

Time to Change Your Mindset about Soybean Planting

August 4, 2015 03:00 PM



Early planting can boost soybean yields.

© Alison Rice

Want to boost your soybean yield in 2016? You might want to start by planting your soybeans earlier next spring.

“We need to change our mindset that soybeans have to follow corn in planting order,” said Farm Journal Field Agronomist Missy Bauer, who spoke at Farm Journal's Soybean College in Coldwater, Mich. on Tuesday.

It's a difficult shift for many farmers to make, who may feel daunted by the labor logistics or equipment required to plant soybeans earlier than customary.

But Bauer says the yield potential is there.

PROHARVEST SEEDS AGRONOMIC INSIGHTS

It all starts with understanding the relationship of sunlight interception, transpiration, germination and emergence, soil temperature, planting depth, seed quality and seed treatment. These all play key factors in the yield success of transitioning to earlier soybean planting dates.

“Early planting allows earlier canopy closure, which increases total sunlight interception and allows plants to transpire more available water,” Bauer said. “In order to boost yields, we have to increase soybean nodes and pods per plant.”

To do this, growers need to understand canopy closure in the soybean fields. Early planting allows earlier canopy closure, which increases total sunlight interception. Bauer suggests having canopy closure within a week or so after the summer solstice in June.

She also reminded growers to remember the linear relationship between the amount of total water transpired and the final crop yield. Early planting dates can improve yields by reducing evaporation loss in a variety of ways:

- Cooler soil temperature before canopy closure.
- Reduced solar radiation by the soil surface.
- Higher humidity in-canopy once rows are closed.

Not only is sunlight interception and transpiration part of the equation, so is soil temperature. Bauer recommended a soil temperature of 55 degrees, including the average daily temps taken at a depth of 2 inches.

“In the time from when you plant, through emergence and V1, this period is very soil temperature-dependent. However, after V1 the growth of the beans are less dependent on soil temperatures,” Bauer said. “It then reverts back to genetics and the growing environment.”

She also said that the important node development between V1 and R5 is not affected by the calendar date of planting. “The quicker you get to V1, the more opportunity you have which results in more potential nodes per plant,” Bauer said.

Bauer also mentioned several other factors to consider for farmers who want to plant beans early:

- Planting depth, which should be between 1.25” to 1.5” deep.
- Seed quality and its performance in warm, cold and saturated cold germination.
- Planting pass, which should achieve uniform emergence and consistent planting depth.
- Seed treatment, which is often justified in early planting, as are situations involving high residue cover, wet soils lower seed quality.