

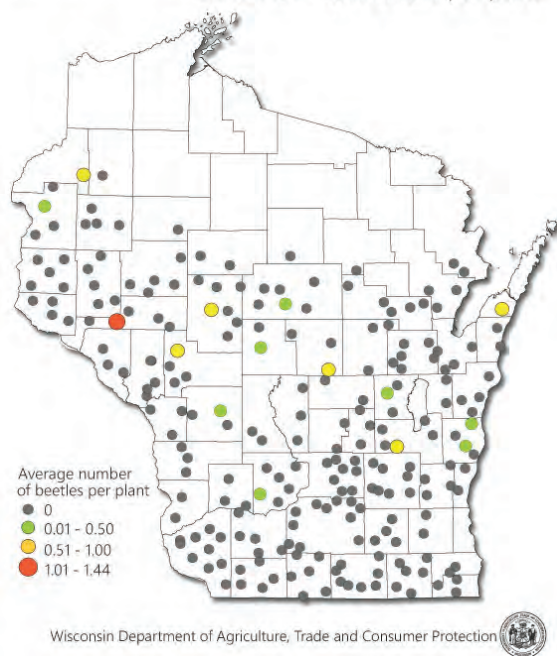
A REVIEW OF DATCP'S INSECT SURVEY RESULTS FROM 2020

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European Corn Borer

Larval populations increased from historically low levels in 2018 to 2019 but remained extremely low overall. The state average count in 229 cornfields sampled this fall was 0.03 borer per plant, which is only marginally higher than the all-time low average of 0.01 per plant recorded during the two preceding seasons. All three of the state's southern agricultural districts showed averages less than or equal to 2019 levels, while negligible increases were noted in the central and northern areas. Larvae were absent from 90% of the fields sampled in September and October.

European Corn Borer Survey Results 2020
State Ave. = 0.03 beetle per plant



District Average Number of European Corn Borer Larvae per Plant

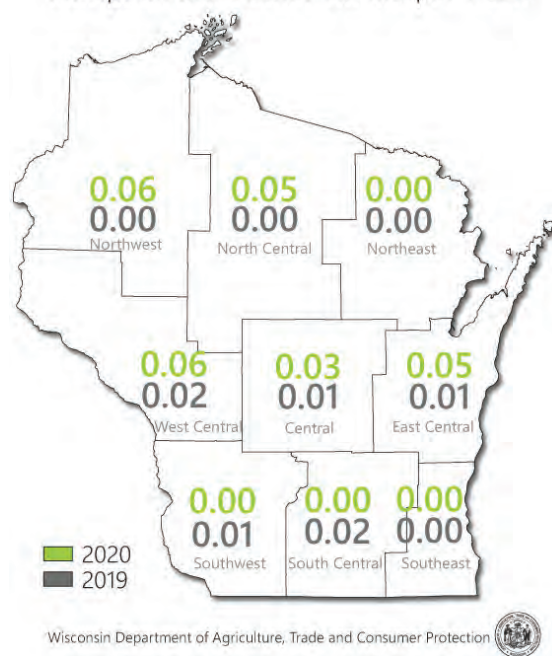


Table 1. European corn borer fall survey results 2011-2020 (Average no. borers per plant).

District	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10-Yr
NW	0.15	0.04	0.07	0.06	0.03	0.13	0.09	0.02	0.00	0.06	0.07
NC	0.07	0.01	0.02	0.04	0.00	0.08	0.04	0.01	0.01	0.05	0.03
NE	0.13	0.05	0.02	0.01	0.04	0.00	0.00	0.02	0.01	0.00	0.03
WC	0.12	0.09	0.06	0.12	0.03	0.15	0.01	0.05	0.02	0.06	0.07
C	0.05	0.01	0.01	0.00	0.01	0.24	0.02	0.02	0.01	0.03	0.04
EC	0.03	0.01	0.01	0.01	0.04	0.00	0.01	0.01	0.01	0.05	0.02
SW	0.03	0.03	0.06	0.00	0.03	0.14	0.04	0.00	0.01	0.00	0.03
SC	0.20	0.01	0.08	0.01	0.02	0.14	0.06	0.00	0.02	0.00	0.05
SE	0.01	0.00	0.01	0.00	0.00	0.04	0.04	0.01	0.00	0.00	0.01
WI Ave.	0.09	0.03	0.04	0.03	0.02	0.11	0.03	0.01	0.01	0.03	0.04

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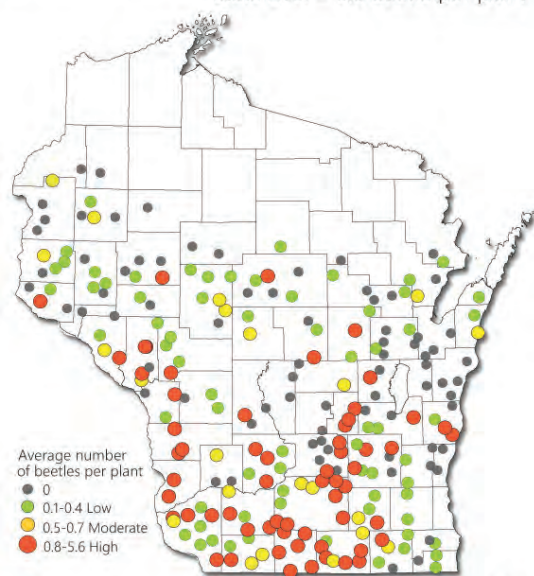
Corn Rootworm

Beetle populations increased in 2020 to the highest levels recorded in 5 years. The annual survey in August documented a state average count of 0.6 beetle per plant in 229 fields, or twice the average found in 2019. The greatest increase was documented in the south-central district (0.5 beetle to 1.3 beetles per plant), while counts were also relatively high in the southwest and central regions, at 0.6 and 0.7 beetle per plant, respectively. Cornfields with populations above the 0.75 beetle-per-plant economic threshold comprised 27% of this year's sites, compared to last year's 12%.

In addition, the 2020 total count of 1,332 beetles was 47% higher than the 711 beetles counted in 2019. Seventy percent of this season's beetles were northern corn rootworm, which has been the predominant species in the state for 7 consecutive years.

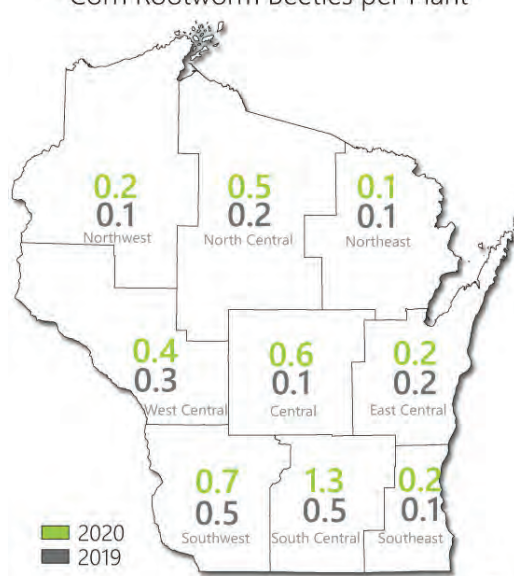
Based on the higher populations observed this season, southern Wisconsin corn producers are advised to closely review their rootworm management plans for 2021 and consider crop rotation if practical. Growers opting for a rootworm trait package are reminded that planting continuous corn with the same trait should be avoided.

Corn Rootworm Beetle Survey Results 2020
State Ave. = 0.6 beetle per plant



Wisconsin Department of Agriculture, Trade and Consumer Protection

District Average Number of
Corn Rootworm Beetles per Plant



Wisconsin Department of Agriculture, Trade and Consumer Protection

Table 2. Corn rootworm beetle survey results 2011-2020 (Average no. beetles per plant).

District	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10-Yr
NW	0.1	0.5	0.7	0.5	0.2	0.5	0.2	0.2	0.1	0.2	0.3
NC	0.1	0.3	0.2	0.2	0.5	0.7	0.2	0.2	0.2	0.5	0.3
NE	0.3	0.6	0.2	0.1	0.2	0.7	0.2	0.4	0.1	0.1	0.3
WC	0.6	0.4	0.4	0.6	0.3	0.6	0.2	0.3	0.3	0.4	0.4
C	0.8	0.5	0.2	0.2	0.5	0.3	0.3	0.2	0.1	0.6	0.4
EC	0.5	0.4	0.3	0.3	0.8	0.4	0.2	0.2	0.2	0.2	0.4
SW	1.1	0.8	0.6	0.9	0.8	0.7	0.3	0.3	0.5	0.7	0.7
SC	1.4	0.9	0.5	0.3	0.8	0.4	0.3	0.3	0.5	1.3	0.7
SE	0.7	0.9	0.8	0.4	0.7	0.2	0.1	0.1	0.1	0.2	0.4
WI Ave.	0.7	0.6	0.5	0.4	0.6	0.5	0.2	0.2	0.3	0.6	0.4

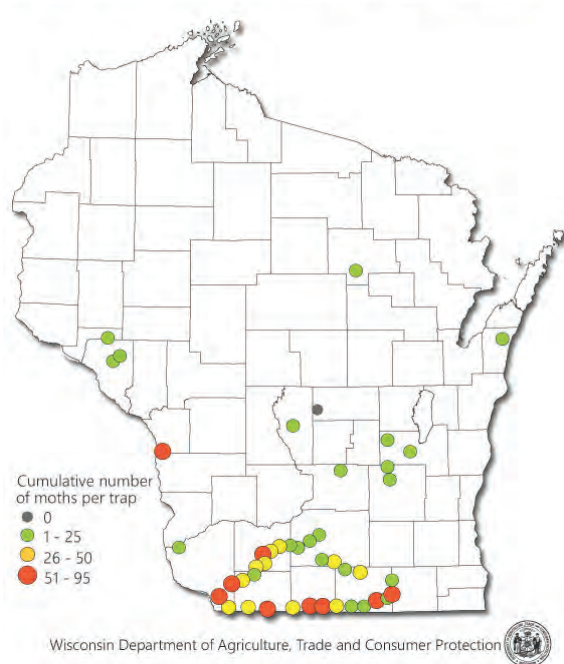
Corn Earworm

Pheromone traps captured a cumulative total of 4,747 moths in 18 traps during the late-season monitoring program, with the largest flights recorded during the first week of September. The highest individual pheromone count was 433 moths at Beaver Dam in Dodge County from August 27 to September 2. Compared to 2019 when 3,495 moths were collected in 15 pheromone traps, this year's total count was 26% higher. The risk to late sweet corn from migrating corn earworm adults was also elevated in 2020, and the September moth flights produced localized larval damage to apples, corn, and tomatoes. Earworm caterpillars were found in 10% of sites surveyed for ECB this fall.

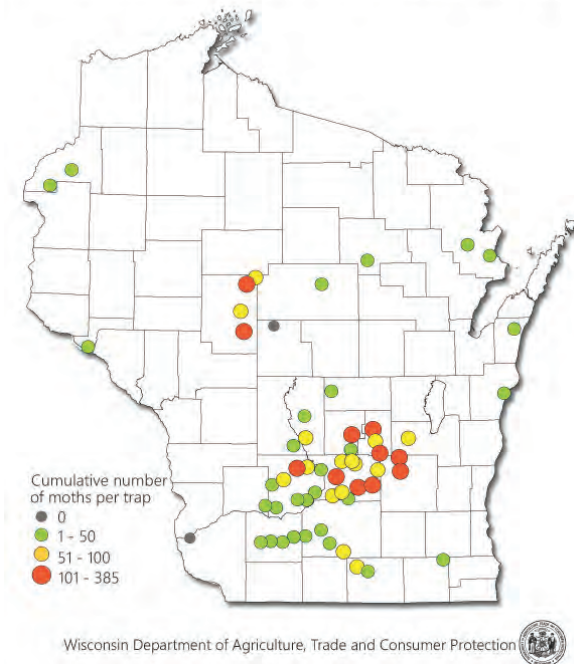
Black Cutworm

Early corn planting and a delayed moth migration resulted in a low risk of spring cutworm damage to emerging corn. Although migrants began appearing in survey traps by April 8, the first intense flights of nine or more moths in two nights did not occur for another month, until May 4. The April 8 to June 5 trapping survey captured 1,355 moths in 44 traps, with a peak recorded May 13 to 19. Significant black cutworm injury was not observed or reported this season.

Black Cutworm Moth Counts Spring 2020



Western Bean Cutworm Moth Counts 2020



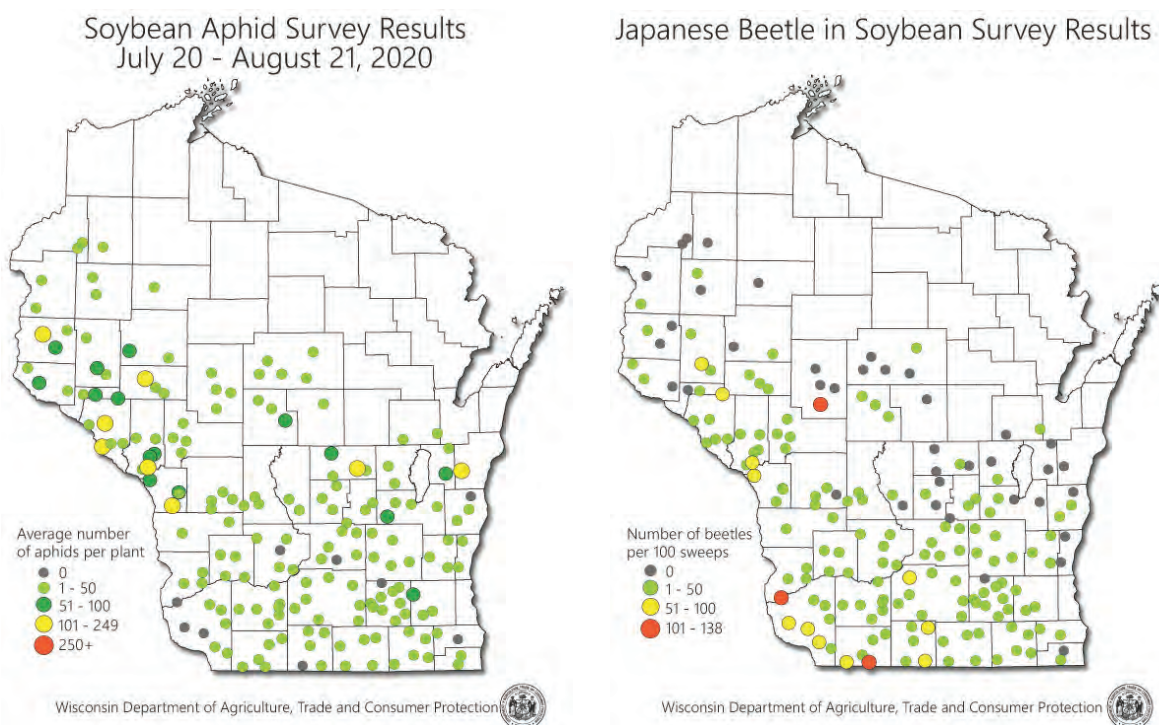
Western Bean Cutworm

Moth counts in 2020 were remarkably similar to those recorded in 2019. The annual trapping program from June to August registered an average of 65 moths per trap (3,789 moths in 58 traps), tying 2019 for the second highest average in 16 years. The survey record of 79 moths per trap (10,807 moths total) was set in 2010. The highest individual count for the 10-week monitoring period was 385 moths at Princeton in Green Lake County, the same location that collected the high count of 405 moths in 2019. This season's relatively large flight generated larval injury to scattered cornfields in the west-central and central counties in August and September.

Soybean Aphid

Populations recorded during the annual survey were mostly low. Ninety-one percent of the 180 fields sampled from July 20 to August 21 had average counts below 50 aphids per plant, 5% had 51 to 100 per plant, and only 4% had moderate populations of 101 to 175 aphids per plant. The 2020 state average count was just 15 aphids per plant, with no surveyed fields showing above-threshold populations of 250 aphids per plant. For comparison, the 2019 survey found a record-low average of five aphids per plant, the 2018 average was 14 aphids per plant, and surveys from 2010 to 2017 documented average counts of 6 to 55 aphids per plant.

Results of this season's effort suggest that while aphid pressure was slightly higher than in 2019, the soybean fields sampled did not meet treatment guidelines during the survey timeframe.



Soybean Gall Midge

An emerging pest of Midwestern soybeans, the soybean gall midge (SGM) was not found in Wisconsin in 2020. Populations were confirmed this season in Iowa, Minnesota, 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 remain alert for symptoms associated with SGM for 2021 and collect a sample for definitive identification if SGM is suspected.

Japanese Beetle

Defoliation was observed in 70% of the 180 soybean fields examined in August. Counts recorded during the annual aphid survey ranged from 1 to 138 beetles per 100 sweeps, with a

state average of 17 per 100 sweeps (the 2019 average was 14 per 100 sweeps). The highest counts of 50 or more beetles per 100 sweeps were noted in the southwestern and west-central districts for the third year in a row. Individual fields in Clark, Crawford, and Lafayette counties had counts exceeding 100 beetles per 100 sweeps and defoliation levels well above the 20% economic threshold for this pest.

Table 3. Soybean pest survey results 2020 (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	3.1	5.6	0.6	0.2	0.0	3.2	2.5	0.5
NC	0.6	14.8	0.4	0.2	0.0	3.8	2.3	1.2
NE	NA	NA	NA	NA	NA	NA	NA	NA
WC	1.0	25.3	1.6	0.1	0.1	4.1	1.8	0.4
C	0.1	6.2	0.0	0.1	0.0	2.6	3.1	0.8
EC	0.1	1.4	0.7	0.0	0.0	3.4	0.6	0.1
SW	0.7	31.0	0.7	0.3	0.6	3.2	11.9	0.5
SC	0.6	17.2	0.8	0.2	0.5	2.8	3.1	0.4
SE	0.7	3.7	9.1	0.1	0.2	2.2	7.5	0.0
WI Ave.	0.8	16.8	1.6	0.2	0.3	3.2	4.6	0.4