River Valley Seed Account Managers, Mary Bergfeld and Travis Sullivan, will bring you the latest information in seed and agriculture.

Mary Bergfeld

Mary is the Illinois **SEED** person. She grew up on a first-generation farm in northern IL and then made **SEED** her career 15 years ago. Her hobby or additional full time job is raising 3 boys. (Tuc soon to be 5, Duke 3, and Steve soon to be 38). She enjoys long walks in corn fields and watching the sun set over a luscious field of beans.

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6 Things About Seed Treatments Farmers Should Know

Many farmers may be questioning whether their soybeans need a fungicide seed treatment this planting season. But that depends on many factors – from weather and planting date to drainage and seed costs. And if conditions or field history do not dictate the use of a fungicide seed treatment, then it may not be the best option for you.

The soy checkoff funds seed-treatment research, providing U.S. soybean farmers with practical production knowledge and helping protect their yields against seedling diseases.

Applying seed treatments is a rapidly growing trend. In fact, the soybean industry estimates that 60 to 70 percent of the 2014 soybean seed planted had a seed treatment. That's compared with 30 percent in 2008 and 8 percent in 1996, according to Gary Munkvold, Ph.D., plant pathology and microbiology professor at Iowa State University.

But despite the rise in seed treatment use, it might not be the best option for your operation. Here are six things to consider:

1. Farmers with poorly drained or no-tilled fields, continuous-soybean or soybean-corn rotations and a history of replanting are the most likely to see the added benefit of using a seed treatment, according to The Ohio State University.
2. When spring conditions are cool and wet and when planting occurs in late April to early May, seed-treatment fungicides are an effective tool, according to Shawn Conley, soybean extension specialist at the University of Wisconsin-Madison.
3. The use of a seed treatment is most impactful in fields with a history of post-planting problems, such as minor soil crusting, temporary flooding, soil compaction or poorly drained soils, according to the University of Kentucky. Treatments are also useful when farmers use low seeding rates and when farmers plant seed with a moderate germination rate or when the germination rate is unknown.
4. Using a fungicide treatment on soybean seeds will increase the probability of achieving a satisfactory stand and will enhance the early-season vigor of established seedlings, according to the Mississippi Soybean Promotion Board.
5. With the increase in cost of seed, many farmers don't want to overplant. As a result, according to Iowa State Universityand University of Wisconsin-Madison, some are decreasing their seeding rate and using the money they save on seed treatments instead.

Fungicide seed treatments showed an average yield increase of 2.5 bushels per acre over an eight year period, according to Kansas State University Research and Extension.
Article found at https://unitedsoybean.org/article/six-things-farmers-should-know-about-seed-treatments

Managing Wet & Cold Soils

The amount of snow we received and potential spring rain events can be challenging to an early start to the growing season. Approaching field operations for N applications, tillage, weed control, etc. need to be weighed against potential soil compaction and successful seed germination. Two of the greatest concerns during spring is excess soil moisture and cold soil temperature and their impacts on seed germination, especially in areas with poorly drained soils as in northern and central Iowa. Areas with poorly drained soils can be managed with less tillage to ensure suitable soil conditions for plant growth. Tillage systems that manage residue and help warm the top two inches of the soil for seed placement to ensure successful seed germination may be considered. The most suitable system to achieve this is Strip-Tillage, where narrow-width tilled strips, traditionally created in the fall, can increase early spring soil evaporation and soil temperature in the top two inches. This is particularly effective in poorly drained wet soils, where slightly raised soil strips are created by normally available farm equipment such as anhydrous knives, disks, coulters, tool bars, or manure injection equipment.

Another practice that can be equally effective in improving wet and cold soil conditions early in the spring is the use of cover crops. Cover crops can serve as a mechanism to extract excess water from the topsoil, providing drier conditions that can contribute to the increase in soil temperature (Figure 1 & 2). Results from a recent study of tillage and cover crop (winter rye) demonstrate the impact of cover crop on increasing soil temperature and reducing moisture, especially with no-till (NT), where soil temperature increased by 2.1 °F degrees, but cover crop has less effect with chisel plow (CP) at the top two inches (Figure 1). The effect of both NT and cover crop in improving soil porosity and thus water infiltration and soil aeration is a contributing factor as compared to CP, where lack of soil permeability can limit cover crop effect on soil moisture (Figure 2). Soil temperature is highly influenced by soil moisture conditions, and any practice that removes excess moisture, especially early in the spring, can improve crop establishment and potentially reduce the effect of soil-borne diseases driven by cold temperatures. In conclusion, the best combination of tillage and cover crop appears to be when NT and cover crops are used to enhance the inherent best soil functions and properties provided by NT systems.

The challenges of wet conditions, especially in northern and central Iowa, which may exceed field capacity as shown in Figure 2 may require a comprehensive residue and other field management practices plan that may include but is not limited to:

1. Consider residue management that ensures uniform residue distribution during harvest.
2. Manage residue cutting height by setting the combine to leave corn stalks at 12 inches high.
3. Avoid residue shredding to provide better aeration and soil moisture evaporation.
4. Use minimum tillage alternatives such as ST, especially in the fall.
5. Equip planter with residue cleaners or fluted coulters to help warm up the top few inches of soil.
6. Include a well-designed field drainage system to help remove excess water.
7. Incorporate perennial grasses within buffer strips and marginal areas to help extract excess moisture.
8. Include a no-till system to improve soil structure, soil porosity, and removal of excess water.
9. Incorporate cover crops as a mechanism to extract soil moisture, improve soil organic carbon, soil porosity, and contribute to warming up the top soil depth.

Safety First This Spring

Not many people realize that farming is on the most hazardous industry sectors in the United States. Many envision a peaceful process of planting and harvesting. However, the process is much more complex and involves lots of machinery, chemicals, etc. Growing up in an agricultural community, I have a highly personal view of farming accidents. Even more so after our community was struck with two major accident last year. Accidents don't "just happen." They are usually caused by avoidable physical hazards and human errors. Therefore, most accidental injuries could be prevented or avoided through positive actions, such as planning, preparing, reducing hazards, using protective equipment, training your help, and working and driving in ways that minimize the chance of mishap.
Safety training gives farm families the awareness and information they need to reduce safety hazards and protect their children who often work on the farm. Even if you've gone to great lengths to see that your farm is as safe a work environment as you can make it, careless and unsafe behavioral habits can undermine even the best efforts. Here are some tips on how to avoid some of the most common behavior safety risks.

- The Power Take-Off, or PTO shaft, is one of the most dangerous pieces of equipment on the farm. NEVER reach across an operating PTO even if it is shielded. Keep clothing away from a rotating PTO. It's easy for a piece of loose clothing such as a sleeve or shirt tail to get caught and pull you in. Always disengage the PTO, turn off the engine, and remove the keys before leaving the tractor seat.
- Even with modern farm equipment's advanced safety designs, roll-overs still take a deadly toll year after year. So many farms are still utilizing old equipment that has not been outfitted with rollover protection. It is an accident waiting to happen.Learn proper safety practices, make sure work instructions are clear and understandable and restrict the number of people around equipment.
- ATVs are commonly used to inspect crops and livestock; to inspect and repair irrigation systems and fence lines; to herd livestock and a variety of other jobs on the farm. It's very important that anyone who uses an ATV on your farm follows basic ATV safety procedures and precautions.
- Grain handling in bins can become routine and when a worker is in a hurry an accident can happen. Sadly, year after year, people who enter grain bins are trapped and engulfed in grain resulting in suffocation. The number of grain bin fatalities can be greatly reduced if farmers and their workers get proper training and follow grain bin safety procedures.
- Each year accidents involving tractors and other farm machinery occur on public roads, causing death and injury to those involved, as well as substantial costs in damage to expensive farm equipment. It's very important to be aware of basic safety procedures and precautions to follow when transporting farm equipment on rural roads.
- It is common to find many different chemicals and pesticides in use on a modern farm. So common, it's easy to take them for granted. And taking them for granted can lead to carelessness. More importantly use proper safety clothing!
- When you make a mistake on the farm, most often you can learn from it and make corrections, so it doesn't happen again. But when you make a dangerous electrical mistake, you may never get a second chance. It is important to always respect energy and the danger it can pose on the farm.

In closing I have an additional bit of advice. From a mother of two small farm loving little boys I've come to this conclusion… children learn by imitation. A child is more likely to be safety conscious if you are. Make sure your child sees you performing tasks safely. Explain the potential for danger and how injury can be avoided. With all this in mind 2019 should be a safe accident free year!