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produce a harvestable plant. So to establish a field at 30,000 plants/A, you would need to drop seed at 33,333 plants/A.

Corn seed treatments are required in most planting situations. These treatments protect the plant through the first four- to six-weeks of the corn life cycle. In the past the dominant seed treatment was Captan. Since 2005, we have been tracking the use of seed treatments in the UW corn hybrid performance trials and to date we have had 164 different combinations of seed treatments entered. The question that many growers have asked is, "**Has corn seed survival improved in modern production systems?**"

Since 2008, the UW hybrid evaluation program has used a precision planter to establish plots. The seeding rate for every plot planted in this program is 34,100 plants/A. At harvest we count the number of plants that survived in 10% of the plots. Various seed treatment combinations are used on hybrids, however, no chemical seed treatments are used in the organic trials.

Where seed treatments are used, corn seed survival averaged 91-92% and was similar in the Early, Late and Specialty trials (Table 1). The organic trials where no seed treatments are used had 82% seed survival. The most challenging location in the program with the lowest seed survival was Seymour where survival was 84%. Other locations that had lower seed survival included Coleman, Lancaster and Marshfield. These sites ranged from 86 to 87% survival. The location with the highest seed survival was Fond du Lac at 95%.

Corn Seed Survival

Joe Lauer, Corn Agronomist



While reading the Nation Corn Growers Association Yield Contest results, I was struck by the plant populations at planting and harvest. The average planting population of all entrants in the contest was 33,616 plants/A, while state winners averaged 34,821 plants/A, and national winners averaged 39,166 plants/A. The average harvest population for all entrants was 32,160 plants/A, while state winners averaged 33,833 plants/A, and national winners averaged 39,222 plants/A. If we assume that the initial plant population was the planter setting that reflects the number of seeds dropped, then seed survival for all entrants was 96%, while for state winners it was 97% survival, and for national winners it was 100% survival.

I was curious about corn seed survival in Wisconsin. We have traditionally figured that 90% of the seed planted survives to

Table 1. Corn seed survival in the UW Corn Hybrid Performance Trials. Since 2008, all plots have been seeded at 34,100 plants/A.

Trial	N	Harvest population (plants x 1000/A)	Seed survival (%)
Early	114	31.2	91
Late	100	31.3	92
Organic	37	27.9	82
Specialty	45	31.0	91
LSD (0.05)		0.5	2

Data derived from reports available at <http://corn.agronomy.wisc.edu/HT/> (Table 5 or 6).

Another study where we routinely measure seed survival is a planting date experiment at Arlington (Table 2). In this study a known quantity of seed is planted and then emerged plants are counted at V5-V6. The optimum time to seed corn at this farm is May 1. Yet, seeding around May 1 does not always result in the best corn seed survival. For example, during 2010 seed survival was 85% in early May with dates before and after where survival was 95% or greater. In most years planting during April decreased seed survival. So to achieve a target harvested population, seeding rate adjustments would need to be made and changed as the planting season progressed.

Table 2. Corn seed survival (%) at Arlington, WI.

Planting date	2013	2012	2011	2010	2009
March 26 - April 26	88	76	76	95	87
April 30 - May 8	89	86	97	85	91
May 16 - May 21	88	92	96	97	94
May 31 - June 4	90	91	95	95	98
June 15 - June 18	92	86	99	84	96
LSD (0.10)	2	5	3	3	2

Data derived from <http://corn.agronomy.wisc.edu/Research/> under "03 Date of Planting."

Corn seed survival likely varies by field. The more challenging fields in our program are in northern Wisconsin. One exception is Lancaster where aggressive tillage is used to prepare the seedbed with soil crusting resulting in some years. Average corn seed survival seems higher than the 90% level we have traditionally used. We should probably be using 92 to 95% seed survival. However, there are numerous exceptions due to seed quality, planting date, tillage system, seed treatment and hybrid.



Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Ann Joy, Erin DeWinter 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 March 22, 2014 through March 28, 2014.

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

Carrot, Black Rot, *Alternaria radacina*, Dane

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

SnapPlus: How to Videos Available

Kim Meyer, Southwest Regional Specialist

There are currently 20 instructional videos which demonstrate how to utilize the many screens and tools within the SnapPlus program, Wisconsin's nutrient management planning software. These videos are designed to help both the new user and seasoned users that need a quick refresher. All videos are between 1 to 6 minutes in length, depending on the topic.

There are many new features within SnapPlus that advanced users may not be aware of, such as the data dump option for making customized reports in Microsoft Excel, or how to operate the new Daily Log screen. There are videos available that demonstrate these new features and tools, with additional videos on the way. All videos can be viewed directly from the SnapPlus website, www.snapplus.wisc.edu under the Support tab, How To Videos. Videos can also be viewed from the SnapPlus You Tube channel, <http://www.youtube.com/user/SnapPlusUW>

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