Agronomist Researches Grain Sorghum Row Spacing

Influence Of Row Configuration And Irrigation On Grain Sorghum Yield

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Dr. Rick Mascagni, feed grain and small grain agronomist at Louisiana State University's Agriculture Center's Northeast Research Station, is in his second year of conducting a study on Sharkey silt clay as well as evaluating the influence of row configuration and seeding rate on grain sorghum yield.

"Row spacing at the station is typically 40 inches on a raised bed," said Mascagni, "of course there is a lot of interest in row spacing, especially concerning twin rows." According to Mascagni, single and twin rows are usually on 40-inch wide, raised beds. The twin rows are approximately 9.5-inches apart and centered on the 40-inch beds. The researchers are also pulling together two 40-inch beds to make an 80-inch wide, raised bed.

"We plant four 16-inch rows on the wide bed. In both the wide bed and twin-row planting systems, the number of rows within a given area are equivalent to two rows to every 40-inches. The only difference is the spacing between rows," said Mascagni, "our treatments also include seeding rate and irrigation."

"Last year," said Mascagni, "we had highest yields on the twin rows. The 16-inch and single row yields were about the same. The twin row yield was about eight percent higher than the equivalent seeding rate yield on the single row and between eight and nine percent higher than the narrow rows on the wide bed."

According to Mascagni, the optimum seeding rates were between 78,600 and 104,800 seed/acre (i.e., 6 and 8 seed/ft for single row and 3 and 4 seed/ft for both twin row and 16-inch narrow-row spacing), regardless of row configuration.

In the irrigated trial, moisture movement across the bed was monitored. "This is an interesting point," said Mascagni, " it doesn't appear that moisture is moving across to the center of the wide beds on this silt clay soil. This may have a detrimental effect for grain sorghum yield produced on wide beds, particularly in dry years." Δ

In his second year of conducting a study on Sharkey silt clay, row configuration and seeding rates is Dr. Rick Mascagni, Feed Grain and Small Grain Agronomist at Louisiana State University's Agriculture Center's Northeast Research Station.

Photo by John LaRose