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THE SEED CONSULTANT

A QUARTERLY NEWSLETTER NEWS AND VIEWS FROM THE FIELD

MANAGING WINTER APPLICATION OF MANURE

Guidelines for when to apply safely and efficiently

EAR DROP AND VOLUNTEER CORN

What causes ear drop and how to prevent volunteer corn in '23

POOR TIP FILL IN CORN

Is it really an issue?

SCI WINTER AGRONOMY MEETINGS

Join us at a meeting near you for a year in review and '23 outlook

MANAGING WINTER APPLICATION OF MANURE

By Jordan Bassler
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Across the Seed Consultants footprint many farms have the necessity to spread manure throughout the winter months. According to Penn State University, winter is defined as between December 15 and February 28, any time ground is covered with snow, or the soil is frozen four inches or deeper. Many farmers do not have enough storage to last all winter long, which forces them to decide when and how often to spread. What many may not realize is that depending upon timing of application, they could really be hurting or helping their operation. Improper timing of application can have some serious side effects come spring if soil and/or weather conditions are not carefully considered. The following is a list of thoughts to consider before spreading manure during winter:

1. Soil Compaction. Countless fields each spring are negatively affected, mostly due to saturated soils at time of manure application. This causes compaction at planting and continues to restrict the plants throughout the growing season by limiting nutrient availability, smaller than normal root mass, and affects a plant's ability to handle stress. To limit the amount of compaction, time winter applications to when soil is frozen.

2. Nutrient Runoff and Loss. When snow melts, where does the water and nutrients on the soil surface go? The obvious answer here is not into the soil profile, and more likely into streams, ponds, lakes, etc. This can cause high nitrates in local streams/groundwater and algae blooms in lakes from excess phosphorus. Do not spread on fields with a greater than 15% slope, fields with less than 25% previous crop residue, or within 100 feet of any waterway. If winter spreading is a must, focus manure application onto acres than contain cover crops. The cover crop will help resist water runoff and take up most of the nutrients in manure.

3. Soil Productivity. This topic somewhat falls under nutrient runoff. If the nutrients are not in the soil profile, they clearly are not available for plant uptake. By planning manure application with the best weather patterns, crop productivity is increased.

4. Local/State Laws OR Nutrient Management Plans.

a. Some states in our footprint including Vermont, Maryland, and Indiana have made spreading manure in the winter illegal.

b. If you are located the Western Lake Erie Basin of Ohio, then you must not apply on any snow-covered or frozen soil or if the top two inches of the soil is saturated. One other restriction in Ohio, is to not spread when the weather forecast predicts greater than half an inch of rainfall in the next 24 hours. This restriction becomes void if you are injecting, incorporating, or applying to a growing crop.

c. Cornell University in New York has published guidelines for winter manure application, and they are similar to previously mentioned. Their guidelines include not applying to saturated soils (frozen or not), not applying late in the winter on top of snow, not applying ahead of rain event greater than half an inch and applying to fields with growing cover.

d. The points above are highlights from across our territory. You should always consult your Manure or Nutrient Management Plan to determine if winter spreading is allowed.

By carefully considering the above points, you can gain more nutrients in your soil and productivity out of your crop. The value of manure cannot be overlooked with the historically high synthetic fertilizer prices we are experiencing. Planning ahead and considering where the nutrients from the manure may end up ensures you are being good stewards of your land and getting as much value from your manure as possible.

PRODUCT USE GUIDE

Part of growing healthy crops is making sure they are protected with the right products. Visit the product page on our website to view our product use guide for information about insect control and herbicide tolerance to support technologies in our seed.

EAR DROP, WHAT CAUSED IT, WHAT CAN I DO ABOUT VOLUNTEER CORN NEXT YEAR?

By Bill McDonald, CCA
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WHAT CONDITIONS LEAD TO EAR DROP?

• Moisture stress at silking: The shank develops quickly during a two-week period surrounding pollination. Severe drought and heat stress at this stage can hinder shank development.

• Favorable weather after drought: Ear drop is most common when drought/heat stress during ear and shank development is followed by favorable weather during grain fill. Weak shanks formed during pollination are unable to hold the heavy ears.

• Rapid drydown: Cells at the point of ear attachment become more brittle during rapid drydown making them susceptible to ear drop.

• Insect feeding: Insects, such as the European Corn Borer larva, bore through the shank to get into the cob where it will transform into a pupa and spend the winter. (Even if you plant a traited hybrid there are still at a minimum of 5% refuge plants in the field that are subject to feeding.)

• Disease Pressure: Whether it is through degermation or causing cannibalization, the stalks and pith will be weakened and may not support ears.

WHY DOES EAR DROP DIFFER AMONG HYBRIDS?

• During drought stress, a drought tolerant hybrid may be able to put on a large ear but because of the aforementioned reasons, may have a weaker shank which will not be able to support the ear.

• There could even be differences within the same hybrid depending upon planting date and the stage of development when a stress situation occurs.

• Plant Breeders and Agronomists actively select against hybrids vulnerable to ear drop.

Holey shank from European Corn Borer

European Corn Borer exposed worm

European Corn Borer
magnified worm in shank

WHAT CAN I DO TO REDUCE VOLUNTEER CORN IN MY FIELDS NEXT SPRING?

• If you live far enough south and harvest early enough, early fall tillage can encourage germination and then winter will take care of the problem.

• For those that don't farm in an area where conditions are favorable for fall germination, or the soil is just too dry to encourage seeds to sprout, then perhaps tillage is not the answer. If seed is tilled under and does not sprout, it may be in a protected environment, whereas if left on the surface, it is more susceptible to decay and predators.

• Spring tillage can be very effective if the corn has germinated.

• Vertical tillage in fields that have ears with viable grain can make matters worse because these tools tend to shatter the ears and spread the grain. Ears of corn that have large numbers of volunteer corn plants emerging all at once tend to compete with each other and are not competitive with the new crop.

• If all else fails, there are herbicides that will control volunteer corn. You will need to be mindful of what herbicide it will take to control the volunteer corn and the tolerance of that herbicide by the newly planted crop.

Reference material from article written by Mark Jeschke entitled "Considerations for Managing Ear Drop in Corn"

POOR TIP FILL IN CORN

By Matt Hutcheson, CCA
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One common issue observed and discussed during the 2022 growing season is poor tip fill, or tip-back in corn ears. A lack of kernel development at the tip of the ear can be cause for concern among growers. Keep in mind that any stress right before and during pollination can significantly impact kernel development. If you have scouted your corn fields late in the growing season and have noticed tip back, there are several factors that could be the cause:

• **Pollination** – If kernels did not develop at all near the tip of the ear, this is a sign of a pollination problem. The silks at the tip of the ear emerge last and stress at pollination can significantly impact them. Heat and drought stress can cause a lack of viable pollen as well as delayed silk emergence, resulting in no kernel development at the tip of the ear. Insect clipping of silks can also impact pollination and kernel development at the tip of the ear.

• **Kernel Abortion** – If it is evident that pollination was successful, but the ear developed small or shriveled kernels at the ear tip, kernels were aborted during the grain fill process. Several factors can lead to kernel abortion, such as: nutrient deficiencies, drought, severe cases of foliar disease (GLS, NCLB, Tar Spot, etc.), and significant plant defoliation as a result of hail damage. All these stressors ultimately impact the corn plant's ability to carry out photosynthesis and can result in aborted kernels.

In some cases, tip back may not be a result of a problem or stress and may not indicate low yields. As discussed often by agronomists, ear size is determined early in the season during the plant's vegetative growth period. If very favorable growing conditions exist during the V6 to V12 stage, the number of kernels per row may be unusually high. In this case, if the plant cannot fill out the entire length of the ear, some tip back may occur but there may still be high yields.

2023 SCI Winter Agronomy Meetings

DATES AND LOCATIONS

During January and February of 2023 Seed Consultants will host Winter Agronomy Meetings across the eastern Corn Belt. In addition to a review of 2022, agronomists will address important factors that are currently affecting our customers.

DATE	LOCATION	TIME
Jan. 4	Rusty Keg *1801 Columbus Ave., Washington C.H., OH 43160*	11:30 a.m.
Jan. 4	Mound Grove Golf Course *10760 Donation Rd., Waterford, PA 16441***	11:30 a.m.
Jan. 5	Rob's Restaurant and Catering *705 Arlington Rd., Brookville, OH 45309*	11:30 a.m.
Jan. 5	Camden Falls *2460 OH-231, Tiffin, OH 44883*	11:30 a.m.
Jan. 10	Red Pig Inn *1470 N. Perry St., Ottawa, OH 45875*	11:30 a.m.
Jan. 11	Back 40 Junction *1011 N 13th St., Decatur, IN 46733*	11:30 a.m
Jan. 12	Der Dutchman *720 State Rte 97 W, Bellville, OH 44813*	11:30 a.m.
Jan. 12	Seed Consultants, Inc. Salem Warehouse *205 Joseph St., Salem, IN 47167*	11:30 a.m.
Jan. 13	Back Woods *8572 High Point Rd., Thornville, OH 43076*	11:30 a.m.
Jan. 17	Lake View Loft *10215 Jones Rd., Hillsboro, OH 45133*	11:30 a.m.
Jan. 18	Claudia Sanders Dinner House *3202 Shelbyville Rd., Shelbyville, KY 40065*	11:30 a.m.
Jan. 18	Best Western Dutch Haus Inn *150 East, OH-14, Columbiana, OH 44408*	11:30 a.m.
Jan. 18	Doubletree *340 Racetrack Road Washington, PA 15301***	11:30 a.m.
Jan. 19	Der Dutchman *4967 Walnut St., Walnut Creek, OH 44687*	11:30 a.m.
Jan. 23	Shady Maple Smorgasbord *129 Toddy Drive, East Earl, PA 17519***	11:30 a.m.
Jan. 25	Basil Wood Fired *213 North Main St. Muncy, PA 17756***	11:30 a.m.
Feb. 7	Hoss's *20 Falling Spring Rd., Chambersburg, PA 17202*	11:30 a.m.
Feb. 8	Pioneer Community Center *100 N Elm St, Pioneer, OH 43554*	11:30 a.m.
Feb. 9	Hoss's *23 Hoss Drive, Lewistown, PA 17044***	12:00 p.m.

RSVP: Please call 800-708-2676 to RSVP for a meeting.
For all meetings with ** please call 800-853-2676.

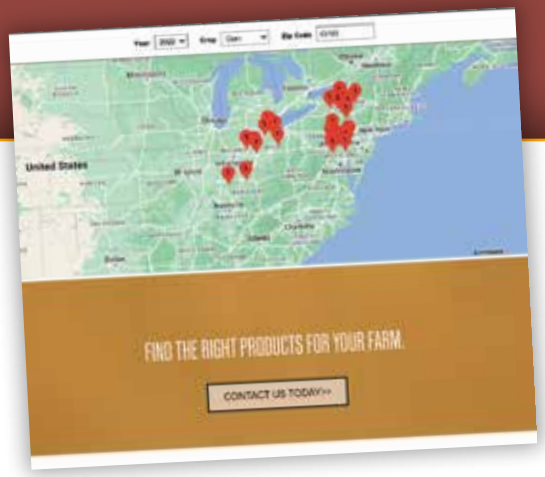
EARLY CASH DISCOUNTS

Seed Consultants offers opportunities to maximize seed cost savings through an early cash discount schedule for the 2023 planting season.

If you have any questions, please call the office at 800-708-2676.

CASH DISCOUNTS

10%	December-January 10
8%	January
6%	February
4%	March
2%	April



STILL WONDERING WHAT TO PLANT FOR 2023?

See how some of Seed Consultants' hybrids and varieties performed in 2022 in plots and third party yield trials.

VISIT SEEDCONSULTANTS.COM TO LEARN MORE.

GREAT GIFTS FOR THE ENTIRE CREW!

Check out the Seed Consultants Online Store for holiday shopping!

VISIT SEEDCONSULTANTS.COM TO SEE WHAT'S AVAILABLE.

FINANCING

SEED CONSULTANTS, INC.

TWO GREAT FINANCING CHOICES FOR 2022-2023
0% THROUGH JOHN DEERE FINANCIAL
0% THROUGH RABO AGRIFINANCE

These financing programs are only available to John Deere Financial Preferred Customers and/or RABO AgriFinance approved customers. To apply for a John Deere Financial Preferred Account or RABO account or to increase your John Deere Financial or RABO line of credit, contact John Deere Financial (800-433-8964) or RABO (888-395-8505), so the necessary paperwork may be completed with John Deere Financial &/or RABO.

JOHN DEERE FINANCIAL & RABO GUIDELINES

- Must be a John Deere Financial Preferred Customer or approved by RABO AgriFinance.
- Approval and credit limits established by John Deere Financial &/or RABO...not by SCI.
- Terms and conditions apply. See respective credit applications for full terms and disclosures.
- To increase or establish your credit line call John Deere Financial (800-433-8964) or RABO (888-395-8505).
- Must be enrolled and approved to qualify for discounts.
- Discounts applied on approval date from John Deere Financial &/or RABO.
- Signed terms of disclosure on file.
- Minimum purchase of $1,000.
- Due date of December 2023.

For John Deere Financial customers with current special terms balances at or near their credit limit, they may have an option to enable their seed purchase now and lock in their order. Contact your SCI Seedsman for details.

	DISCOUNT SCHEDULE	
Finance Plan	**John Deere Financial**	**RABO**
Purchase & Approval Date	Fixed 0%	Fixed 0%
December - January 10, 2023	2%	2%
January 2023	0%	0%
February 2023	0%	0%
March 2023	0%	0%
April 2023	0%	0%
May 2023	0%	0%
In Season	0%	0%

Enlist E3® SOYBEANS

Seed Consultants

The superior technology of Enlist E3® soybeans isn't a stroke of luck. It isn't a coincidence or happy accident. Enlist E3 soybeans are designed to be better. From Day 1, our goal has been to give you the ability to make a choice. A better choice.

And when it comes to what you get with that choice, you aren't leaving anything on the table. We've gotten used to saying the words "and" and "also" — a lot. Because it's better weed control that's also good to your neighbors. It's a wider application window and it has near-zero volatility.

With Enlist E3 soybeans, you get a choice, and it's a choice that's being made on millions upon millions of acres. So, choose better at SeedConsultants.com.

CORTEVA™ agriscience

LEADER UPDATE

By Daniel Call, CCA
General Manager
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Harvest is a rewarding time of year. The culmination of sometimes years of decisions brought to fruition within a few weeks in the fall. It's both rewarding and enlightening to bring in a harvest and witness the combination of all the variables at play. Every harvest can have highs and lows as we experience the joys and sometimes frustrations mother nature has presented us. With the conclusion of each harvest, we have so many lessons to build our future decisions on for years to come.

This year was no different; variability was the norm across our entire footprint. The variability from state to state, county to county, field to field has been extraordinary. Planting date, soil type and individual field drainage all played major roles in performance and final yields this year. Through all this, we have been able to collect a significant amount of data to drive future product launches and placement decisions. In turn, these lessons will drive the yield potential on our customers farms for years to come.

Our staff is grateful to service and work with so many wonderful customers across our footprint. Every farm is different, and each customer has specific needs. These needs may vary field to field as mentioned above. That is why working with a local, regional seed company matters to our customers. "We Know Where You Grow", is more than a neat marketing line, it's a reality. The local knowledge our sales and agronomy staff bring to your farm is unmatched by many in the industry. It's an advantage we carry versus our competitors and has allowed us to grow our business over the years. We look forward to serving your seed needs for years to come.

Finally, we ask that you enjoy the fruits of your labor this holiday season. Enjoy time with your family, and hopefully you take a moment to reflect upon all the unique lessons we have learned in 2022. From all of us at Seed Consultants, we wish you a Merry Christmas!

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Editorial Board

Don't miss a thing

The SCI free e-newsletter comes via e-mail every Monday. The newsletter is packed full of current agronomic topics. Subscribe by sending your e-mail address to matt@seedconsultants.com or by signing up on our website at www.seedconsultants.com.