

# WISCONSIN INSECT SURVEY RESULTS 2014 AND OUTLOOK FOR 2015

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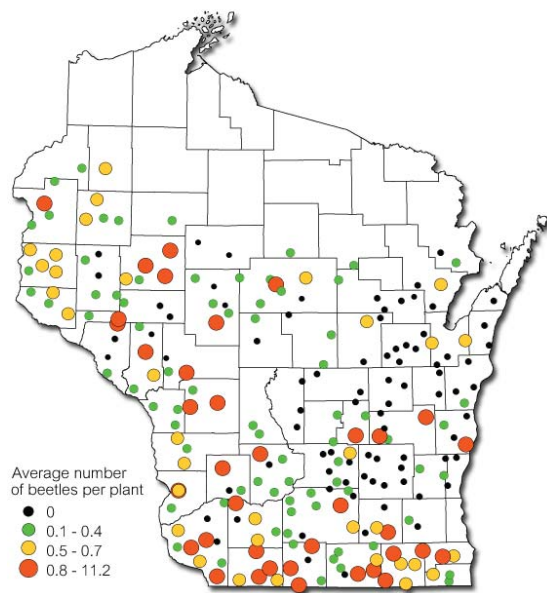
## Corn Rootworm

Results of the annual survey indicate adult corn rootworm populations decreased from 2013 across the eastern half of the state and increased in portions of western Wisconsin. Average counts in the six eastern and central crop districts (SC, SE, C, EC, NC, NE) were all well below the 0.75 beetle per plant economic threshold at 0.1-0.4 per plant, with the largest population decline from 0.8 to 0.4 beetle per plant observed in the southeast. The average in the northwest was also below-threshold at 0.5 beetle per plant.

By contrast, the survey found higher beetle populations than in 2013 in southwest and west-central Wisconsin, although part of the increase in the southwest was due to an exceptionally high count of 11.2 per plant in one Lafayette County field. Excluding this count, the district average would have been equivalent to the 2013 average at 0.6 beetle per plant. Economic populations of 0.75 or more beetles per plant were found in 36 of the 229 fields surveyed this season (16%), as compared to 18% last year and a five-year average of 25%. The statewide average of only 0.4 beetle per plant is the lowest since 2010 and the second lowest in the survey's history.

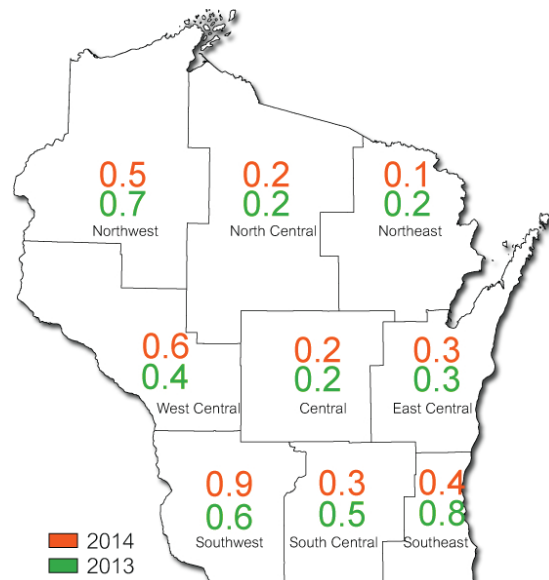
The general reduction in rootworm adults suggests that management practices such as crop rotation, soil insecticides, rootworm-resistant transgenic corn varieties, and natural controls, including low soil temperatures and heavy rain have recently kept numbers at lower levels. Nevertheless, this insect continues to be the most costly insect threat to corn production in Wisconsin.

Corn Rootworm Beetle Survey Results 2014



Wisconsin Department of Agriculture, Trade and Consumer Protection

Average Number of Corn Rootworm Beetles per Plant



Wisconsin Department of Agriculture, Trade and Consumer Protection

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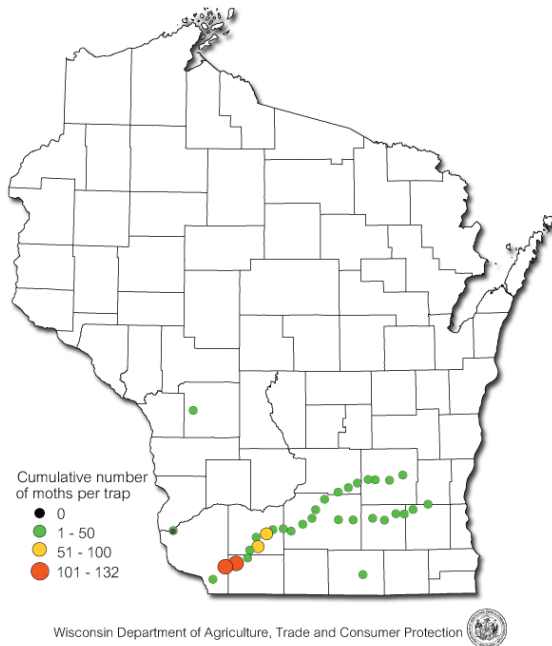
Table 1. Corn rootworm beetle survey results 2005-2014 (Average no. beetles per plant).

| District          | 2005       | 2006       | 2007       | 2008       | 2009       | 2010       | 2011       | 2012       | 2013       | 2014       | 10-Yr      |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| NW                | 0.4        | 0.1        | 0.4        | 0.5        | 0.4        | 0.3        | 0.1        | 0.5        | 0.7        | 0.5        | 0.4        |
| NC                | 0.8        | 0.9        | 0.7        | 0.9        | 0.4        | 0.1        | 0.1        | 0.3        | 0.2        | 0.2        | 0.5        |
| NE                | 0.3        | 1.8        | 0.5        | 0.6        | 0.6        | 0.1        | 0.3        | 0.6        | 0.2        | 0.1        | 0.5        |
| WC                | 0.8        | 0.8        | 0.4        | 0.6        | 0.5        | 0.4        | 0.6        | 0.4        | 0.4        | 0.6        | 0.6        |
| C                 | 0.9        | 0.7        | 0.8        | 0.5        | 0.4        | 0.4        | 0.8        | 0.5        | 0.2        | 0.2        | 0.5        |
| EC                | 1.1        | 2.2        | 1.4        | 1.0        | 0.6        | 0.3        | 0.5        | 0.4        | 0.3        | 0.3        | 0.8        |
| SW                | 3.2        | 2.2        | 0.4        | 1.1        | 0.7        | 0.3        | 1.1        | 0.8        | 0.6        | 0.9        | 1.1        |
| SC                | 1.9        | 1.7        | 2.2        | 1.5        | 1.1        | 0.3        | 1.4        | 0.9        | 0.5        | 0.3        | 1.2        |
| SE                | 3.8        | 1.4        | 1.0        | 1.6        | 0.3        | 0.2        | 0.7        | 0.9        | 0.8        | 0.4        | 1.1        |
| <b>State Ave.</b> | <b>1.6</b> | <b>1.4</b> | <b>1.0</b> | <b>1.0</b> | <b>0.6</b> | <b>0.3</b> | <b>0.7</b> | <b>0.6</b> | <b>0.5</b> | <b>0.4</b> | <b>0.7</b> |

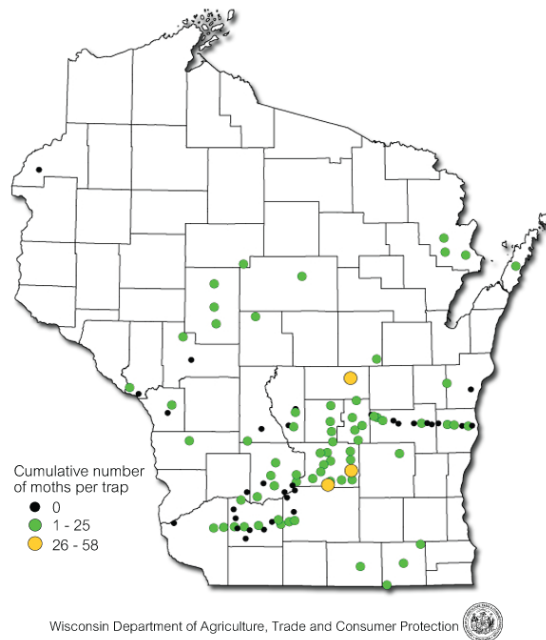
### Black Cutworm

Migrants began arriving in the state by April 13. The first significant flight was registered near Platteville in Grant County from April 29-May 1 and the primary corn cutting window opened in southwestern Wisconsin on May 29. Spring planting delays and late weed control created very favorable outbreak conditions in June, but cutworm problems failed to materialize. Although the cumulative spring count of 1,068 moths in 34 traps indicated a markedly larger migration than last year's flight of 577 moths in 30 traps, economic damage to emerging corn was not observed this season.

Black Cutworm Counts 2014



Western Bean Cutworm Trap Counts 2014



### Western Bean Cutworm

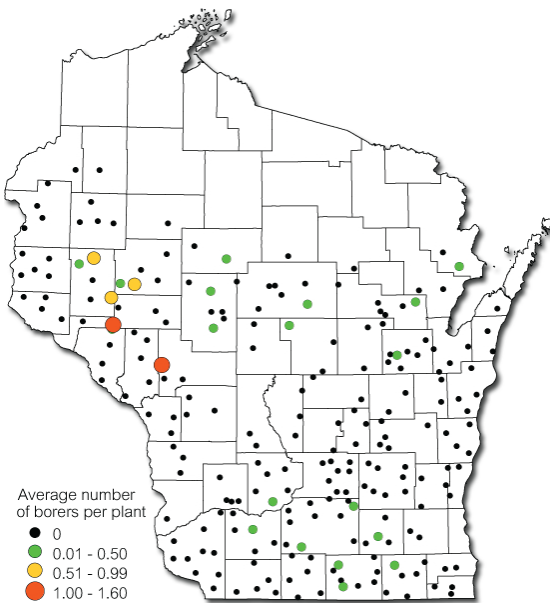
The 2014 trapping survey documented the smallest flight in the 10-year history of the monitoring program, collecting only 521 moths in 108 traps (five per trap average). Most sites captured no more than 10 moths during the 10-week trapping period ending August 20. The

season's highest cumulative count was just 58 moths near Pine River in Waushara County. Levels of this insect have shown a considerable decline since 2010 when pheromone traps collected the state record count of 10,807 moths in 136 traps (79 per trap average). Larval infestations have also been scarce and the western bean cutworm has not been a major pest of concern for most Wisconsin corn producers in the last four years.

### European Corn Borer

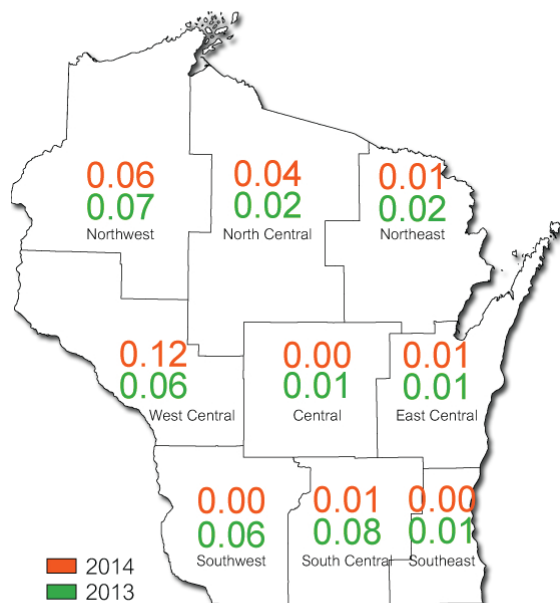
Larval populations declined to an average of just 0.03 borer per plant this fall, tying 2012 as the lowest in the survey's 73-year history. Minor population reductions from 2013 were found in seven of the state's nine agricultural districts, while very slight increases were noted in the west-central and north-central areas. Eighty-four percent of the fields examined (193 of 229) showed no evidence of corn borer infestation. Based on the fall survey results, major change in the nearly decade-long low population trend is not expected for 2015.

European Corn Borer Survey Results 2014  
State Ave. = 0.03 borer per plant



Wisconsin Department of Agriculture, Trade and Consumer Protection

Average Number of European Corn Borer Larvae per Plant



Wisconsin Department of Agriculture, Trade and Consumer Protection

Table 2. European corn borer fall abundance survey results 2005-2014 (Average no. borers per plant).

| District          | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        | 10-Yr       |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| NW                | 0.01        | 0.27        | 0.24        | 0.12        | 0.06        | 0.08        | 0.15        | 0.04        | 0.07        | 0.06        | 0.11        |
| NC                | 0.36        | 0.16        | 0.35        | 0.18        | 0.10        | 0.02        | 0.07        | 0.01        | 0.02        | 0.04        | 0.13        |
| NE                | 0.33        | 0.23        | 0.07        | 0.12        | 0.12        | 0.19        | 0.13        | 0.05        | 0.02        | 0.01        | 0.13        |
| WC                | 0.25        | 0.42        | 0.52        | 0.04        | 0.10        | 0.08        | 0.12        | 0.09        | 0.06        | 0.12        | 0.18        |
| C                 | 0.44        | 0.51        | 0.42        | 0.11        | 0.06        | 0.06        | 0.05        | 0.01        | 0.01        | 0.00        | 0.17        |
| EC                | 0.21        | 0.11        | 0.21        | 0.20        | 0.09        | 0.01        | 0.03        | 0.01        | 0.01        | 0.01        | 0.09        |
| SW                | 0.51        | 0.20        | 0.28        | 0.05        | 0.06        | 0.12        | 0.03        | 0.03        | 0.06        | 0.00        | 0.13        |
| SC                | 0.66        | 0.38        | 0.33        | 0.07        | 0.02        | 0.07        | 0.20        | 0.01        | 0.08        | 0.01        | 0.18        |
| SE                | 0.35        | 0.16        | 0.12        | 0.04        | 0.00        | 0.00        | 0.01        | 0.00        | 0.01        | 0.00        | 0.07        |
| <b>State Ave.</b> | <b>0.39</b> | <b>0.29</b> | <b>0.31</b> | <b>0.09</b> | <b>0.06</b> | <b>0.07</b> | <b>0.09</b> | <b>0.03</b> | <b>0.04</b> | <b>0.03</b> | <b>0.13</b> |

## Soybean Aphid

Densities increased to economically significant levels in about 20% of surveyed fields in late August, though most fields had low or moderate populations this season and control measures were generally not needed. The first aphids of the year were found on June 10 and densities remained extremely low through-out July at fewer than five aphids per plant. By mid-August, counts were still mostly below 20 per plant, although some isolated sites had developed economic populations above the 250 aphid-per-plant threshold. The average count of 118 aphids per plant documented in late August was a substantial increase over the average of only four per plant during the July portion of the survey and, as noted, approximately 20% of surveyed fields may have required treatment for aphid control this year. Biological controls (e.g., lady beetles, lacewings, parasitic wasps and fungal pathogens), declining nutritional content of maturing soybeans, and other environmental factors reduced densities to very low levels by early September.

## Japanese Beetle

Populations were down across the state in 2014 and treatment specifically for this defoliator was not justified for any soybean field sampled by DATCP. A few reports of moderate feeding damage were received from the west-central and northern counties where the Japanese beetle's range is still expanding and it remains a relatively recent pest. Beetle activity persisted through late September.

## Alfalfa Weevil

Larval emergence was delayed 1-2 weeks by abnormally cool spring temperatures and counts were low throughout May and June, peaking at less than one larva per sweep from June 12-19. Significant populations did not develop in the first crop and weevil damage concerns were secondary to the excessive June rains which disrupted the alfalfa harvest. Low weevil pressure, cool weather and abundant precipitation all contributed to one of the most productive alfalfa crops in several years; 89% of the first crop rated as good to excellent when the harvest ended in late June.

## Potato Leafhopper

Migrants first arrived from May 8-14 and were distributed in low numbers across the southern half of the state by early June. Nymphs appeared in second crop alfalfa during the week of June 11. Populations remained consistently low all season long, with representative counts averaging below 1.8 per sweep in all 534 alfalfa fields surveyed from May through August. Economic counts were not observed in 2014 and leafhopper control was seldom required.