ProfitProAG

More from Every Acre, More from Every Animal

OPTIMIZE CROP STANDS: 5 WAYS TO "JUMP START" YIELD

With increasing corn production costs and fluctuating grain prices, the management decisions you make at planting become more important than ever. While you often hear that higher yield potential all starts with the seed, selecting the right genetics for your acres is only part of the story.

"Controlling the controllables is the key to success in crop production," said Dr. Jim Ladlie, owner of ProfitProAG. "It's easy to overlook some of these key controllables, however."

Some of these controllables influence crop stands, which impact yield potential. Uniform stands are essential. "Non-uniform stands result in lower yields, because the smaller, late-emerging plants cannot capture enough sunlight," noted the Iowa State University article *"What's the Yield Effect of Uneven Corn Heights?"* "Unfortunately, the yield loss from the 'late' plants is not made up by the 'normal' plants."

Here are five ways to minimize these challenges and optimize your corn stand:

1. Set your planter for success. A perfect, picket-fence stand isn't just pretty; it's critical in maximizing yield potential. This means your planter has to be calibrated properly to prevent skips and doubles. "You only get one chance a year to plant, so it's vital to get your crop off to a good start," said Dennis Klockenga, a crop management consultant with ProfitProAG.

Preventing skips and doubles becomes even more of an issue if you have an older, finger-pickup planter. In years past, seed companies sized seed to work properly with finger-pickup planters. Once air-seeder planters became common, however, the need for companies to size the seed diminished. If you have a finger-pickup planter, proper calibration is essential. Work with your equipment dealer to calibrate your meters to the exact seed you'll plant. Another option is to consider upgrading to an air-seeder planter to manage skips and doubles.

Why are skips and doubles such yield robbers? Skips let the sunlight hit the ground, instead of reaching the corn plants' leaves for photosynthesis, which powers yield potential. Doubles mean one of the plants will become a sucker or tiller that robs water and nutrients from the larger plant. "During the growing season, get out of your pickup and walk your fields," Klockenga said. Take a hand trowel or pliers, and dig up some of the young plants, he added. "If there's a gap, was it a skip? Did the seed not germinate? Also, look for doubles and other things you can improve next year."

2. Follow proper planting depth. The ideal planting depth for corn is 2 to 2½ inches. If the seed is planted too shallow (less than 1 inch deep), nodal roots will be just below or on the soil surface. This may result in rootless corn, where corn is holding on by only the mesocotyl. It may also result in injury if the growing point is exposed directly to herbicides. If seed is planted too deep (3 inches or more), the seedling needs extra energy to push the coleoptile to the soil surface. Under these conditions, the coleoptile may split, causing the plant to leaf out under the soil surface. A variety of factors can aggravate this problem, including soil compaction, surface crusting and cold, wet conditions. "Get off your tractor periodically to check your planting depth," Klockenga said.

3. Avoid working the ground when conditions aren't right. Try not to work soil that's too wet, since this creates compaction. Also, avoid planting into soils that are too cold. Cold-shock syndrome can occur if the first water the seed imbibes is colder than 50 degrees. "If this happens, the cold water will shock the seed, and it may not

germinate," Klockenga said. Instead of planting into soil that's 45 degrees, wait until the soil temperature is at least 50 degrees or higher. If the 10-day forecast is trending downward, you may want to leave the planter in the shed.

4. Give seedlings a better chance at success. A strong finish begins with a strong start. ProfitProAG's **"Recipe for Success"** includes seed treatment to get seedlings off to a good start. Consider **ProfitCoat™**, a robust organic seed nutrient package and biological inoculant to help with germination, improved emergence and more even emergence. J. Olson, a Minnesota organic grower has used ProfitCoat for more than 10 years. When he compared the ProfitCoat yields versus the control acres on his farm in 2020, he reported an increase of 8 bu/A, with a high of 25 bu/A on the acres treated with ProfitCoat.

ProfitCoat
Biological Seed Coating

5. Residue management. If crop residue isn't breaking down efficiently in your fields, it could be costing you yield potential on current and future crops. That's why proper residue management is another key component of ProfitProAG's **"Recipe for Success."** Never underestimate the power of microbes to break down residue efficiently and recycle nutrients.

This "Second Harvest"

- Promotes soil health
- Improves nutrient retention
- Enhances nitrogen fixation
- Helps soils warm up faster in the spring
- Reduces disease and insect pressure
- Improves yield potential
- Boosts profit potential

Crop residue breakdown can be applied in the spring, too. If we have afternoon temperatures in the mid 40's and above, we can apply the residue breakdown program. **BioRegenerate™** from ProfitProAG is a mixture of 25 microbes, including organic crop residue digesters, organic acids and nitrogen. It's designed to break down cellulose and lignin found in tough-to-digest corn stalks.

"When you start controlling more of the controllables, you can optimize your crop stand," Ladlie said. "This leads to higher yield potential, which translates into higher profit potential."

DENNIS KLOCKENGA, CCA
Crop & Manure Management Consultant
320-333-1608 (cell)
320-352-0417 (office)
dklockenga@profitproag.com

FARM THE CONTROLLABLES
ProfitProAG
Big yields start with a "Recipe for Success"
to control your profitability