



## Texas Agricultural Extension Service

The Texas A&M University System

### Adjust Grain Sorghum Seeding Rates to Available Soil Moisture

Calvin Trostle, Extension Agronomy, Lubbock (806) 746-6101, [c-trostle@tamu.edu](mailto:c-trostle@tamu.edu)

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LUBBOCK – Recent rains across the South Plains have farmers scrambling to finish planting their dryland cotton and begin planting dryland grain sorghum. Although the rains boosted soil moisture to some degree, producers should remember to key their grain sorghum planting rates to available soil moisture, said a Texas A&M University agronomist.

“Most areas on the South Plains are still well short of having a full profile of soil moisture,” said Calvin Trostle, Texas Agricultural Extension Service agronomist. “Farmers should use available soil moisture as a guide for selecting a grain sorghum seeding rate.”

Many producers often plant too much grain sorghum seed per acre. If droughty conditions follow, there may be inadequate moisture available per plant during flowering and grain-fill to produce grain. For this reason, producers should pay close attention to seed size by variety when calculating seeding rates, the agronomist said.

“It’s crucial to know your variety’s seed per pound rating – with most varieties this is typically about 13,000 to 16,000 seeds per pound. It’s also important to calibrate your planter according to seed size,” he said. “Remember that most varieties seeded at a modest plant population per acre can flex their yield potential upward under favorable growing conditions. So, **seeding a modest plant population is agronomically and economically less risky than seeding a higher plant population under droughty conditions.**”

When soil moisture is adequate, most South Plains producers can set their planters to drop 30,000 to 35,000 seeds per acre to achieve a modest plant population. If soil moisture is low, however, Trostle recommends a seeding rate of 25,000 to 30,000 seeds per acre. If soil moisture is poor, and as the planting date approaches July 1, producers should adjust their seeding rate downward to about 20,000 seeds per acre, he said.

Producers with irrigation should use higher target seeding rates.

“Farmers with limited irrigation – say, six to 10 inches of water – and low soil moisture should use a target seeding rate of 40,000 to 45,000 seeds per acre,” Trostle said. “You can boost that to 50,000 to 55,000 seeds per acre if soil moisture is good.”

“Farmers with full irrigation, planting around June 1, can use a target rate as high as 80,000 seeds per acre. By July, however, they should consider a target rate of 100,000 to 110,000 seeds per acre for

non-tillering varieties, and a target rate of 80,000 to 90,000 seeds per acre for tillering varieties.”

These seed per acre guidelines translate into low-pounds-per-acre seeding rates – 30,000 seeds per acre is essentially two pounds per acre, and no more, for a typical size sorghum seed, Trostle added.

How can farmers factor recent rainfall into their soil moisture and grain sorghum seeding rate decisions?

“Here’s a conservative and easy to remember rule of thumb. A sandy to sandy loam soil can store about one inch of available soil water; a silty loam to clay loam soil can store about one and one-half inches; and a clayey soil can store about two inches,” the agronomist said. “Sandy soils with finer-textured subsoil can store more water – while shallow caliche layers will limit a soil’s moisture storage capacity.

“Our recent rainfall probably won’t contribute any significant soil moisture below a depth of 18 to 24 inches. **But for sorghum producers every inch of stored soil moisture is worth about 375 lbs. of grain so we’ll take what we can get.**”