Green Cloverworms Feeding on Pods of Dry Beans

Green cloverworm continues to feed on foliage and now the pods of dry beans, becoming a worse problem in dry beans than originally expected! There has been no report of green cloverworm feeding on pods of soybean yet. Field reports have come in from the Red River Valley area of Fargo north to St. Thomas and east to Crookston and Park Rapids, Minnesota.

Here’s a reminder to continue to scout until the end of R6. Shake plants vigorously to dislodge green cloverworm larvae onto the soil to see if they are present and then estimate the defoliation on the WHOLE plant. The Economic Threshold (E.T.) for all foliage-feeding caterpillars is:

- **SOYBEANS** - 20% defoliation from pod-set to maturity
- **DRY BEANS** – 25-30% defoliation

If treatment is needed, please check the Pre-Harvest Intervals (PHI) of insecticides registered for caterpillars in dry beans, which can vary from 7 to 21 days. For insecticides registered for caterpillar control by field crops, please consult the [2019 North Dakota Field Crop Insect Management Guide E1143](https://www.nctr.northdakota.edu/pubs/).
The purpose of the IPM (Integrated Pest Management) Survey is to detect the presence and population levels of diseases and insect pests that are common in wheat and barley grown in North Dakota. Nine survey scouts or insect trappers operated out of the Dickinson Research Extension Center, the North Central Research Extension Center (Minot), the Carrington Research Extension Center, the Langdon Research Extension Center, the Williston Research Extension Center and the Fargo Agricultural Experiment Station. The NDSU IPM scouts were:

- **Allison Fugle**, central and south central counties, worked out of Carrington REC with Greg Endres
- **Kia Ward**, southwest and west central counties, worked out of Dickinson REC with Ryan Buetow
- **Caleb Cross and Riley Racine**, north central counties, worked out of NCREC in Minot with Travis Prochaska
- **Scott Roseth and Nicole Stanhope**, northwest counties, worked out of Williston REC with Audrey Kalil
- **Tyler Lux**, southeast and east central counties, worked out of NDSU campus, Fargo with Jan Knodel, Andrew Friskop and Sam Markell.
- **Nancy Feil and Traci Murphy**, northeast counties, worked out of Langdon REC with Leslie Lubenow and Benson County Extension Office with Scott Knoke

NDSU IPM field scouts surveyed a total of 902 wheat fields (winter wheat, hard red spring wheat, durum wheat) and 103 barley fields for 18 diseases and 6 insect pests in North Dakota in 2019. The survey was initiated on June 3rd and continued through August 16th. Crops were surveyed from the 2-leaf stage (seedling) through ripening stages. IPM survey data/maps provide near real-time pest information to North Dakota producers and others in agriculture to assist with scouting and pest management decision making. Pest maps from the 2019 IPM Survey in North Dakota were uploaded weekly onto the [NDSU IPM website](https://ipm.ndsu.nodak.edu). Some of the pest highlights for wheat and barley are summarized below.

**Grasshoppers** – Grasshoppers were surveyed for in all crops, including wheat, barley, soybeans and sunflowers. Adult grasshoppers were observed in 86% of the fields surveyed. This was an increase in the incidence of adult grasshoppers from last year’s 75% in 2018 and only 36% in 2017. The number of adult grasshoppers per 4 sweeps (1 yd²) ranged from 0 to 35 per 4 sweeps. The highest infestations were most common in the dryer areas in the northeastern and north central areas of ND. The cool spring and late crop planting favored grasshopper development and reproduction since grasshopper emergence was delayed and by the time grasshoppers emerged, there were ample crops to feed on. The wet conditions in some areas of ND did not seem to negatively impact grasshopper infestations. Feeding injury was present on field edges in most fields. However, some fields needed a whole-field treatment. Grasshopper ‘Hot spots’ in 2019 included Benson, Pembina, Ramsey, Sheridan, Towner, Walsh, Ward Counties.
Insect Pests of Small Grains:

Grain aphid numbers were very low and observed in only 16% of the wheat fields and 15% of the barley fields surveyed in North Dakota. Grain aphids were first detected late in the year (June 27) and populations never developed into damaging levels (85% of stems infested with one or more aphids). In wheat, the percentage of infested stems ranged from 1-40% with an average of 7%. In barley, the percentage of infested stems ranged from 2-36% with an average of 10%. Higher infestations were observed in late July into August when the wheat and barley were not susceptible to yield losses.

Wheat stem maggot was observed in 17% of wheat fields surveyed in ND and damaged ranged from 1-56% of plants with damaged heads (white heads). Wheat fields with >20% damaged heads were observed in northwest (Burke, Divide, McKenzie Counties), north central (Mountrail County) and northeast (Cavalier and Walsh Counties).
Wheat stem sawfly was collected with sweep nets in only 5% of the wheat fields surveyed during late July through mid-August in 2019. However, wheat stem sawflies were more common and widespread than in 2018. Wheat stem sawflies were observed in the northwest (Burke, Divide, Mountrail and Williams Counties); north central (McLean, Renville, Sheridan and Ward Counties) and southwest (Billings, Dunn, Golden Valley, Grant, Hettinger, Morton, Oliver, Slope and Stark Counties) areas of North Dakota. The summer drought in the northern areas of North Dakota favored development and reproduction of wheat stem sawfly. Although populations were low statewide in 2019, wheat growers reported lodging problems from wheat stem sawfly in Bottineau, Renville and Ward Counties.

Cereal leaf beetle is no longer a pest of export concern for shipments of hay from North Dakota to California or Canada; however, we still monitor cereal leaf beetle as an economic insect pest of wheat and barley. In 2019, there was only one observation of cereal leaf beetle in wheat, in Nelson County. This is a new county record for cereal leaf beetle in ND. No positive observations of cereal leaf beetle were detected in barley. The updated counties of North Dakota that are infested with cereal leaf beetle include: Burke, Divide, McKenzie, Mountrail and Williams counties in northwest; Renville, McHenry and Ward counties in north central; and Cavalier and Nelson counties in northeast.
Barley thrip numbers were low and observed in only 10% of the barley fields surveyed from late June through mid-July. The central area of ND reported most of the barley thrips at an average of <1 thrips per stem, which is not economic for barley. The 2019 economic threshold for barley thrips was an average of >4 thrips per stem for malting barley and 6-8 thrips per stem for feed barley.

Foliar Diseases of Small Grains:

Tan spot and bacterial leaf streak were the two most prevalent foliar diseases in wheat in 2019. Tan spot was recorded in 27.5% of the fields (Figure 1), which is up 12.7% from 2018. A big reason why tan spot was detected more frequently in 2019 could be attributed to weather conditions (cool and wet in late May and early June). Another disease that was noted regularly was bacterial leaf streak and was identified in 13.6% of the fields (Figure 2). Severity (area covered by disease lesions) for both tan spot and bacterial leaf streak varied, and high levels of both diseases were detected in several fields. Fungal leaf spots (net blotch and spot blotch) were the most common diseases in barley and were collectively identified in 29% of the fields.
Fusarium head blight (scab) risk was moderate to high for several areas of the state this growing season. Areas under the greatest risk included southeast ND and southwest ND. The NDSU IPM scouts visited 284 wheat fields after the flowering stages of wheat and documented scab in 27% of the fields (Figure 3). Most fields were at low severity (< 5.0 severity index), while a few fields had moderate to high amounts of scab (> 10.0 severity index).
2019 ND IPM SURVEY RESULTS IN SOYBEAN AND SUNFLOWER

NDSU IPM field scouts surveyed a total of 489 soybean fields and 144 sunflower fields in North Dakota during 2019. The survey was initiated in early June and continued through August 16. Crops were surveyed from the 2-leaf stage through R5 growth stage in soybeans and R6 growth stage in sunflowers. Some of the insect pest highlights for soybean and sunflower are summarized below.

**Soybean Insect Pests:**

**Soybean aphids** - No soybean aphids were observed in 93% of the soybean fields surveyed. The percent of plants infested with soybean aphids in fields was very low with an average of 28% of plants infested and ranged from 3 to 100% of plants infested. The average number of aphids per plant was only 6 aphids per plants and ranged from 1 to 10 aphids per plant. **Soybean aphids never reached the economic threshold (E.T.) level** (average of 250 aphids per plant, 80% of plants infested with one or more aphids and increasing population levels) in any of the fields.
Spider mites were observed in only 1% of the field scouted. Mites were found on the field edges and in the droughty areas of ND, especially in the northern half of North Dakota.

Bean leaf beetle is an uncommon insect pest of soybeans in ND. It usually does not overwinter successfully in ND due to our cold winters. No bean leaf beetles were observed in soybean fields scouted in 2019.

Sunflower Insect Pests:
Red sunflower seed weevils were observed during flowering from late July through mid-August. The average number of weevils per head was 3.3 and ranged from 1 to 12 weevils per head depending on field site. Counts that were taken on field edges were higher and averaged 2 weevils per heads compared to 0.5 weevils per heads in field (at least 25 feet into field). In 2019, the E.T. for red sunflower seed weevils was 4-6 weevils per head for oilseed sunflowers. Approximately 15% of the fields were above the E.T. and these fields needed to be treated with insecticides.
Banded sunflower moth was collected at all 12 trap sites throughout ND. The first moth was trapped on July 9th and peak moth catch was late July through mid-August. Traps that captured more than 100 moths per trap per week were located in Burke, Cass, Cavalier and Renville Counties.

Sunflower moth was collected at 10 of the 12 trap sites. The sunflower moth migrates annually into ND and was first detected late on July 12th. The peak catch occurred during late July into early August. Economic numbers of sunflower moths (> 25 moths per trap per week) were not observed at any trap site in North Dakota. However, traps sites located in Foster, McIntosh and Burke had the highest moth trap catches of 21 moths per trap per week.

Sunflower Diseases: The IPM scouts scouted for downy mildew and rust in 144 fields this year. A low level of downy mildew was observed with the disease being detected in less than 4% of the fields (Figure 1). Sunflower rust prevalence this year was also low (<3% of the fields). However, most scouting efforts were completed prior to growth stages R5-R6 when sunflower rust is most commonly observed in the state.
**Figure 1.** Downy mildew incidence (%) in fields across North Dakota.

**Acknowledgments:** Sincere thanks to the hard working field scouts of 2019! We also appreciate the help of Darla Bakko, NDSU Dept. of Plant Pathology, for data compilation, and Honggang Bu, NDSU Dept. of Soil Science, for ArcMap programming. This survey is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27144/accession 1013592] from the USDA National Institute of Food and Agriculture.

**Janet J. Knodel**
Extension Entomologist

**Andrew Friskop**
Extension Plant Pathology, Cereal Crops
COVER CROP TOUR NDSU CAMPUS FARGO

The North Dakota State University Extension cover crop field day will take place, rain or shine, on Tuesday, September 17. Registration is required. For registration go to https://forms.gle/zy9QnmEXY6nND3cu9.

Cover crops and how they can be used in farming system including wheat, corn, and soybeans will be discussed and demonstrated. The educational tour will start at the NDSU campus research plots 0.4 mile west of the corner of 18th Street and 15th Avenue North in Fargo. Registration will begin at 8 a.m. and sessions will end at 3 p.m.

Topics discussed include:
* Cover crop species demonstration
* Using cover crops to increase soil health
* Challenges and benefits of cover crops
* Cover crops for grazing
* Seeding after spring wheat
* Winter rye and camelina seeded into standing corn or soybeans

Lunch will be provided, register online. For more information about the field day and preliminary research results, visit the project’s website at https://www.cropsyscap.org.

Hans Kandel
Extension Agronomist Broadleaf Crops

The tour will visited the NDSU NW22 research site (off campus). On the left cowpea varieties and on the right cover crop seeding after wheat.
PREDICTING CORN MATURITY AND GRAIN MOISTURE

Late planting and cool summer weather have raised concerns about corn reaching maturity before the first killing frost. A related concern is how wet will corn be this fall at the time of normal harvest. Wet and cold weather in April and early May delayed the start of the growing season for most corn in the state. In fact, only 42% of the corn was planted by May 19th in North Dakota this year. The cooler-than-average weather in July and August further delayed corn development. To date, growing Degree Day (GDD) accumulations are running 150 to 270 GDDs behind normal (assuming a May 15th planting date) (see following table for information from a few locations). When you consider that GDD accumulations average less than 13 per day this time of the year, you get a sense of how late our corn crop might be in terms of calendar days. Planting date, hybrid relative maturity as well as weather are the main drivers of maturity. Digital tools that take into account these factors can be used to predict when corn is likely to mature. Of course, these tools use past weather data to predict outcomes, so predictions are subject to the uncertainty of future weather. The closer we get to the end of the season, however, the less uncertainty there is in making these predictions.

I use the U2U Decision Support Tools – Corn GDD for tracking corn development. This tool requires you to identify your location, your hybrid maturity and planting date. It generates graphic and tabular data on GDD accumulations and estimates the average date that the crop will reach physiological maturity (black layer) as well the range of possible dates based on the variability of past weather used in the model. I have included the output for a few scenarios in the following table.

Reaching maturity is important as it means that the crop has maximized the amount of weight that it has packed into its kernels. However, reaching maturity is only part of the issue, as the crop must dry in the field to the point that it can be harvested and be economically dried for storage and marketing. Predicting the rate of drying in the field is more complex than predicting corn development. Factors that affect the rate of field drying include: the initial moisture content of the grain, air temperature, relative humidity, rainfall, dew, wind speed and kernel characteristics. Recently, Iowa State University developed a corn dry-down calculator that uses historical weather data to predict the rate of dry-down. This calculator is available online at https://crops.extension.iastate.edu/facts/corn-drydown-calculator. It uses a similar interface to the U2U GDD Decision Support tool but requires an estimated date of physiological maturity or the moisture percent of the grain at the date the simulation is initiated instead of information on hybrid and planting date. The last two rows in the following table contain data from simulations using the estimated date to maturity simulated from the U2U GDD tool as an example of how this tool might be used.

These simulations point to challenges this year for corn in reaching maturity and in drying sufficiently to be economically harvested, dried and marketed. These tools can help plan for these challenges. As indicated by these simulations, harvest will be later and more post-harvest drying will be required when compared to past seasons. On the positive side, yield potential is quite good in many parts of the state this year and since there has been limited moisture stress, stalk quality is good. This should help keep the crop standing even through a delayed harvest is predicted.

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**Table 1. Growing Degree Day deviations from normal, and predictions for corn to reach maturity and its moisture level on November 1, for selected hybrid maturities and locations in North Dakota.**

<table>
<thead>
<tr>
<th>Location</th>
<th>Mooreton</th>
<th>Mooreton</th>
<th>Carrington</th>
<th>Hazen</th>
<th>Prosper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deviations from normal GDDs</td>
<td>-203</td>
<td>-203</td>
<td>-226</td>
<td>-267</td>
<td>-148</td>
</tr>
<tr>
<td>Hybrid RM used in simulations</td>
<td>90</td>
<td>95</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Estimated date to maturity</td>
<td>10/4</td>
<td>11/3</td>
<td>10/28</td>
<td>10/11</td>
<td>9/26</td>
</tr>
<tr>
<td>Date to 20% moisture</td>
<td>10/19</td>
<td>NA</td>
<td>NA</td>
<td>11/1</td>
<td>10/5</td>
</tr>
<tr>
<td>Moisture on Nov 1st</td>
<td>19%</td>
<td>32%</td>
<td>31%</td>
<td>20%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Joel Ransom  
Extension Agronomist, Cereal Crops
POTATO PERIDERM DISORDER SYNDROME, PREVIOUS CALLED PINK EYE

Excessive moisture and warm temperatures in many potato growing regions has led to a physiological disorder now called ‘Periderm Disorder Syndrome’. This syndrome was previously referred to as ‘pink eye’ as it can be expressed as a pinkish color and raised areas on the tuber surface. In some cases, Periderm Disorder Syndrome can develop into corky areas on the tuber skin, often described as elephant hide or corky patch. In these cases, a pink color is not expressed; hence, the name change to Periderm Disorder Syndrome. This is a physiological disorder caused by the death of meristematic periderm cells leading to the loss of periderm integrity, causing abnormal internal suberization. Because the periderm does not fully heal, it can be a gateway for secondary pathogens. If this disorder is present in fields at this time of year, some steps can be taken to mitigate the effects this could have on the crop. To reduced problems caused by Periderm Disorder Syndrome use careful handling practices to reduce injury to tubers during harvest, do not store tubers or minimize storage length, and if storing, use cool and dry conditions to prevent the spread of pathogens.
UPDATE ON SUGARBEET DISEASES AND HARVEST

The major disease that affected the sugarbeet crop this year was Cercospora leaf spot. In the northern Red River Valley where it was drier and relatively cooler, Cercospora leaf spot was not a major problem and most growers have had excellent disease control with two or three fungicide applications. However, wet and warmer conditions in the southern Red River Valley and southern Minnesota were more favorable for development of Cercospora leaf spot. These growers have all done a great job of using recommended fungicides in six or more applications for controlling leaf spot. As such, most growers have good to excellent control of Cercospora leaf spot to date.

Why do growers have better control of Cercospora leaf spot this year compared to previous years?

Growers are using more disease resistant varieties that help in reducing the rate of disease development. In addition, the cooler weather, especially night temperatures below 60°F, is unfavorable for disease development. Most importantly, growers are using NDSU and University of Minnesota research based recommendations at the correct time. All of these factors, taken together have resulted in effective control of Cercospora leaf spot.

When will pre-piling start

Pre-piling is the term used for harvesting small quantities of beets which are processed in about two days. About 10 to 15% of the total crop is harvested during pre-pile. Growers at American Crystal Sugar Company and Minn-Dak Farmer’s Cooperative started their pre-pile in mid-August. Southern Minnesota Beet Sugar Cooperative will start pre-pile around mid-September. The full campaign is expected to start around October 1.

Mohamed Khan
Extension Sugarbeet Specialist
NDSU & U of MN; 701-231-8596

OBSERVATIONS FROM THE 2019 CORN DISEASE SURVEY

Over a three-week span, members of the NDSU corn pathology program were on the highways and gravel roads scouting corn fields for diseases. This year the scouts most commonly identified the foliar diseases: common corn rust (Figure 1) and Goss’ wilt (Figure 2). Other observations included purple leaf sheath syndrome (when pollen becomes trapped in leaf sheath and colonized by saprophytic fungi; Figure 3) and smut. Of the diseases and disorders mentioned, Goss’ wilt poses the greatest economic threat in ND, especially when susceptible hybrids are used in minimal tillage systems. This year Goss’ wilt was identified in 54% of the fields (down from last year’s 66%). Fortunately, most of the Goss’ wilt occurred in small pockets of the field with no documentations of severe field wide epidemics.

Figure 1. Pustules of the common corn rust fungus on the leaf surface. Note cinnamon-brown pustule color.
I would like to thank Jessica Halvorson, Michaela Halvorson and LeAnn Lux for their help in surveying fields.

Figure 2. Several leaves with symptoms of Goss’ wilt. Note water-soaking and freckle development in leaves.

Figure 3. Purple leaf sheath syndrome on a developing ear of corn.

Andrew Friskop
Extension Plant Pathology, Cereal Crops
SCOUT MILLET FIELDS FOR PALMER AMARANTH

The North Dakota Department of Agriculture is encouraging anyone with millet fields to scout them for the presence of Palmer amaranth. Palmer amaranth has been confirmed in multiple millet fields in both Grant and Emmons counties over the last two weeks. In some fields, the Palmer amaranth plants were taller than the millet canopy and visible from the road. However, it was also difficult to detect Palmer is some of the fields since it was the same height or shorter than the millet canopy. Millet has been in high demand this summer as both a feed and cover crop source, and we are encouraging anyone in North Dakota who still has standing millet to scout for the presence of Palmer amaranth.

Joe Ikley
Extension Weed Specialist

FALL 2019 WHEAT DRYING

Sprouted wheat due to excessive moisture leads to low falling numbers. The falling number is a test that measures starch damage in wheat that reduces the quality of baked goods and noodles. Weather conditions play a huge role in preharvest sprouting of wheat and other cereal grains. Periods of cooler, wet weather at the stage when the crop is mature and starting to dry down are ideal for sprouting to occur. Limiting the time mature wheat is exposed to wet field conditions by harvesting and drying reduces the potential for low falling numbers.

Adding supplemental heat when natural-air drying wheat generally is not needed, even during September, for most of North Dakota, but it may be needed if wet conditions continue. Adding heat reduces the air relative humidity and the final grain moisture content, so it should be used when outdoor air relative humidity is too wet to dry wheat to the desired moisture content. However, adding too much heat causes wheat in the bottom of the bin to dry to a lower than the desired moisture content. Adding heat increases drying speed very little.

Air will be warmed 4 to 5 degrees as it passes through the fan on a bin of wheat when the fan is operating at a static pressure of about 6 inches. Warming air by 5 degrees reduces the relative humidity about 10 percentage points. Warming air that is at 60 degrees with a 70% relative humidity by 5 degrees reduces the relative humidity to about 60%. This air will dry wheat to about 13.5% moisture content with just fan heat. A supplemental heater is not needed if the average (daytime + nighttime / 2) outdoor air relative humidity is less than 70%.

If the average relative humidity exceeds 70%, then a little supplemental heat is needed. Even if the average relative humidity is 75%, the air will need to be heated only 2 or 3 degrees. For example, if 60-degree air has a relative humidity of 75%, warming the air 3 degrees in addition to the 4 degrees from the fan reduces the relative humidity to 59% and permits drying wheat to about 13.5% moisture. The approximate heater size needed for wheat is about 1.0 kW per fan horsepower or 3,413 Btu per fan horsepower.

Only running the fan during the warmer and drier portion of the day lengthens the drying time. The estimated drying time during September is about 35 days using an airflow rate of 0.75 cubic feet per minute (cfm) per bushel with the fan operating 24 hours per day, and 62 days when the fan is operated just during the warmer 12-hour portion of the day. Running the fan 24 hours a day, and adding supplemental heat if necessary, permits drying to the desired moisture content faster and is the preferred option.

Turn off the fans if the weather is foggy or rain is falling. Wheat up to 16% moisture can be without airflow for a few days, but wheat at 18% moisture should not be without airflow for more than a day or two due to the potential for heating and spoilage.
The drying rate is directly proportional to the airflow rate. If drying 16% moisture content wheat using an airflow rate of 1 cfm per bushel takes 21 days, it will take 28 days with an airflow rate of 0.75 cfm per bushel and 42 days at 0.50 cfm per bushel. The airflow rate must be increased to increase the drying speed. Adding heat slightly increases drying speed, but primarily reduces the final grain moisture content. The maximum recommended moisture content for natural-air drying wheat is 18% which requires a minimum airflow rate of 1 cubic feet per minute per bushel (cfm/bu.), 17% requires 0.75 cfm/bu. and 16% requires at least an airflow rate of 0.5 cfm/bu. to complete drying before significant deterioration occurs. However, the drying time is extremely long when using an airflow rate of 0.50 cfm/bu.

The recommended minimum airflow rate is 0.75 cfm/bu. and the maximum recommended initial moisture content is 17%. The maximum recommended wheat depth for drying is about 18 feet. A very rough rule of thumb is that 1 hp of fan is needed for each 1,000 bu. of wheat to obtain an airflow rate of 0.75 cfm/bu. Also, a centrifugal fan is going to be required. The NDSU Grain Drying and Storage website (http://www.ag.ndsu.edu/graindrying) has a link to a fan selection program. With the program, you can determine the fan size needed to obtain the desired airflow or estimate the airflow provided by an existing fan.

High-temperature drying is recommended if the wheat moisture content exceeds 17%. However, use caution because high temperatures affect the chemical structure and milling quality of the grain. High temperatures can damage baking quality severely even though the grain kernels appear undamaged. Allowable dryer temperatures will vary with dryer type and design. Refer to the manufacturer’s recommendation for guidance. However, a general recommended maximum drying air temperature for milling wheat in a cross-flow dryer where some of the wheat approaches the drying air temperature is 150 degrees for 16% moisture content and 130 degrees for 20% moisture content wheat. Frequently, a plenum air temperature about 30 degrees warmer is used in dryers where the kernel temperature remains below plenum temperature and the wheat kernel is not damaged.
AROUND THE STATE

NORTH CENTRAL ND

Cooler temperatures have ruled over the North Central region over the last week or so with periods of light to moderate rain. The following are some NDAWN observations for the past two weeks: Minot 1.76”; Rugby 1.25”; Bottineau 1.13”; Rolla 1.48”; Plaza 2.26”; Mohall 1.42”; and Garrison 2.90”.

IPM Scout reports ended in August. A special thanks to Caleb Cross and Riley Racine on a great season of IPM scouting across the eight North Central counties.

Due to recent rains, growers have faced some challenges of getting into the field. Small grain, pulse, and canola harvest is probably past the halfway point. Some areas are further along – i.e. Southern Mountrail County – where rainfall hasn’t been as heavy in the past few weeks, until recently. Canola survey has concluded in the area. Wheat midge survey concluded in Mountrail county last week. Some other counties are still on the docket. Sunflower surveys will begin soon.

TJ Prochaska
Extension Crop Protection Specialist
NDSU North Central Research Extension Center

NORTHWEST ND

The week leading up to Labor Day was good for harvesting in the Northwest, but a cold and rainy Labor Day brought progress to a halt. Rainfall on Monday, September 2nd ranged from 0.25-0.5” for most of the area but some pockets saw 1-2”. The rest of the week was warmer and dry, and harvest resumed mid-week until rain started to fall throughout most of western ND and eastern MT on Friday evening September 6th. Rainfall totals from Friday into Saturday were anywhere from 0.4” in Ross to 2.25” in Williston. Rain continued on into Monday and is predicted for Wednesday and Thursday for much of the Northwest. Looking ahead to next week, things should dry up during the week of the 15th and allow harvest to continue with high temperatures ranging from the high 60’s to high 70’s.

On Wednesday, September 11th there will be a Fall Weed Control Meeting at the McKenzie County Courthouse in Watford City 9:30 am to noon Central, with lunch following provided by the McKenzie County Crop Improvement Association. Topics include horseweed/marestail and narrowleaf hawksbeard identification and management, Palmer Amaranth update, fall spraying, and diversifying weed control programs. For questions about the event, call the McKenzie County extension office at 701-444-3451.

On Thursday, September 26th there will be a Perennial Field Day at the Williston Research Extension Center from 9 am to noon Central, with lunch following. Clair Keene will be introduce Kernza, a new perennial grain crop, and its potential for the MonDak region, Chris Wiegert of Healthy Food Ingredients will talk about developing the Kernza supply chain, Jane Holzer of Montana Salinity Control Association will present on saline seep development and management, and Jim Staricka will share results from the past 3 years of reclaiming a saline seep at the WREC with salt-tolerant alfalfa varieties. For questions about the event, call the WREC at 701-774-4315.

Clair Keene
Extension Cropping Systems Specialist
NDSU Williston Research Extension Center

Kernza is intermediate wheatgrass bred for increased seed (grain) production. Photo shows Kernza heads.
NORTHEAST ND

Difficult harvest conditions across the region have occurred due to rainfall and lack of dry down. Wheat harvest is almost finished, with about 15% left in areas of higher acreage. Low falling numbers are being reported. Canola and faba bean harvests are in-progress. Dry bean harvest is in the early stages. Soybeans are losing leaves to green depending on maturity selection.

I’m doing the canola fall survey. White mold stem rot is at extremely low levels. Blackleg is low, with a few fields with high numbers. I am observing diamondback moth chewing on stems and on pods. The high presence of diamondback moth damage to pods is localized.

Lesley Lubenow
Extension Cropping Systems Specialist
NDSU Langdon Research Extension Center

SOUTH-CENTRAL/SOUTHEAST ND

Based on NDAWN, the region’s total rainfall May 1 through September 9 ranged from 12.1 inches (Harvey) to 20.5 inches (Linton), with the Carrington REC receiving 13.4 inches. During the current month (September 1-9), rainfall ranged from 1.1 inches (Cooperstown) to 3.8 inches (Brampton).

The region’s corn growing degree day units (GDDU) accumulated from May 15 to September 9 range from 1620 (Wishek) to 1890 (Brampton). This range is -350 to -75 GDDU, depending on location, compared to the long-term average for the period. May planted corn is denting. Prospects for corn reaching black layer are poor.

Carrington REC’s dryland spring wheat variety trial averaged 47.4 bu/acre, 59.6 lb/bu test weight, and 15.3% protein. Nine out of 26 varieties tested over the past three years had grain yield exceeding 60 bu/acre (60.5-63.8 bu/acre): CP3504, CP3530, Faller, LCS Trigger, MS Chevelle, Prosper, Shelly, SY Valda, and TCG-Spitfire.

Spring wheat harvest hopefully will continue next week, as well as dry bean harvest. Soybean is nearing the end of seed development (R6-7 stages). Sunflower generally has yellow backsides of heads (R7-8).

Greg Endres
Extension Cropping Systems Specialist
NDSU Carrington Research Extension Center

SOUTHWEST ND

Just like most of the state we have been wet and are behind on harvest in the southwest region of the state. According to NDAWN from September 1st to September 9th, 3.31 inch of rain fell in Dickinson, 1.45 in Beach, 0.66 in Bowman, 1.58 inch in Hettinger, and 1.54 inch in Mott. Wheat harvest is all over the board with some finished up, and some not being able to start yet, with most somewhere in between. Head disease, especially scab, has been a major issue for many and there are some reports of sprouting. Canola harvest is also all over the board. Sunflowers are looking great so far, but the weather is creating a perfect storm for diseases. Many are concerned with current crop maturity in row crops and potential frost damage. Severe damage is possible on grain quality depending on crop stage, those that were gambling with the maturity on corn and soybeans to push yield this year may be getting hit hardest if temperatures drop.

As we look closer at low producing areas of fields many more are seeing an issue with soil acidity. A reminder that, along with pretty much everything in life, there is no easy quick fix answer. Products that sound too good to be true likely are. For fixing an issue like soil acidity your best options are tolerant varieties and applying a lime product such as ag lime, beet lime, or water treatment lime. If a product claims to be more efficient, easier to apply, and can do the same job with less product than lime, contact me.

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