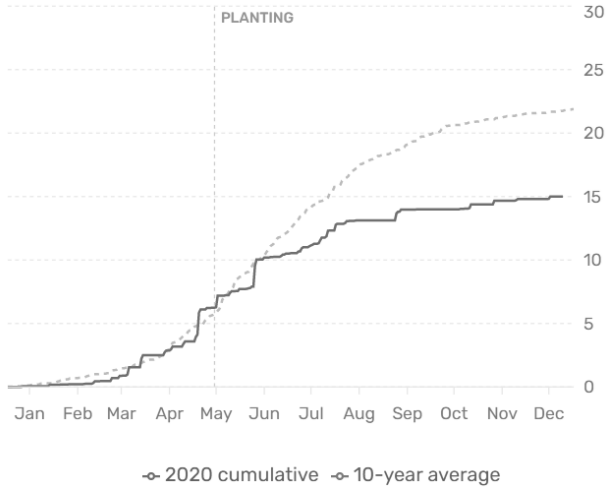
Irrigated Soybean Population Study

Study ID: 0153101202001
County: Keith
Soil Type: Kuma loam
Planting Date: 5/14/20
Harvest Date: 10/6/20
Row Spacing (in): 30
Hybrid: Asgrow® AG27X8
Reps: 4
Previous Crop: Corn
Tillage: No-Till
Herbicides: ***Pre:*** Roundup®, Authority® MTZ ***Post:*** Tavium®
Seed Treatment: Inoculant and Fungicide
Foliar Insecticides: None
Foliar Fungicides: None
Fertilizer: None

Irrigation: Pivot, Total: 21.5”
Rainfall (in):



Introduction: Previous on-farm research has demonstrated that soybean planting rates of 80,000 to 120,000 seeds/ac resulted in the highest profitability. The purpose of this study was to evaluate four seeding rates to determine the seeding rate that maximized yield and profit. The target seeding rates were 90,000, 130,000, 160,000, and 190,000 seeds/ac. Stand counts were taken in the 90,000, 130,000, and 160,000 seeds/ac treatments by counting the stems after harvest. Yield, moisture, and net return were evaluated for all seeding rates.

Results:

	Stand Count (plants/ac)	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
90,000 seeds/ac	100,250 A*	6.6 A	54 A	468.06 A
130,000 seeds/ac	96,500 A	6.6 A	55 A	461.30 A
160,000 seeds/ac	108,500 A	6.5 A	55 A	454.57 A
190,000 seeds/ac	N/A	6.7 A	54 A	426.19 B
P-Value	0.285	0.134	0.306	0.009

*Values with the same letter are not significantly different at a 90% confidence level.
†Yield values are from cleaned yield monitor data. Bushels per acre corrected to 13% moisture.
‡Marginal net return based on $9.50/bu soybean and $61.80/unit of 140,000 seeds.

Summary:

- Stand counts were only taken in the 90,000, 130,000, and 160,000 seeds/ac treatments. There was no difference in plant stand between the seeding rates evaluated. Stand counts were not close to the target seeding rates and were not consistently higher or lower than the target. The as-planted file was examined and actual seeding rates were within 10% of the target seeding rates.
- Yield and grain moisture were not different between the four seeding rates evaluated.
- Marginal net return was lower for the 190,000 seeds/ac treatment.

Sponsored by: University of Nebraska Lincoln
In Partnership with: Nebraska Corn Board; Nebraska Soybean Checkoff; Nebraska Corn Growers Association; Nebraska Dry Bean Commission