fields. In 2017, a banner year for Japanese beetle in Wisconsin, 87% of surveyed sites had some degree of feeding. Sweep net sampling during the August aphid survey yielded average counts ranging from 0-21 beetles per 100 sweeps in the state's nine crop districts. Areas with the highest numbers were the southeast (21 per 100 sweeps), south-central (17 per 100 sweeps) and west-central (13 per 100 sweeps) districts (see Table 3). The state average was 8.4 beetles per 100 sweeps. The prevalence of Japanese beetles documented by the survey signals that this invasive pest continues to pose a significant threat to the state's soybean crop.

Table 3. Soybean pest survey results 2018 (Average no. insects per 100 sweeps).

District	Bean leaf beetle	Japanese beetle	Northern CRW	Southern CRW	Western CRW	Green Cloverworm	Grass-hopper	Stink Bug
NW	0.0	3.9	0.0	0.0	0.0	0.0	0.4	0.0
NC	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
NE	0.2	0.2	0.0	0.0	0.0	0.0	2.0	0.1
WC	0.0	13.2	0.0	0.0	0.0	0.4	1.4	0.3
C	0.0	3.6	0.0	0.0	0.0	0.1	1.3	0.2
EC	0.0	0.0	0.1	0.0	0.0	0.0	0.7	0.1
SW	0.1	7.7	0.9	0.1	0.1	0.6	1.4	0.2
SC	0.1	16.6	1.0	0.2	0.0	0.3	0.8	0.2
SE	0.4	20.6	0.4	0.1	0.0	2.9	1.5	0.2
WI Ave.	0.1	8.4	0.3	0.1	0.0	0.5	1.2	0.2

Soybean Gall Midge

An emerging pest of Midwestern soybeans, the soybean gall midge (SGM) was not found in Wisconsin this year. Populations were confirmed in 12 western Iowa counties, as well as in Nebraska and South Dakota. Larvae of the SGM, a member of the Hessian fly family (Cecidomyiidae), feed internally at the base of soybean stems and cause stem discoloration. Infested plants snap off near the ground and the orange or white maggots can be found feeding inside. Much remains unknown about this insect, including the exact species and whether it is a direct or a secondary soybean pest. Consultants and soybean growers are encouraged to become familiar with SGM for 2019.