

Winnebago County Crops Quick Update

Assembled by Nick Schneider, Winnebago County Agriculture Agent

November 20, 2009

Wisconsin Crop Progress: November 16 2009. Source: USDA, NASS, Wisconsin Field Office

Full report at: <http://www.nass.usda/gov/wi/>

Soil Moisture		
	East Central Wisconsin	State Average
Very Short	0%	0%
Short	0%	4%
Adequate	89%	84%
Surplus	11%	12%

Wisconsin Crop Progress					
Crop and percent of acreage			State Average		
	Central	East Central	This Year	Last Year	5-Year
Corn Harvested for Grain	29	38	38	67	77
Soybean harvest	74	80	88	100	97
Fall tillage	53	60	38	51	54

Crop Conditions: Corn: Very Poor=3%, Poor=9%, Fair=29%, Good=43%, Excellent=16%

Winter Wheat: Very Poor=3%, Poor=4%, Fair=32%, Good=51%, Excellent=10%

USDA Grain Forecast. November 12, 2009.

Corn

“Wisconsin corn production is forecast at 423 million bushels, up 7 percent from last year. Yield is expected to reach 146.0 bushels per acre this season, up from 137.0 bushels in 2008. If realized, this will be Wisconsin’s second highest corn for grain yield.” “U.S. corn for grain is forecast at 12.9 billion bushels on 79.3 million acres harvested. Based on conditions as of November 1, yields are expected to average 162.9 bushels per acre...9.0 bushels above last year...this yield will be the highest on record if realized.”

Soybeans

“Yield is forecast at 41.0 bushels per acre, up from 35.0 bushels per acre a year ago. Wisconsin soybean production is forecast at 66.8 million bushels, up 20 percent from 2008. If realized, this will be the fourth largest soybean production in Wisconsin history.” “Nationwide soybean area harvested is expected to reach 76.6 million acres, producing 3.32 billion bushels. If realized, this will be the new record for national soybean production, up 12 percent from last year. Based on November 1 conditions, yields are expected to average 43.3 bushels per acre, up from 39.7 bushels per acre in 2008. If realized, this will be the highest U.S. soybean yield on record.”

Observations of the month:

It is difficult to read the USDA reports about record or near record yields while there are so many financial costs related to the low quality, wet, moldy corn. November weather has cut us a break by keeping the snow away as harvest drags on. Earlier this month I submitted four corn samples to the UW plant pathology lab as part of the state-wide corn mold survey. All samples submitted were selected because they were known to have mold. The results are as follows:

1. Found *Cladosporium* and *Fusarium*
2. Found *Cladosporium* and *Fusarium*
3. Found *Fusarium*
4. Found *Cladosporium*, *Fusarium*, and *Nigrospora*

Cladosporium: Dark, greenish black, blotched or streaked kernels. Often associated with frost damage.

Fusarium: Whitish pink to lavender, growth on kernels. Startburst symptoms common. Of the various molds, this is of higher concern for causing mycotoxin. The survey did not look for mycotoxin specifically.

Nigrospora: Ear or cob rot. The cob shreds more easily at harvest. Grey mycelium on kernels.

More detailed harvesting papers can be found at:

<http://fyi.uwex.edu/grain/>

****NEW** [High Moisture Corn, Aerobic Stability, Feed Additives and Mycotoxins](#)**
[Common Questions](#)

****NEW** [Human Health Concerns from Grain Dusts During Harvest](#)**

[Storing and Utilizing High-Moisture Corn Preserved with Organic Acids](#)

[Preserving and Storing High-Moisture Corn Treated with Propionic Acid](#)

[Will you Sell the Grain You Harvest This Year](#)

[Dairy Cattle Feeding Issues with High-Moisture Corn, Snaplage and Dry Shelled Corn](#)

[Combine Considerations for a West Corn Harvest](#)

[Renewed Interest in Snaplage Displayed](#)

[Considerations for Artificial Drying of Soybeans](#)

[Weigh Risk of Leaving Corn Stand Through Winter](#)

[Understanding Corn Test Weight](#)

[High Moisture Corn Harvest and Storage Considerations](#)

[Tillage and Crop Residue Management Consideration for the Fall of 2009](#)

Full report at: <http://pestbulletin.wi.gov/>

Looking Ahead

PEST HIGHLIGHTS IN 2009

EUROPEAN CORN BORER - The fall survey found a state average of 0.6 borers per plant, the lowest count in 11 years and the second lowest since the survey began in 1942. Survey data from 2009 and the previous several years continue to suggest that the extensive use of transgenic Bt corn is suppressing corn borer populations in Wisconsin.

GYPSY MOTH - Adult emergence was significantly delayed this season and trap counts were well below normal. The 27,390 pheromone traps deployed as part of the annual trapping survey captured only 119,353 male moths. Cooperators reported an additional 12,922 moths for a total of 132,275. This figure compares to 385,554 last year and is approximately 1/3 the magnitude of the 2008 flight.

EMERALD ASH BORER - This insect was detected in 3 new counties this year and now infests Brown, Crawford, Kenosha, Milwaukee, Ozaukee, Vernon and Washington counties.

JAPANESE BEETLE - Frequent reports of damage were received from all areas of the state in July and August. A wide variety of plants were affected in home gardens, orchards and nurseries, and many corn and soybean fields had noticeable, but non-economic levels of silk feeding and defoliation. Although some local infestations were severe, beetle numbers were generally lower than last year.

-- Krista Hamilton, DATCP Entomologist

Forages & Grains

ALFALFA

ALFALFA WEEVIL - Larvae were scarce or absent in all but the most advanced fields until May 15, and adults averaged less than 3 per 25 sweeps. Numbers increased gradually to reach peak levels during the first two weeks of June. Timely harvest killed most of the larvae before significant feeding could occur, thus damage to the first crop was light. Pupation began around June 19. After late June, only trace numbers of adults or larvae were encountered in routine monitoring of alfalfa. Minimal insecticidal treatment was necessary in 2009.

PEA APHID - Egg hatch was noted on April 22 in Rock County. Counts in alfalfa were low in May, seldom exceeding 1-2 per sweep. By mid-June, a rapid population increase occurred and as many as 65 per sweep were observed in fields in the south-central district. The highest numbers were found in Columbia, Dane, Dodge, Jefferson and Rock counties, where chemical controls were applied to both alfalfa and peas in some instances. Except for the brief outbreak in June, natural control factors held pea aphid numbers below 9 per sweep for most of the season.

POTATO LEAFHOPPER - Adults began appearing in alfalfa on May 5 and nymphs were observed by June 15. Sweep net counts remained low until late June, when surveys yielded economic populations of 2-3 per sweep in scattered southern and west-central fields. Numbers fluctuated through July and August, increasing for a few weeks and then declining markedly after each cutting. By late August, counts ranged from 1-6 per sweep but were generally below 2 per sweep. This insect was less of a problem in third and fourth growth alfalfa than anticipated. In most cases, the lack of precipitation or rainfall on cut hay caused more loss in yield and quality than leafhopper injury.

-- Krista Hamilton, DATCP Entomologist

SMALL GRAINS

WINTER CUTWORM - Alfalfa and small grains growers were alerted to the possibility of damage last spring by this exotic European caterpillar, the immature form of the greater yellow underwing moth (*Noctua pronuba*). It was speculated that the east-central, northeast and north-central portions of the state were at greatest risk for outbreaks based on numerous reports of larval activity in December and February. Two flights of moths appeared in black light traps, the first beginning by mid-June and the second in late August, but counts were relatively low. This insect cannot be credited with causing economic damage to crops in 2009.

TRUE ARMYWORM - The first moths appeared in Dane, Rock and Wood counties by May 14, and shortly thereafter at other black light trap sites. Although a heavy flight consisting of 1,830 moths was registered at Janesville during the two-week period from June 4-18, no significant problems developed in corn or small grains in the area. Larvae of the second generation reportedly infested wheat in the northeast by mid-July, but the problem was localized and limited to a few scattered fields.

-- Krista Hamilton, DATCP Entomologist

WHEAT DISEASE SURVEY - Survey specialists conducted a disease survey of winter wheat between May 8 and June 23, sampling 45 fields in 13 counties. Wheat fields ranged in maturity from Feekes Stage 8.0 (flag leaf visible) to Feekes Stage 10.5.3 (flowering complete to base of spike). Powdery mildew (*Blumeria graminis*) and sooty molds (various fungi) were observed in 60% and 56% of fields, respectively, but severity was very low. Bacterial blight (*Pseudomonas syringae*) was found in 31% of fields, while 22% were infected with loose smut (*Ustilago tritici*). Other diseases of significance and the percent of fields affected were: 13% of fields with leaf rust (*Puccinia triticina*), 9% of fields with Septoria leaf blotch (*Septoria tritici*), and only 2% of fields with Ascochyta leaf spot (*Ascochyta tritici*). No scab (*Fusarium* spp.), stem rust (*P. graminis* f. sp. *tritici*) or stripe rust (*P. striiformis*) was found in any wheat field sampled this year. Disease incidence was generally very low in 2009. Below is a chart summarizing the results of the wheat disease survey.

-- Anette Phibbs and Adrian Barta, DATCP Plant Pathologists

Corn

CORN ROOTWORM - The annual survey in August documented a decrease in the state average number of beetles per plant for the first time in 5 years. Population declines were charted in every district, with the largest reductions occurring in the southeast, east-central and north-central areas (see table below). The state average of 0.6 beetle per plant compares to 1.0 last season and a 5-year average of 1.1 per plant. District counts were as follows: northwest 0.4, north-central 0.4, northeast 0.5, west-central 0.5, central 0.4, east-central 0.6, southwest 0.7, south-central 1.1, and southeast 0.3. Populations in 77% of surveyed fields were below the 0.75 beetle per plant level which indicates root injury potential in 2010 if some form of control is not used.

The causes of the decline in beetle numbers are not certain. It is presumed that widespread use of stacked Bt hybrids is a major contributing factor, both in Wisconsin and across the Midwest where populations of the western species were greatly reduced this season. Wet soil conditions last spring also may have caused some degree of larval mortality, thus lowering adult numbers. The map below shows the locations of 229 fields sampled in August. Areas with an elevated risk of root injury to non-Bt, continuous corn are represented by red and yellow circles.

EUROPEAN CORN BORER - Examination of 229 corn fields between September 1 and October 31 found the second lowest population since the survey began in 1942. The state average of 0.06 borers per plant (6 per 100 plants) represents a decline from last year's very low average of 0.09 per plant, and is well below both the 10 and 50-year averages. Populations this fall exceeded 2008 levels only in the southwest and west-central districts (see table below). Less than 1% of the fields sampled had populations that met the treatment criteria of 1.0 or more borer per plant, and 75% had no detectable larval population. Survey data from 2009 and the previous 11 years continue to suggest that transgenic Bt-corn has become a major mortality factor among the European corn borer population.

BLACK CUTWORM - Migrant moths were detected in the state at Janesville in Rock County on March 25, two weeks earlier than in 2008. The first "intense captures" were registered on April 24 and initial cutting dates for the southern counties were projected for the period of May 28-June 4. The peak moth flight occurred from May 1-7. Larvae produced by the spring flight were noted to have caused minor injury to a few corn fields in Crawford, Dane, Rock and Vernon counties by early June, but the degree of damage was inconsequential. No economic injury to corn was attributed to black cutworms this season.

WESTERN BEAN CUTWORM - The adult flight period was delayed by record low temperatures in July and the majority of moths did not appear in trap collections until July 27-August 14. Egg deposition was noted by July 18. Although larval populations were found in corn throughout the state in August and September, the heaviest infestations were concentrated on sandy soils in the central district. Pheromone trap counts coincided closely with field observations, documenting the largest moth numbers in the central counties of Adams, Green Lake, Juneau, Marquette, Monroe and Waushara (see map below). High cumulative counts for the season were 339 moths in a pheromone trap and 350 moths in a black light trap, both located near Grand Marsh in Adams County. Larvae persisted in some corn fields past October 16.

EAR MOLDS - Reports indicate that the ear molds *Diplodia*, *Fusarium*, *Gibberella* and *Penicillium* are prevalent in Wisconsin corn fields this fall. These and other ear mold fungi produce mycotoxins that can be harmful when fed to livestock. Growers finding excessive amounts of ear mold in their fields should submit infected ears for analysis. For a directory of laboratories that offer mycotoxin testing, refer to the [Wisconsin Crop Manager](#).

-- Krista Hamilton, DATCP Entomologist

Soybeans

SOYBEAN APHID - According to the results of the annual survey, the vast majority of Wisconsin soybean fields did not develop economically significant populations during the R2-R4 growth stages. Of the 247 fields examined in July and early August, 94% had non-economic densities of less than 250 aphids per plant (see map below). Economic populations were observed at scattered locations in Columbia, Dunn, Eau Claire, Marquette, Pepin, Pierce, Taylor, St. Croix and Wood counties, but these were exceptional. The survey found the state average density to be 51 aphids per plant, which compares to 72 in 2008, 164 in 2007, 69 in 2006, 118 in 2005, 11 in 2004, and 758 in 2003.

By mid-August the situation changed considerably. Densities surged above treatment thresholds and remained extremely high for the balance of the season. Swarms of winged aphids descended on urban areas across the Midwest during an unprecedented fall migration to buckthorn, causing great annoyance to humans. Despite the magnitude of the flight, a fungal disease apparently decimated populations by late October and substantially reduced egg counts on buckthorn.

BEAN LEAF BEETLE - The spring survey of 152 first growth alfalfa fields conducted from May 18-June 10 yielded just 24 overwintered adults. This figure is comparable to the 21 beetles collected during a similar survey last season, but considerably lower than the numbers found during annual surveys in the years 2003-2007 when several hundred specimens were collected. Beetles were swept from only 14 fields in Columbia, Fond du Lac, Grant, Green, Jefferson, Lafayette, Rock, Trempealeau, Waukesha, Waushara and Washington counties, with no apparent pattern to their distribution (see map below). Laboratory testing of the 24 specimens showed all were negative for bean pod mottle virus (BPMV). Based on the low population of overwintered beetles detected last spring, a minimal risk of early-season defoliation and virus transmission was predicted for emerging soybeans.

TWO-SPOTTED SPIDER MITE - Stippling of leaves, extreme yellowing, and other indicators of spider mite infestation became pronounced by late July, prompting the treatment of many soybean fields in the east-central and northern counties. Although symptomatic fields were evident in all areas of the state, problems were most prevalent and severe in the eastern and northern areas due to the prevailing drought conditions. Rainfall in August corrected moisture deficits and reduced mite populations by the end of the month.

-- Krista Hamilton, DATCP Entomologist

PHYTOPHTHORA ROOT ROT - For the second year, the incidence of this root rot disease was assessed by a survey of 50 soybean fields. The start of the survey was deferred from spring to July due to cool weather conditions and slow soybean development. Between July 6 and 17, fields in the early vegetative stages were sampled for seedlings showing symptoms of decline. Seedling roots were tested for *Phytophthora sojae* by culturing on semi-selective media and molecular methods. A molecular based assay using polymerase chain reaction (PCR) of root DNA found 9 positive samples, while culturing found only 3 positive samples. Results were very similar to 2008 when 10 of 50 samples tested positive by PCR and only 4 could be identified by culturing and morphological characteristics. PCR is clearly the more sensitive and effective diagnostic method for detection of this pathogenic organism. Survey findings indicate that *P. sojae* infected about 20% of the state's soybean fields consistently over the last 2 years.

-- Anette Phibbs, DATCP Plant Pathologist

SOYBEAN SEED FIELD INSPECTION - Soil and leaf samples taken from 13 soybean seed production fields found presence of soybean cyst nematode at 7 locations and yielded negative test results for *Cercospora kikuchii*, *Colletotrichum truncatum*, *Diaporthe phaseolorum*, *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*, bean southern mosaic virus, bean pod mottle virus, tobacco ringspot virus, tomato ringspot virus and *Phytophthora sojae*.

-- Clarissa Hammond, DATCP Weed Scientist