Research Tweaks Planting Rules of the Road to Drive Yields

SOYBEAN RESEARCH & INFORMATION NETWORK

1 START THE IGNITION EARLY

Much research has been devoted to planting date. The trend is to plant earlier, and research shows this can contribute to higher yields when planting into good soil conditions.

Road to Success: Studies find treating seed with fungicides may be beneficial when planting early in cold, wet soils, especially in today's reduced and no-till fields. Newer fungicide seed treatments can help control seedling diseases that often accompany such spring conditions.

2 MONITOR TRAVEL CONDITIONS

Improved planter technology and seed quality have placed overseeding by 20-30% in the rearview mirror. That means farmers can count on more accurate plant populations only slightly lower than seeding rate. And that shaves input costs without sacrificing yield. While general, conventional wisdom is to plant 140,000 to 225,000 seeds per acre, studies have often shown that additional yield above 100,000 may be minimal, depending on row spacing and planting date.

Road to Success: Variable rate seeding now permits farmers to tailor soybean plant populations according to conditions within established management zones in each field.

YIELD

3 YIELD TO LOWER LIMITS

Moist soils mean go time for soybean planting. That's because the seed needs to absorb 50 percent of its weight in water for germination. Good seed-to-soil contact at planting depths of 1"-1.5" inches is linked to higher yield potential. Shallower depths are best for early planting, high-residue and fine-textured soils. Plant deeper when late and in sandy, coarse-textured or dry soils.

Road to Success: Checkoff-funded work is evaluating the development and availability of new planter technologies over the last decade to understand how to properly use and setup planters equipped with downforce, for example, in various tillage systems and soil conditions.

4 CHANGE LANES FOR BETTER PERFORMANCE

LANE SHIFT AHEAD

Studies confirm switching from wide to narrow rows can boost yields 3-7 bushels per acre, depending on management practices. Using 20" versus 30" rows keeps sunlight out of the canopy where weeds develop and preserves soil moisture, especially in double-crop soybeans.

Road to Success: Newer soybean drill technology because the seed drop mechanism is controlled from the tractor cab for greater accuracy.

5 KEEP YOUR EYES ON THE ROAD

ON THE ROAD

Getting the most mileage at planting includes knowing whether a seed treatment is right for your situation. Seed treatments should be chosen based on controlling diseases, insects and nematodes prevalent in the area and for early pests scouted where economic thresholds have been met.

Road to Success: Checkoff-funded field trials show widespread prophylactic use of neonicotinoid insecticide seed treatments, for example, may not be a wise expenditure because their use does not usually overlap with economically significant insect populations.

Funded by the soybean checkoff

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The Soybean Research and Information Network (SRIN) is a joint effort of the North Central Soybean Research Program and United Soybean Board. The online resource contains checkoff-funded soybean production challenge research findings with direct links to the respective underlying scientific studies housed in the National Soybean Checkoff Research Database.