

U Of I Research Compares Soybean Replanting Options

URBANA, ILL.

Due to heavy rainfall in parts of western, northwestern and southern Illinois, some farmers are considering the decision to replant thin soybean stands.

Vince Davis, University of Illinois Extension soybean specialist, suggests farmers with partial stands of soybeans that are still in early growth stages have three options to consider. They can leave soybean stands alone, repair plant (no-till plant additional seeds into existing stands), or terminate the existing stand and replant an entire new stand of soybeans.

In order to determine which option is best, U of I conducted experiments for three years by Lyle Paul in DeKalb, and for three years by Mike Vose in Perry. This data was recently published in the 2010 Illinois Agronomy Handbook.

In the experiment, a no-till drill or 30-inch row planter was used to make initial soybean stands either low or high in density. The low stands were repair planted with the two different planting methods or tilled up and replanted with a narrow-row drill.

Averaged over six site years, the worst case scenario of low initial stands in 30-inch rows yielded 45 bushels per acre from 37,000 final plants per acre when no repair planting was performed.

An additional 8 bushels per acre was achieved

when low stands in 30-inch rows were repair planted with a no-till drill or 30-inch planter. In contrast, 54 bushels per acre was achieved when the initial stand was tilled up and an entirely new population was established with a narrow-row drill.

The highest yield the experiment achieved was 58 bushels per acre in the drilled, high initial population treatment.

“Ultimately, if you have a soybean stand that’s less than 50,000 plants per acre, you will likely see a decrease in expected yield,” Davis said. “The extent of the yield decrease will depend on how far the population is below 50,000 and the uniformity of the plants distributed.”

Davis encourages farmers who chose to leave soybean stands alone to pay attention to the necessity to control weeds with early post-emergence herbicide applications to prevent more yield from being lost to weed competition.

If farmers repair plant, he said to calculate enough extra seeds to replace initial plants that will be injured or killed during the second planting operation.

“If you choose to terminate the initial stand and start over, keep in mind you will likely have a yield penalty for planting later,” Davis said. “And perhaps, more importantly, there is no guarantee you’ll be able to establish a better stand from the second planting.” Δ