Soybean Planting Technology

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North Dakota soybean acreage has risen dramatically in recent years. As acreage expands westward across the state, appropriate agronomic recommendations are needed for these typically drier regions. Over the past three seasons, an experiment was conducted to study the performance of two varieties (Traill - maturity group 0.0 and Daksoy – maturity group 00.5) when sown at normal (approximately 20 May) and late (early June) planting dates, at three seeding rates (100,000, 150,000, and 200,000 pure live seeds/acre), and in three row spacings (7, 21, and 30 inch).

The early planting date provided a 6% (2.2 bushel/acre) seed yield advantage across varieties. However, if planting is delayed into June, the short-season variety, Daksoy, maintained yield while Traill yield decreased compared to the earlier planting date.

In years with above-average August rainfall (1999 and 2000), yield increased as seeding rate increased and as row spacing decreased. Under conditions of slightly below-average precipitation during podfill (2001), yield was unaffected by seeding rate or row spacing.

Averaged across years, canopy closure was 24 days earlier with 7-inch versus 30-inch row spacing. This conserves soil moisture, provides earlier competition with weeds, and reduces the time the soil is susceptible to wind and water erosion.

Height to the lowest pod can be a concern when combining over rocky or uneven ground. Traill consistently produced pods farther off the ground than those of Daksoy, indicating varietal differences exist for this characteristic. Also, increasing the seeding rate and reducing the row spacing resulted in slightly higher pod height.

An unusually high degree of lodging was observed in 2001 soybean trials. Lower seeding rates, narrower rows, and late planting reduced lodging.