Wisconsin Crop Manager

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What's New

Crops

Plant Disease

Insects and Mites

2015 IPM Field Scout Training Class

Bryan Jensen, IPM Program

The Madison Field Scout Training Classes will be held on the UW Madison Campus from January 5-9, 2015 (Friday, January 9th is an exam date and non-students aren't required to attend that day). The course is designed to provide the skills necessary for proper pest identification, crop scouting techniques as well as provide complimentary baseline information for people preparing for the state CCA exam. Additional information such as crop growth and development, pest life cycle, pest damage symptoms and economic thresholds will be covered. Pest control recommendations, although discussed, will not be highlighted during this course. Crops covered will include, corn, alfalfa, soybean and wheat. Click here for the course syllabus.

Non-student registration fee is $225/person. To register for the IPM Scout School, make checks payable to University of Wisconsin-Madison and send to Bryan Jensen, Dept. of Entomology, 1630 Linden Dr., Madison, WI 53706. Online registration can be made at: https://www.patstore.wisc.edu/ipm/register.asp

For more information on this course please contact Bryan Jensen at:

Dept. of Entomology
1630 Linden Dr.
Madison, WI 53706
(608) 263-4073
bmjense1@facstaff.wisc.edu

CCA Luncheon

Bryan Jensen, UW IPM Program

All CCAs, CPAgs and Professional Soil Scientists are invited to attend a buffet-style luncheon on Tuesday, January 13 in the Lake Rooms (Monona/Wingra/Waubesa) at the Alliant Energy Center. This lunch is free of charge and will start at 11:00 am and conclude by 12:30 pm to allow attendance at the Wisconsin Crop Management Conference.

The formal program will be kicked off at 11:30 by CCA Board Chair, Todd Prill. Luther Smith, Director of ASA's Certification Programs, is scheduled to talk about the CCA Code of Ethics at 11:40 follow by Mark Weihing, CCA Board Member. Mark will address agricultural and nutrient stewardship policy issues discussed at the 2014 CCA North American Board Meeting.

Pre-registration is not required. Hope to see you there!

Drastic outdoor cooling may create some grain storage and drying problems

Kenneth Hellevang, Ph.D., PE, Extension Engineer, Professor, North Dakota State University Extension Service

The drastic outdoor cooling that has occurred may create some grain storage and drying problems. Following are some questions that I have received and my responses. The questions are italicized and my answers follow the questions.

"With the sudden change in air temps. What is the best management strategy for running aeration fans on bins to cool grain without freezing the bin?"

The kernels will not freeze together if the corn moisture content is below 24%. There is extensive experience with cooling corn to well below freezing and the corn still being able to flow normally. The acceptable moisture content decreases with more foreign material in the corn. I recommend that corn moisture be less than 24% to hold it until outdoor temperatures are above freezing and at or below 21% to hold corn until spring.

Some people are recommending that wet corn be not be cooled below freezing because ice crystals will form in the void spaces between the corn with the moisture coming from the corn. I am not aware of this being a problem again based on extensive experience.

Frosting will occur when moist air comes in contact with a surface at a temperature below freezing. It typically occurs when air from warm corn comes in contact with a cold bin roof and roof vent during aeration. It can occur with corn at temperatures below freezing when warmer air comes through the cold corn. This could occur if the corn at the top of the bin was cold and warm air from corn below is moved through the cold corn as the bin is cooled using aeration. Normally this will occur only in a shallow layer of corn at the top of the bin and only for a period of time until that corn has been warmed by the warm aeration air coming from the warm corn. The amount of frost accumulation expected in the corn increases as the corn gets colder and layer of corn gets thicker. Since corn is a good insulator, the cold layer is normally expected to be fairly thin and the warm aeration air removes the frost.

If the corn is warmer than the bin steel, condensation in the form of frost will occur on the bin roof and bin vents. The rapid drop in outdoor temperature makes this very likely. Cooling the corn in small steps reduces this potential. The general goal is to cool the corn to just below freezing, so operate the fans only when outdoor air temperature is above 20 degrees. Corn at 22 percent moisture has an estimated allowable storage life of about 60 days at 40 degrees and 30 days at 50 degrees. Cool corn at recommended moisture contents can wait for cooling until appropriate temperatures exist. Ideally the aeration air temperature would be 10 to 15 degrees cooler than the corn. If it is extremely cold, it is best to not run the fan and wait for an appropriate air temperature.

"Should I place cold grain on warm grain?"

This will increase the potential for condensation and frosting in the cold grain. The grain in the bin should be cooled before cold grain is placed on top. Review the explanation of the conditions that may lead to frosting within the corn. Placing cold grain on top of warm grain creates the conditions expected to cause frosting problems. The amount of frost may be enough to restrict or block airflow. The frozen mass would greater increase the force required to break the ice, so normal stirring devices likely would not be adequate. It may require using an ice auger or other method of breaking the corn apart to permit airflow and unloading.

"Does grain harvested at air temps below freezing create special concerns?"

Corn harvested at temperatures below freezing can be placed into storage, but should not be placed on top of warmer corn. The maximum recommended moisture content is about 23 percent to reduce the potential for kernels freezing together. If corn at 25% moisture is placed into a bin with kernel temperatures below freezing, it should flow out of the bin as long as the kernels do not warm above freezing. At 25% moisture there may be enough surface moisture to cause the kernels to stick (freeze) together if they are cooled below freezing.

"How should I manage the following three scenarios:

1) Grain harvested at 15% moisture with air temps at 60 to 70 degrees F, filled bin day before cold air moved in, when is the best time to run fan and how long can I wait to start cooling bin?"

The allowable storage time of 15% corn at 70 degrees is about 125 days, so there is time to select the appropriate temperature to aerate the grain. As described earlier, there will be extensive frosting on the bin roof if the aeration fan is operated when outside temperature is below freezing and there will be extensive condensation if there is a large temperature difference between the corn and outside temperature with the outside temperature above freezing. As much as possible, select a time to aerate the corn when outside temperature is 40 to 50 degrees to cool the corn. This may be accomplished by waiting for warmer weather and running the fan during the daytime. If warmer weather is not expected, then run the fan when outside air temperature in near or just above freezing. Leave the fill and access doors open to minimize the potential for bin vents freezing over and the fan pressure damaging the bin roof. Be aware that frost or condensation will likely occur and may be extensive. Monitor the bin and corn closely and manage moisture accumulation.

"2) Two grain bins, 10,000 bu and 15,000 bu, both filled 1/2 to 2/3 full with corn harvested with warm temps. Ran fans continuously while harvesting. Turned fans off when temps dropped below freezing. Have finished filling both bins with corn harvested during cold snap. I have two temp zones. What is the best time for running fans to balance temp without creating condensation problems? Corn moisture is 16.5% or less."

The corn in the bottom is warm and at the top is cold. This has been described earlier as a situation that can cause condensation and frosting within the cold corn. The condensation will continue until the warm grain on the bottom has been cooled. In the laboratory the amount of condensation and frost build-up was minimal when warm (70 degree) humid air was used to aerate grain at a temperature of 10 degrees. No visible frost was observed and the wheat moisture content increase was only about 0.5%. This experiment is being repeated with corn. I have heard of frost accumulating in the corn near the top of the bin when running the fan when it is moving very cold air through the corn. Condensation and/or frosting are expected in the corn if cooling warm corn with air that is colder than 32 degrees. It is not clear if this will cause problems. It is preferred to cool the corn in steps with air above freezing for the first cycle, if possible, and to monitor the condition of the corn.

"3) Began filling last bin with cold corn harvested during this cold spell. Do I need to run the fan much if at all since this corn is going into bin when harvested at air temps below freezing?"

If the corn is cold, then it should not need to be aerated. Monitor the corn temperature to assure the grain stays cool in storage, but unless the corn temperature increases aeration is not required.

"I have a question from a farmer who filled his bin half full of corn at 24% moisture about 2 weeks ago. It is only a natural air dryer, so this is too wet for the bin. He was running the fans, but shut them down in this cold weather. He is looking for some advice. He has had this bin for 35 years, but the wet and very cold temps add a new challenge."

Natural air and low temperature drying are not effective at temperatures below freezing, so this type of drying cannot be used until outside air temperatures average about 40 degrees – maybe a daily high of about 50 and low of about 30 degrees. The maximum recommended corn moisture content for natural air drying is 21% if the airflow rate is 1.0 cubic foot per minute per bushel. Increasing the airflow rate to 1.25 cfm/bu permits drying 22% moisture corn when air temperatures average between 40 to 50 degrees. An airflow rate of 2.0 cfm/bu is required to dry 24% moisture corn which is typically achieved by filling the bin to only one-half full. The allowable storage time for 24% moisture corn is only 40 days at 40 degrees and is 15 days at 50 degrees. I discourage trying to dry corn using natural air and low temperature drying at moisture contents exceeding 21. Corn at 24% moisture generally should be removed and dried in a high temperature dryer before temperatures average above freezing.

"He still has 50 acres to combine, and wants some advice. His thoughts

1. *Empty the bin and dry the corn, before he puts more corn in.*
2. *Cool and "freeze" this corn*
3. *Combine rest of corn – add to bin, dry it before adding, don't add because corn below it not in right condition for storage."*

He can hold 24% moisture corn as long as he keeps the temperature near or below freezing. A concern is that 24% moisture corn is at the threshold of the kernels freezing together. It would be safest to remove the 24% moisture corn and dry it. If the remaining corn to be harvested is above 23% moisture it should be dried before placing it into a bin. If it is below 23% moisture it can be stored while it can be kept near freezing temperature, but will need to be dried in a high temperature dryer before late winter. I would not recommend placing additional corn on top of 24% moisture corn due to the unloading and storability concerns.

There is additional information in a presentation on my website: http://www.ag.ndsu.edu/graindrying/presentations-2

Finalists for the 2014 WI Soybean Yield Contest are Announced

Shawn Conley, Soybean and Wheat Extension Specialist

The 2014 growing season proved to be yet another challenging year for many WI soybean growers. Given these widespread challenges, we again experienced great interest in the 2014 WSA/WSMB Soybean Yield Contest. The top two entries in each division (**in no particular order**) were:

Division 4:

- Tim McComish, Shullsburg (planted Channel 2402R2 Brand)
- Kevin Bahr, Darlington (planted Channel 2402R2 Brand)

Division 3:

- Travis Van De Hey, Kaukauna (planted DuPont Pioneer P22T69R)
- Ron Ellis, Walworth (planted Jung 1250RR2)
- *WI Bean Team (Adam Gaspar, David Marbuger, Ethan Smidt), Madison (planted DuPont Pioneer P28T33R)

*The WI Bean Team is ineligible for official prizes as they are grad students of Dr. Conley; however their efforts are still unofficially recognized.

Division 2:

- Steven Stetzer, Melrose (planted NK Brand 17G8)
- Steven Kloos, Stratford (planted DuPont Pioneer 91Y90)

Division 1:

- Paul Graf, Sturgeon Bay (planted DuPont Pioneer 90Y90)
- Jerry Koser, Almena (planted DuPont Pioneer 91M10)

The final ranking and awards will be presented at the 2015 Corn Soy Expo to be held at the Kalahari Convention Center, Wisconsin Dells on Thursday January 29th during the WSA/WSMB annual meeting.

The contest is sponsored by the WI Soybean Program and organized to encourage the development of new and innovative management practices and to show the importance of using sound cultural practices in WI soybean production.

For more information please contact Shawn Conley, WI State Soybean Specialist at 608-262-7975 or spconley@wisc.edu

Should We Be Using Soybean Maturity Group as a Tool for Variety Selection?

Shawn Conley, Soybean and Wheat Extension Specialist

Over the last decade I have noticed a subtle shift across much of the northern soybean growing region towards planting later maturity group soybeans. This shift, either conscious or unconscious, may be attributed to earlier planting dates, relatively favorable fall harvest windows, and the drive for maximum yield as influenced by high commodity prices. As with all trends sooner or later, we have a correction year: 2014 was that year for many farmers. As farmers, consultants, and the battered and bruised seed suppliers sort through the plethora of product offerings for 2015, a common question arises: "In 2015, how much weight should we really give to maturity group in these seed decisions?". For those of you with short attention spans like me, the short answer for soybean is not much....for the rest of you please read on to understand my reasoning.

In 2011, the WI Soybean Research Program published an article in the journal Crop Management entitled: "Optimal Soybean Maturity Groups for Seed Yield and Quality in WI" (Furseth et al, 2011). In this data set we looked at 893 varieties across 6 growing seasons (2004-2009) and three production regions in WI . Within each region we identified the optimal maturity group range for maximum yield. Those were 2.6-2.9, 2.1-2.4, and 2.0-2.2 for our southern, central and north central regions respectively. After I make this provocative statement this is usually where the audience either falls asleep, starts texting their neighbor about the lame and inept speaker (me), or uses the restroom and fails to hear as the great Paul Harvey would say ......the rest of the story.

Within each figure below you will also notice a maroon line directly below the black yield regression slope. This maroon line indicates the range of maturity groups that lie within 10% of maximum yield. These figures suggest that regardless of growing region in WI growers can select a variety that is almost one full maturity group earlier than the optimal maturity group range for maximum yield and still be within 10% of maximum yield.

These data further support Joe Lauer's assertion that "Every hybrid (or in our case cultivar or variety) must stand on its own" (Happy Thanksgiving JGL, you were positively quoted in a soybean article). In our recently released 2014 WI Soybean Variety Test Results book the maturity group range that included a starred variety (starred varieties do not differ from the highest yield variety in that test) was 1.9-2.8, 1.1-2.4,and 0.9-2.0 in our southern, central and north central regions respectively. This amplifies my assertion that the "relative" maturity group rating is trumped by individual cultivar genetic yield potential.

Lastly, since I brought it up lets also discuss our "relative" soybean maturity group rating system. If anyone has ever observed a multi-company variety trial in the fall, they may have notice many differences in maturity amongst varieties that have the same MG rating. For example in our 2014 Southern Region Glyphosate Tolerant Soybean Test we noted a 7 day maturity date range among all the 2.4 maturity group varieties listed. This may not seem important at the end of September, but in years when we plant late (Table 1), have a cool growing season and apply a fungicide those few days may matter.

As seed decisions are made for 2015, it is fine to keep the relative maturity rating on your check list, just don't have it near the top!

Table 1. Calendar date for reaching R5 (beginning seed fill) and R7 (beginning maturity) growth stage (G.S.) by planting date and maturity group (M.G.) for the 2014 growing season at Hancock WI.

		Timing of G.S. Initiation	
Planting Date	M.G.	R5	R7
5-May	1.9	29-Jul	3-Sep
	2.1	3-Aug	13-Sep
	2.1	29-Jul	3-Sep
	2.1	29-Jul	3-Sep
	2.3	29-Jul	3-Sep
	2.3	1-Aug	6-Sep
	2.4	3-Aug	6-Sep
	2.5	29-Jul	6-Sep
	2.5	30-Jul	6-Sep
	2.5	31-Jul	13-Sep
22-May	1.9	12-Aug	12-Sep
	2.1	9-Aug	20-Sep
	2.1	12-Aug	16-Sep
	2.1	12-Aug	20-Sep
	2.3	12-Aug	20-Sep
	2.3	9-Aug	20-Sep
	2.4	12-Aug	16-Sep
	2.5	12-Aug	16-Sep
	2.5	12-Aug	20-Sep
	2.5	12-Aug	20-Sep
11-Jun	1.9	23-Aug	27-Sep
	2.1	23-Aug	2-Oct
	2.1	23-Aug	30-Sep
	2.1	23-Aug	2-Oct
	2.3	23-Aug	2-Oct
	2.3	23-Aug	30-Sep
	2.4	23-Aug	1-Oct
	2.5	23-Aug	2-Oct
	2.5	23-Aug	2-Oct
	2.5	23-Aug	2-Oct

Literature cited:

Furseth, B. J., Zhao, Y., Conley, S. P., Martinka, M., and Gaska, J. 2011. Optimum Soybean Maturity Groups for Seed Yield and Quality in Wisconsin. Crop Management. Online. Crop Management doi:10.1094/CM-2011-0622-01-RS.

2014 Wisconsin Corn Hybrid Performance Trials

Joe Lauer, Kent Kohn, and Thierno Diallo

Every year, the University of Wisconsin-Extension and the University of Wisconsin-Madison College of Agricultural and Life Sciences conduct a corn evaluation program in cooperation with the Wisconsin Crop Improvement Association. The purpose of this program is to provide unbiased performance comparisons of hybrid seed corn for both grain and silage available in Wisconsin.

In 2014, grain and silage performance trials were planted at 14 locations in four production zones: the southern, south central, north central, and northern zones. Both seed companies and university researchers submitted hybrids. Companies with hybrids included in the 2014 trials are listed in Table 1. Specific hybrids and where they were tested are shown in Table 2. A summary of the transgenic traits tested in 2014 is shown in Table 3. In the back of the report, hybrids previously tested over the past three years are listed in Table 24. At most locations, trials were divided into early and late maturity trials based on the hybrid relative maturities **provided by the companies.** The specific relative maturities separating early and late trials are listed in the tables.

GROWING CONDITIONS FOR 2014

Seasonal precipitation and temperature at the trial sites are shown in Table 5. The 2014 planting season, like the 2013 season, was one of the longest ever recorded in Wisconsin. Frequent rains caused delays, with many growers in north eastern Wisconsin not planting until mid-June. Delayed planting at Coleman, Marshfield, Seymour, and Valders combined with a cool growing season delayed harvest producing grain that was higher in moisture and lower for test weight than average. Over the entire growing season, growing degree-day accumulation was below the 30-year normal in both northern and southern Wisconsin. During May and June precipitation was significantly above average throughout Wisconsin. Cold weather and snow occurred during early November affecting grain dry down at Coleman, Marshfield, and Seymour. Little insect or disease pressure was observed in the trials. Grain and silage yields were above normal compared to the 10-year average at early planted sites.

CULTURAL PRACTICES

The seedbed at each location was prepared by either conventional or conservation tillage methods. Seed treatments of hybrids entered into the trials are described in Table 4. Fertilizer was applied as recommended by soil tests. Herbicides were applied for weed control and supplemented with cultivation when necessary. Corn rootworm insecticide was applied when the previous crop was corn. Information for each location is summarized in Table 6.

PLANTING

A precision vacuum corn planter was used at all locations, except Spooner. Two-row plots, twenty-five foot long, were planted at all locations. Plot were not hand-thinned. Each hybrid was grown in at least three separate plots (replicates) at each location to account for field variability.

HARVESTING

Grain: Two-row plots were harvested with a self-propelled corn combine. Lodged plants and/or broken stalks were counted, plot grain weights and moisture contents were measured and yields were calculated and adjusted to 15.5% moisture. Test weight was measured on each plot.

Silage: Whole-plant (silage) plots were harvested using a tractor driven, three-point mounted one-row chopper. One row was analyzed for whole plant yield and quality. Plot weight and moisture content were measured, and yields were adjusted to tons dry matter / acre. A sub-sample was collected and analyzed using near infra-red spectroscopy.

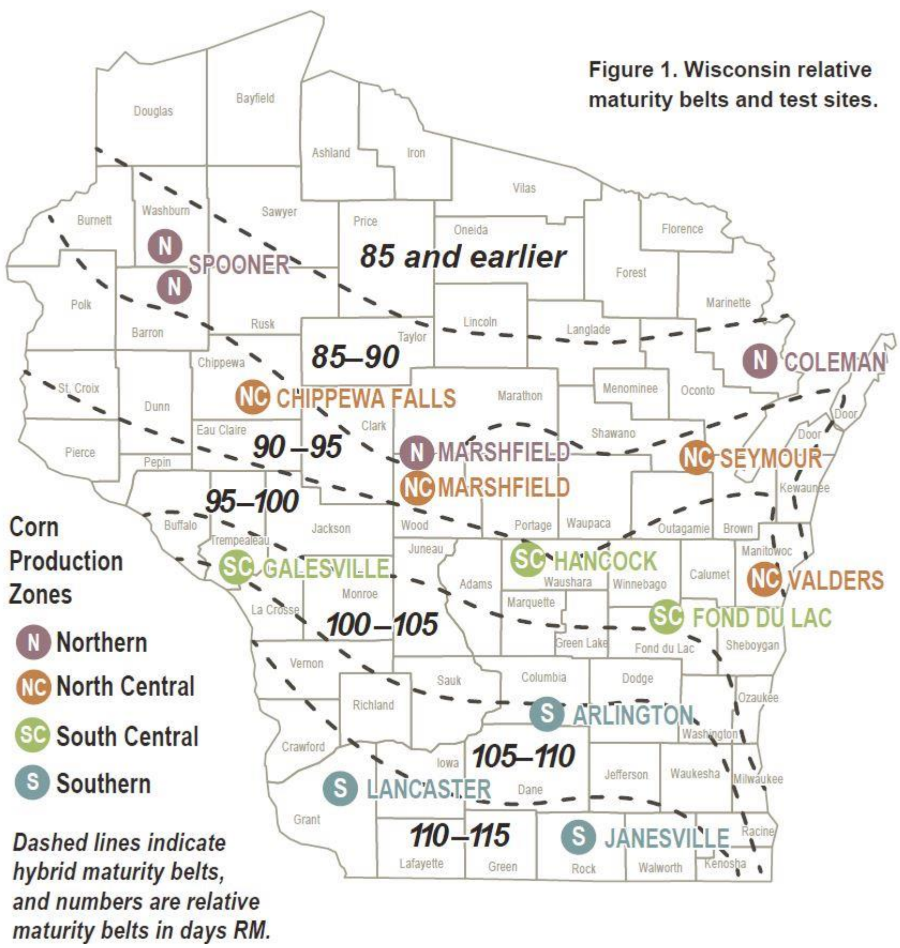

Figure 1. Wisconsin relative maturity belts and test sites.

Technology references

References to transgenic traits in this publication are for your convenience and are not an endorsement or criticism of one trait over other similar traits. Every attempt was made to ensure accuracy of traits in the hybrids tested. You are responsible for using traits according to the current label directions of seed companies. Follow directions exactly to protect the environment and people from misuse. Failure to do so violates the law.

PRESENTATION OF DATA

Yield results for individual location trials and for multi-location averages are listed in Tables 7 through 22. Within each trial, hybrids are ranked by moisture, averaged over all trials conducted in that zone during 2014. Yield data for both 2013 and 2014 are provided if the hybrid was entered previously in the 2013 trials. Starting in 2009, a nearest neighbor analysis of variance for all trials as described by Yang et al. (2004, *Crop Science* 44:49-55) and Smith and Casler (2004, *Crop Science* 44:56-62) is calculated. A hybrid index (Table 2) lists relative maturity ratings, specialty traits, seed treatments and production zones tested for each hybrid.

RELATIVE MATURITY

Seed companies use different methods and standards to classify or rate the maturity of corn hybrids. To provide corn producers a "standard" maturity comparison for the hybrids evaluated, the average grain or silage moisture of all hybrids rated by the company relative maturity rating system are shown in each table as shaded rows. In these Wisconsin results tables, hybrids with lower moisture than a particular relative maturity average are likely to be earlier than that relative maturity, while those with higher grain moisture are most likely later in relative maturity. Company relative maturity ratings are rounded to 5-day increments.

The Wisconsin Relative Maturity rating system for grain (GRM) and silage (SRM) compares harvest moisture of a grain or silage hybrid to the average moisture of company ratings using linear regression. Each hybrid is rated within the trial and averaged over all trials in a zone. Maturity ratings (company, GRM, and SRM) can be found in Table 2.

GRAIN PERFORMANCE INDEX

Three factors-yield, moisture, and standability-are of primary importance in evaluating and selecting corn hybrids. A performance index (P.I.), which combines these factors in one number, was calculated for multiâ€'location averages for grain trials. This performance index evaluates yield, moisture, and lodged stalks at a 50 (yield): 35 (moisture): 15 (lodged stalks) ratio.

The performance index was computed by converting the yield, moisture (dry matter), and upright stalk values of each hybrid to a percentage of the test average. Then the performance index for each hybrid that appears in the tables was calculated as follows:

Performance Index (P.I.) = [(Yield x 0.50) + (Dry matter x 0.35) + (Upright stalks x 0.15)] / 100

SILAGE PERFORMANCE INDEX

Corn silage quality was analyzed using near infra-red spectroscopy equations derived from previous work. Plot samples were dried, ground, and analyzed for crude protein (CP), acid detergent fiber (ADF), neutral detergent fiber (NDF), in vitro cell wall digestibility (NDFD), in vitro digestibility (IVD), and starch. Spectral groups and outliers were checked using wet chemistry analysis.

The **MILK2006** silage performance indices, milk per ton and milk per acre, were calculated using an adaptation by Randy Shaver (UW-Madison Department of Dairy Science) of the MILK91 model (Undersander, Howard and Shaver; *Journal Production Agriculture* 6:231-235). In MILK2006, the energy content of corn silage was estimated using a modification of a published summative energy equation (Weiss and co-workers, 1992; *Animal Feed Science Technology* 39:95-110). In the modified summative equation, CP, fat, NDF, starch, and sugar plus organic acid fractions were included along with their corresponding total-tract digestibility coefficients for estimating the energy content of corn silage. Whole-plant dry matter content was normalized to 35% for all hybrids. The sample lab measure of NDFD was used for the NDF digestibility coefficient. Digestibility coefficients used for the CP, fat, and sugar plus organic acid fractions were constants. Dry matter intake was estimated using NDF and NDFD content assuming a 1350 lb. cow consuming a 30% NDF diet. Using National Research Council (NRC, 2001) energy requirements, the intake of energy from corn silage was converted to expected **milk per ton**. **Milk per acre** was calculated using milk per ton and dry matter yield per acre estimates (Schwab, Shaver, Lauer, and Coors, 2003; *Animal Feed and Science Technology* 109:1-18).

LEAST SIGNIFICANT DIFFERENCE

Variations in yield and other characteristics occur because of variations in soil and growing conditions that lower the precision of the results. Statistical analysis makes it possible to determine, with known probabilities of error, whether a difference is real or whether it might have occurred by chance. Use the appropriate LSD (least significant difference) value at the bottom of the tables to determine true differences.

Least significant differences (LSD's) at the 10% level of probability are shown. Where the difference between two selected hybrids within a column is equal to or greater than the LSD value at the bottom of the column, you can be sure in nine out of ten chances that there is a real difference between the two hybrid averages. If the difference is less than the LSD value, the difference may still be real, but the experiment has produced no evidence of real differences. Hybrids that were not significantly lower in performance than the highest hybrid in a particular test are indicated with an asterisk (*).

HOW TO USE THESE RESULTS TO SELECT TOP-PERFORMING HYBRIDS

The results can be used to provide producers with an independent, objective evaluation of performance of unfamiliar hybrids, promoted by seed company sales representatives, compared to competitive hybrids.

Below are suggested steps to follow for selecting top-performing hybrids for next year using these trial results:

1. **Use multi-location average data in shaded areas.** Consider single location results with extreme caution.
2. Begin with trials in the zone(s) nearest you.
3. Compare hybrids with similar maturities within a trial. You will need to divide most trials into at least two and sometimes three groups with similar average harvest moisture-within about 2% range in moisture.
4. Make a list of 5 to 10 hybrids with highest 2014 Performance Index within each maturity group within a trial.
5. **Evaluate consistency of performance** of the hybrids on your list over years and other zones.
    - Scan 2013 results. **Be wary** of any hybrids on your list that had a 2013 Performance Index of 100 or lower. Choose two or three of the remaining hybrids that have relatively high Performance Indexes for **both** 2013 and 2014.
    - Check to see if the hybrids you have chosen were **entered in other zones**. (For example, some hybrids entered in the Southern Zone Trials, Tables 6 and 7, are also entered in the South Central Zone Trials, Tables 8 and 9).
    - **Be wary** of any hybrids with a Performance Index of 100 or lower for 2013 or 2014 in any other zones.
6. Repeat this procedure with about three maturity groups to select top-performing hybrids with a range in maturity, to spread weather risks and harvest time.
7. Observe relative performance of the hybrids you have chosen based on these trial results in several **other reliable, unbiased trials** and **be wary** of any with inconsistent performance.
8. Consider including the hybrids you have chosen in your own test plot, primarily to evaluate the way hybrids stand after maturity, dry-down rate, grain quality, or ease of combine-shelling or picking.
9. Remember that you don't know what weather conditions (rainfall, temperature) will be like next year. Therefore, the most reliable way to choose hybrids with greatest chance to perform best next year on your farm is to consider performance in 2013 and 2014 over a wide range of locations and climatic conditions.

You are taking a tremendous gamble if you make hybrid selection decisions based on 2014 yield comparisons in only one or two local test plots.

OBTAINING DATA ELECTRONICALLY

This report is available in Microsoft Excel and Acrobat PDF formats at the Wisconsin Corn Agronomy website: http://corn.agronomy.wisc.edu.

The most current version of Wisconsin Corn Hybrid Performance Trials (A3653) is also available to download as a PDF or purchase as a printed booklet at the UW Extension Learning Store: http://learningstore.uwex.edu.

For more information on the Wisconsin Crop Improvement Association, visit: http://wcia.wisc.edu.

Authors: Joe Lauer is professor of agronomy, Kent Kohn is corn program manager in agronomy, and Thierno Diallo is research specialist in agronomy, College of Agricultural and Life Sciences, University of Wisconsin-Madison. Lauer also holds an appointment with UW-Extension, Cooperative Extension. Produced by Cooperative Extension Publishing.

Photo credit: Sevie Kenyon, UW-Extension outreach specialist.

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WISCONSIN HYBRID CORN PERFORMANCE TRIALS-2014 (A3653) R-11-2014-1.3

To view the PDF version of this article click on the link below:

http://corn.agronomy.wisc.edu/HT/2014/2014Text.aspx

Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Sean Toporek and Joyce Wu, Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from November 8, 2014 through November 14, 2014.

Plant/Sample Type, Disease/Disorder, Pathogen, County

FRUIT CROPS,

Apple, Scab, Venturia inaequalis, Milwaukee

SOIL,

Soybean Soil, Soybean Cyst Nematode, Heterodera glycines, Dunn, Outagamie, Ozaukee

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from November 15, 2014 through November 21, 2014.

Plant/Sample Type, Disease/Disorder, Pathogen, County

VEGETABLES,

Basil, Downy Mildew, Peronospora belbahrii, Columbia

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from November 29, 2014 through December 5, 2014.

Plant/Sample Type, Disease/Disorder, Pathogen, County

FRUIT CROPS,

Apple, Phomopsis Canker, Phomopsis sp., Chippewa

SOIL,

Soybean Soil, Soybean Cyst Nematode, Heterodera glycines, Ozaukee, Racine, Rock, Walworth, Washington

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

Wisconsin Pest Bulletin 11/13/14

A new issue of the Wisconsin Pest Bulletin from the Wisconsin Department of Agriculture, Trade and Consumer Protection is now available. The Wisconsin Pest Bulletin provides up-to-date pest population estimates, pest distribution and development data, pest survey and inspection results, alerts to new pest finds in the state, and forecasts for Wisconsin's most damaging plant pests.

Issue No. 18 of the Wisconsin Pest Bulletin is now available at:

http://datcpservices.wisconsin.gov/pb/index.jsp

http://datcpservices.wisconsin.gov/pb/pdf/11-13-14.pdf

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