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## Cereal Cover Crop Seeding Rates - What is Acceptable?

*Dr. Bob Kratochvil, Extension Specialist – Agronomic Crop Production*

Maryland's Cover Crop Program is viewed as the most successful water quality improvement initiative in the Chesapeake Bay region. Low seed germination was widespread in 2008 as a result of the severe Fusarium outbreak in the region. Low seed germination is again an issue for 2013 as a result of sporadic Fusarium outbreaks in some areas and some pre-harvest sprouting caused by the rainy harvest experienced this year. The question that many are asking is: How do I attain an acceptable stand when the germination of my seed lot is below the standard of 80%?



MDA is recommending that you contact your Extension office to get assistance regarding what an acceptable stand is. This article will hopefully help you adjust to low germination cereal cover crop seed.

University of Maryland Extension recommends that farmers planting cereals for commodity production use a seeds/ft<sup>2</sup> approach which allows compensation for seed lot size variation and varying germination. The Maryland Cover Crop Program mandates volume rates (2 bu/a for rye and wheat; 2.5 bu/a for barley) when any of these species are planted as a cover crop. A two-year study that was funded by Maryland Grain Producers Utilization Board compared cover crop performance of these three cereal species when planted at volume and three different seeds/ft<sup>2</sup> treatments. The results of that research are the basis for the following cover crop seeding rate recommendations for the cereal species. Examples of seeding rates for low germination seed lots for the three cereal species are provided in the Recommendations below.

### Summary of Research Findings

- Two years of research indicated that the seeding rates for cereal species used as cover crops can be less than the volume rates described by the current Maryland Cover Crop Program regulations.
- This research indicated that seeding rates for the cover crop program should be defined as seeds/ft<sup>2</sup> because this method accounts for the variations in seed size that can occur among species and for different seed lots within a species.
- Regardless of species planted, when a seeds/ft<sup>2</sup> method is used, it is important to know both

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the seed size and germination of the seed lot to be used.

- Planting cereal cover crops at a seeds/ft<sup>2</sup> rate should result in cost-savings because a lesser amount of seed would be required. An exception would occur when seed size for the species used is exceptionally large.
- Amount of N uptake that will occur will vary by amount of residual N present at a location.
- Amount of N uptake will generally be greater for earlier planted cereal cover crops than for later planted cereal cover crops.

#### Recommendations

- The following seeding rate recommendations require that cereal cover crops be planted using a tillage practice that incorporates

the seed into the soil, i.e. planting with a grain drill or broadcasting seed followed by incorporation with either a vertical tillage implement or a disk. The goal is to establish as uniform a stand as possible.

- Rye cover crop should be planted at 30 - 35 viable (adjusted for seed lot germination) seeds/ft<sup>2</sup>. Example: a rye seed lot with 85% germination would require 35 - 41 seeds/ft<sup>2</sup> be planted. Low germination example: a rye seed lot with 75% germination would require 40-47 seeds/ft<sup>2</sup> be planted.
- Wheat cover crop should be planted at 20 - 25 viable seeds/ft<sup>2</sup>. Example: a wheat seed lot with 90% germination would require 22-28 seeds/ft<sup>2</sup> be planted. Low germination example: a wheat seed lot with 70% germination would require 29-36 seeds/ft<sup>2</sup> be planted.

- Barley cover crop should be planted at 24 - 30 viable seeds/ft<sup>2</sup>. Example: a barley seed lot with 90% germination would require 27 - 33 seeds/ft<sup>2</sup> be planted. Low germination example: a barley seed lot with 75% germination would require 32-40 seeds/ft<sup>2</sup> be planted. To determine the seeding rate you require for the germination rate of your seed lot, divide the number of viable seed recommended for your species by the germination rate of the seed lot you intend to plant. For example, if your goal is 20-25 seeds/ft<sup>2</sup> for wheat and the germination for your seed lot is 65%,  $20/.65$  and  $25/.65$  results in a seeding rate of 31-38 seeds/ft<sup>2</sup>.

## Corn and Soybean Production Forecasts Smaller Than Expected

*Dr. Darrel L. Good, Ag Economist, University of Illinois*

The USDA's August Crop Production report contained smaller than expected forecasts of the size of the 2013 U.S. corn and soybean crops. At 13.763 billion bushels, the corn crop forecast is 242 million bushels smaller than the average trade guess. At 3.255 billion bushels, the soybean crop forecast is 81 million bushels smaller than the average trade guess.

The forecast of corn area to be harvested for grain was unchanged from the June forecast of 89.135 million acres, but the average yield forecast of 154.4 bushels was 3.3 bushels lower than expected. Some of the larger yield forecast surprises were for Illinois and Indiana, where forecasts of 165 and 166 bushels, respectively are well below the record yields anticipated based on generally favorable weather and high crop condition

ratings. In contrast, the yield forecasts of 166 bushels for Minnesota and 163 bushels for Iowa are much higher than anticipated based on extensive planting delays and relatively low crop condition ratings.



The inventory of old crop corn on hand at the beginning of the 2013-14 marketing year on September 1 is forecast at 719 million bushels, down 10 million bushels from last month's projection. Corn exports have staged a small late-summer rally and will be marginally larger than earlier forecast for the 2012-13 marketing year. For the upcoming marketing year, the USDA lowered the projection of feed and residual use by 50 million bushels,

reflecting expectations of less 'residual' use with a smaller crop forecast. The projection of exports was reduced by 25 million bushels, reflecting larger production and export forecasts for the Ukraine. The projection of corn used for ethanol production was unchanged at 4.9 billion bushels, implying little growth in consumption of ethanol blends above 10 percent during the year ahead. Stocks at the end of the 2013-14 marketing year are

projected at 1.837 billion bushels, 122 million less than projected last month. The marketing year average farm price is projected in a range of \$4.50 to \$5.30, \$0.10 higher than projected last month.

The estimate of area planted to soybeans was reduced by 550,000 acres from the June forecast, with most of the reduction coming in Kansas, Minnesota, North Carolina, and South Dakota. The U.S average soybean yield is forecast at 42.6 bushels, about one bushel below the average trade guess. The yield forecast of 47 bushels for Illinois was surprisingly low while the forecast of 46 bushels for Iowa was larger than generally expected. The forecast of the inventory of old crop soybeans at the beginning of the 2013-14 marketing year on September 1 was unchanged from last month's projection of 125 million bushels. However, the forecast of the domestic crush during the year ending this month was increased by 25 million bushels, the forecast of imports was increased by 10 million bushels, and the forecast of exports was reduced by 15

million bushels. With just over three weeks left in the 2012-13 marketing year, it appears that exports will be slightly larger than the revised forecast.

For the upcoming marketing year, the forecast of the domestic soybean crush was reduced by 20 million bushels and the forecast of exports was reduced by 65 million bushels. The lower export forecast reflects anticipation of loss of market share to Argentina. Year-ending stocks of U.S. soybeans are projected at 220 million bushels, 75 million less than forecast last month. The marketing year average farm price is projected in a range of \$10.35 to \$12.35, \$0.60 above last month's projection. For soybean oil, the forecast of consumption for biodiesel was increased by 200 million pounds, to a total of 5.7 billion pounds. That compares to expected consumption this year of only 4.6 billion pounds. The increase reflects the likely need to increase biodiesel production to meet the Renewable Fuels Standards for 2014, although the preliminary rules for 2014 have not yet been announced by the

EPA. The forecast of domestic soybean oil consumption for other purposes was reduced by 200 million pounds.

The USDA's corn and soybean production forecasts will be updated on September 12 and again in October and November. Forecasts of 2013-14 marketing year consumption and average prices will also be updated monthly. There seems to be room for the average corn yield forecast to increase if the growing season is not cut short with an early freeze. In addition, the current forecasts of marketing year corn exports and feed and residual use appear generous. Corn prices increased in response to August 12<sup>th</sup> USDA reports, but supplies may turn out to be more abundant than currently forecast. While the soybean production forecast may also increase with a full growing season, the current forecasts of consumption may actually understate the domestic demand for soybean oil and perhaps the export demand for soybeans. An era of higher soybean prices in relation to corn prices is still expected.



## Crop Reports

### Western

The weather this summer with little exception has been great in the West. Peach harvest is finished and apple harvest is soon to start. Corn and soybeans look like we should have a bumper crop. Machinery will be entering the fields any day now to begin corn silage harvest as our dairymen prepare to put up winter feed. It is a beautiful low humidity, middle seventies day as I write with more pleasant weather to come.

### Central

Crops are maturing nicely across the region. No major problems to report except with the ability to get dry hay harvested between showers. Extremely

heavy rains hit the northern parts of the region on August 13<sup>th</sup> with over 1.5 inches in some areas, but no crop damage was reported.

### Northeast

Along with the adequate moisture we have been receiving, there is some concern that the cloudy days may have some effect on corn and soybean yields; however both crops look good standing in the field. Corn is progressing nicely, with most of it in the dent stage and some about ready for silage chopping. Soybeans are flowering and pod set is developing well. Hay making has been a challenge, but a few nice days have provided an opportunity to

make some decent hay. Pastures look very good for this time of year and most have had a second (or more) mowing to control weeds.

### Upper Eastern Shore

Early planted and short season corn is starting to dry down. Soybeans are progressing, but most have excessive vegetative growth and with recent rains, lodging is prevalent. Other than a few stinkbugs, insect pressure seems to be light. Hay yields have been good, but making quality hay has been difficult.

### Lower Eastern Shore

Corn is maturing fast. If dry weather remains, a few fields will be ready for

harvest next week. Sweet corn harvest has been steady but yields are reported to be low. Soybeans are looking good with very little insect pressure. However, a few fields have been sprayed for spider mites. Stinkbugs and loopers can be found in soybeans. Soybeans are beginning to set pods and there is no stinkbug feeding damage reported at this time. Potato harvest is nearing

completion with good quality tubers. Cucumber beetle populations are heavy in watermelons and pumpkins. Haymaking has been slow. Farmers are looking for few good days of sunshine for another round of hay cutting.

**Timeline:** This crop report is for the field observations from July 27 through August 15, 2013. Crop Report Regions: Western

(Garrett, Allegany and Washington), Central (Carroll, Frederick, Howard, Montgomery), Northeast (Cecil, Harford, Baltimore), Southern (Anne Arundel, Prince George's, Calvert, Charles, St. Mary's), Upper Eastern Shore (Kent, Queen Anne's, Talbot, Caroline), Lower Eastern Shore (Dorchester, Wicomico, Worcester, Somerset)

## Agriculture Weather Report

*Adam Caskey, Meteorologist*



Often this time of year I find the weather headlines being drought and heat, but neither has been the case so far this summer with plentiful moisture and few heat waves. Will this trend continue through the end of August? Yes, I think so.

Model guidance and ensembles indicate a predominant flat flow over the Mid-Atlantic for the remainder of August. This should lead to increased chances of near normal to slightly above normal rainfall and near average temperatures. No extreme heat events are expected

through the end of the month. The biggest wild card will be the tropics as this is the time of year tropical activity starts ramping up, and it is likely to be an above average remainder of the season. Keep in mind that the peak of hurricane season is September 10<sup>th</sup>.

## Announcements

### Invitation to participate in the University of Maryland Extension Strategic Planning Survey

The University of Maryland Extension is developing a strategic plan that will lead the organization for the next five years and we need your assistance.



University of Maryland Extension (UME) is a statewide, non-formal education system within the College of Agriculture and Natural Resources and the University of Maryland Eastern Shore. UME educational programs and problem-solving assistance are available to citizens and are based on the research and experience of land grant universities such

as the University of Maryland, College Park. As UME moves forward into the future it is necessary to set priorities, focus energy and resources, strengthen operations, create common goals, identify outcomes and adjust the organization's direction in response to a changing environment.

Strategic planning is an effort that produces vital decisions and actions that will shape and guide UME. This includes answering questions about what an organization is, who it serves, what it does, and why it does it, with a focus on the future. UME is conducting many methods of collecting this data. One of the most important methods has been to meet with UME program participants, volunteers and others in the community who works directly with us.

Six meetings were held across the state in order gain important information regarding UME's strategic plan. We realize that it was not possible for everyone to attend those meetings, but it is important to us to reach out to as many participants, volunteers and community members as possible. We have designed a short survey that will allow you to share your thoughts about UME programming. We invite you to participate in this survey.

The survey will be available on line from August 7th through August 21st. The survey can be found at [https://umd.qualtrics.com/SE/?SID=SV\\_1GGZB8QU94gAau9](https://umd.qualtrics.com/SE/?SID=SV_1GGZB8QU94gAau9)

## Upcoming Events

### Western Horticulture Crops Twilight Meeting, Wednesday August 21st



The 2013 Horticulture Crops Twilight Meeting will be held Wednesday, August 21st, from 5:00-8:00 PM, at Western Maryland Research & Education Center, 18330 Keedysville Road, Keedysville, MD 21756

Learn the latest on the impact of Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on vegetable and fruit crops, see apple seedling evaluations, and hear about mobile and stationery high tunnels. Please RSVP to 410-386-2760/888-326-9645 or e-mail [mabbott@umd.edu](mailto:mabbott@umd.edu)

### Small Farm Bus Tour slated for late August

"Explore New Farm Income Opportunities," on the bus tour Monday, August 26, and Tuesday, August 27. The tour will begin at the Central Maryland Research and Education Center (CMREC) in Upper Marlboro, Md., at 9:30 a.m. on Monday, August 26. Alternatively, interested individuals from the Salisbury/Princess Anne area will depart from the Richard A. Henson Center on the UMES campus at 7 a.m. The registration fee, which covers bus transportation, a farm dinner, educational materials and light refreshments, is \$25 per person. An

additional \$25 per person is needed for those who are traveling from outside of the Upper Marlboro/Bowie area, and will need hotel accommodations for one night.

To register online, visit [www.umes.edu/1890-mce](http://www.umes.edu/1890-mce). All registrations and payments must be received by Friday, August 22. For more information about select tour stops contact Berran Rogers at 410-651-6070 or 6693

### WyeREC Horticulture Crops Twilight Meeting

This meeting will be on Wednesday, August 28, 2013, 5:00 pm – 7:30 pm at Wye Research and Education Center, 211 Farm Lane, Queenstown MD 21658.



This educational meeting is intended to provide producers and the general public the opportunity to get a firsthand look at several of the ongoing horticultural crops projects at the University of Maryland's research facility in Queenstown.

Learn the latest on the impact of the Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on fruit and vegetable crops and hear updates on disease control in vegetable crops.

The tour of ongoing projects will include the pumpkin IPM spray trials, Asian pear variety trial, NC140 size-controlling rootstock evaluation, aronia trials, and impact of buckwheat on the mortality of exotic and native Pentatomids in organic sweet corn.

Sandwiches and refreshments will be provided. Registration is not required, but it will help us to plan for handouts, food

and drinks. Reply to: Debby Dant, 410-827-8056 X115, [ddant@umd.edu](mailto:ddant@umd.edu) or Michael Newell, 410-827-7388, [mnewell@umd.edu](mailto:mnewell@umd.edu)

### Bermudagrass for High Animal Use Areas Training

University of Maryland Extension in collaboration with NRCS National Plant Materials



Center has put together this training program for bermudagrass planted for cover in heavy use areas as well as for hay and pasture production. There are 2 locations and dates to choose from:

Howard County Fairgrounds -  
October 8, 2013

University of Maryland Eastern Shore  
- October 10, 2013

Training will be held from 9:00 am- 4:00 pm (light rain or shine, lunch on your own). Training topics include bermudagrass establishment with seed vs. sprigs, soil and fertility issues, equipment and soil preparation, weed ID and control, interseeding with cool-season species, and a tour of established plantings.

This course will provide 4.5 CEU's for Certified Conservation Planners. To RSVP contact R. Jay Ugiansky by Sept. 27. Phone: 301-504-8743 Email: [rjay.ugiansky@md.usda.gov](mailto:rjay.ugiansky@md.usda.gov)



## Did You Know

America's corn farmers are by far the most productive in the world, growing 20% more corn per acre than any other nation.

## SIGN-UP TO RECEIVE "AGRONOMY NEWS"

If you would like to receive this newsletter via email please contact Rhonda Barnhart at [rbarnhar@umd.edu](mailto:rbarnhar@umd.edu). The subject line should be: Subscribe Agronomy News 2013.

If you would like a hard copy please contact your local county extension office to sign-up for the mailing list. The list of local county offices can be found at [www.extension.umd.edu](http://www.extension.umd.edu).

This edition of Agronomy News is brought to you by:

University of Maryland Extension Field Faculty:

*Ben Beale, Ag & Natural Resources Educator, St. Mary's County*  
*Dave Martin, Ag & Natural Resources Educator, Baltimore County*  
*Jeff Semler, Ag & Natural Resources Educator, Washington County*  
*Jim Lewis, Ag & Natural Resources Educator, Caroline County*  
*Stanley Fultz, Dairy Science Agent, Frederick County*  
*Sudeep Mathew, Ag & Natural Resources Educator, Dorchester County*

University of Maryland Extension Specialist:

*Dr. Robert Kratochvil, Agronomic Crop Production*

Partners:

*Adam Caskey, Meteorologist, ABC-7, WJLA-Washington DC*  
*Dr. Darrel L. Good, Ag Economist, University of Illinois*



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Sudeep Mathew, Editor

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To subscribe or more information:  
 Agronomy News  
 University of Maryland Extension  
 501 Court Lane, Room 208  
 Cambridge, MD 21613  
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 Email: [rbarnhar@umd.edu](mailto:rbarnhar@umd.edu)



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- Central: Tree felling, skidding, and band saw demonstration
- Western: Firewood equipment demonstration & afternoon hike

Locations and full agendas available online

**REGISTRATION FORM: Discover Your Woods**

Register online at [www.forestryforthebay.org/discover\\_woodlands.cfm](http://www.forestryforthebay.org/discover_woodlands.cfm).  
Pre-registration required. Registration limited to 50 for each tour.

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Southern 9/21  Eastern 9/28  Central 10/5  Western 10/12

Submit this card and payment to:  
Wayne Merkel  
Maryland Forest Service  
2 S. Bond Street, Suite 101  
Bel Air, MD 21014  
No refunds after registration deadline.

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