Early Planting Needs High-Quality Seed Treatments

The trend toward early soybean planting shows no signs of letting up. Despite what the groundhog may say, spring planting conditions may arrive early in many areas again this year, and some farmers will look to put soybeans in the ground even ahead of corn.

Of course, it's not just cooperative weather that makes early soybean planting possible. Better seed treatment technologies are giving farmers more confidence placing seed in less-than-ideal conditions.

For farmers willing to go for it, early planting can produce worthwhile yield benefits, but this makes it more important than ever to offer the right kind of seed protection that's up to the task.

Risks and rewards

Researchers used to think there wasn't much to be gained from early planting, but that's changed with more study in recent years. One examination of results in various regions across the Midwest, for example, saw a yield advantage of more than 6 bu/A on average with early planting.[1] Researchers have also observed yield decline for each day past the earliest planting windows.

Researchers think there are a few reasons why earlier soybean planting leads to better yield. For one, soybeans benefit from longer day lengths.[1] Early planting puts soybeans in the best position to soak in the sunshine as the days grow longer. Earlier planting also appears to extend the reproductive length of soybeans.[1] This allows more photosynthate to be produced, which directly impacts the number of seeds and pods on a plant.[1] The more time a plant has to develop nodes that can become pods, the better the yield.

Of course, early soybean planting also carries risks. Placing seed into cold, wet soils makes it more vulnerable. Cold itself is a stressor, explained Andrew Stein, Corteva Agriscience Technical Sales Manager, Seed Applied Technologies, adding, "You also get more insect susceptibility, since there is a longer feeding period, and slower growth, as it takes longer for cotyledons to emerge from the soil." Soilborne disease risks also increase with early planting, especially for water mold pathogens like Pythium and Phytophthora which cause damping off before seedlings have an opportunity to build an extensive root system. Pythium typically occurs before or right after emergence whereas Phytophthora will continue to cause stand loss well after emergence. Without proper protection, these threats can wipe out any possible yield advantage from early planting.

Disease and pest protection

To take on these kinds of early season planting challenges, seed treatments must be particularly effective and robust. Among the more advanced seed treatment options to hit the market are products from Corteva Agriscience Seed Applied Technologies. In soybeans, these include Corteva-exclusive Lumisena® fungicide seed treatment, a game-changing option against Phytophthora, which is the top yield-robbing disease in soybeans. In fields with high susceptibility to Phytophthora, Lumisena shows a 4.0 bu/A advantage.* This can come on top of the potential yield bump from early planting.

Corteva also offers Lumiderm® insecticide seed treatment, which provides an 8% improvement in reducing plant stand gaps over the current insecticide option.** Lumiderm protects against bean leaf beetles, seedcorn maggot, aphids, white grubs, thrips and wireworms and can be paired with with a neonicotinoid insecticide to broaden the protection and add another mode of action against key early-season pests.

Protection Against Seedcorn Maggot

Only fungicide seed treatment:
injured cotyledon

Lumiderm® insecticide seed treatment
0.57 fl oz/140k: well-protected cotyledons

Corteva offerings are compatible with many other seed treatments, such as ILEVO® for soybean cyst nematode control, allowing seed suppliers and treaters to customize protection packages for their customers.

Protecting your reputation

To maximize the potential from early season planting, the quality of seed treatments makes a big difference. Corteva seed treatments undergo extensive evaluation for efficacy as well as formulation, adherence to seed, plantability and other quality criteria. Even the polymers Corteva uses have to meet strict standards. This not only results in beautiful-looking seed, it ensures seed won't get gummy or plug up the planter. Details like these can be differetiators for customers looking to you for their seed treatment options.

Consider, too, how the quality of seed treatments might affect later performance and product comparisons. If your seed is planted early alongside a competitor, you want to make sure your product has been given every advantage. In early planting situations, a poor showing can end up having more to do with seed not being adequately protected than anything in its genetic or agronomic profile.

Protecting profitability

Finally, if you have customers planting Enlist E3® soybeans, early planting may be particularly advantageous. The spray flexibility with Enlist® herbicides – no plant-back restriction after burndown, application through R1 growth stage – gives farmers more planting flexibility, too. Quality seed treatments also help protect the substantial investment your customers have made in their traited seed and maximize their returns.

More and more growers are interested in trying their hand at early season soybean planting. With the right support from your team, including high-quality seed treatments, you can give your customers the confidence they need to back up their planting dates and reap the rewards.

[1] Van Roekel, Ryan. "The Importance of Early Planting for Soybeans in the Midwest." Pioneer Seeds. May 7, 2019. https://www.pioneer.com/us/agronomy/early-soybean-planting.html.

* Data is based on 638 head-to-head comparisons between Lumisena fungicide seed treatment (0.568 fl oz/cwt) and metataxyl (0.75 fl oz/cwt) in the top 10 soybean-producing states through Dec. 12, 2017, and subsequent replicated trials in 2018, 2019 and 2020. Comparisons were made utilizing the same soybean variety. DO NOT USE THIS OR ANY OTHER DATA FROM A LIMITED NUMBER OF TRIALS AS A SIGNIFICANT FACTOR IN PRODUCT SELECTION.

** Significant yield improvement and reduction in plant stand gaps based on Corteva Agriscience research data 2018-2019, 73 locations.