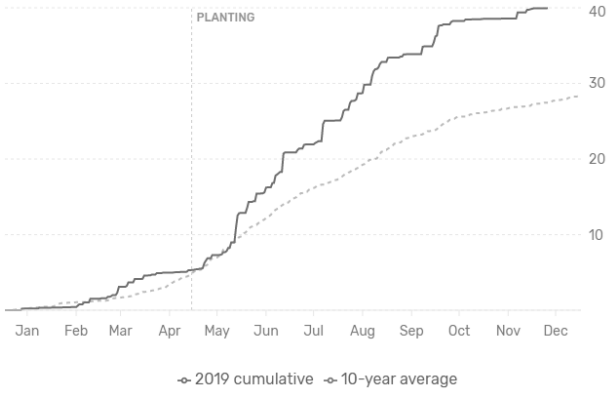
Irrigated Soybean Population Study

Study ID: 0811185201902
County: York
Soil Type: Hastings silt loam, 1-3% slope; Hord silt loam, 1-3% slope; Hastings silt loam, 0-1% slope
Planting Date: 4/29/19
Harvest Date: 10/18/19
Row Spacing (in): 30
Variety: Pioneer® P33A53X
Reps: 4
Previous Crop: Corn
Tillage: No-Till
Herbicides: ***Pre:*** 1 pt/ac 2-4D LV EST, 4 oz/ac Authority® First, 2 pts/ac Boundary®, 24 oz/ac Durango® ***Post:*** 32 oz/ac Durango®,1 pt/ac Ultra Blazer®, 8 oz/ac clethodim, 2 oz/ac Anthem® MAXX
Seed Treatment: Gaucho® and Lumivia™
Foliar Insecticides: None
Foliar Fungicides: None
Fertilizer: None
Irrigation: Pivot, Total: 2"
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 three seeding rates to determine the seeding rate that maximized yield and profit. The target seeding rates were 90,000, 120,000, and 150,000 seeds/ac. Stand counts and Dectes stem borer counts were taken on October 8.

Results:

Treatment (seeds/ac)	Stand Count (plants/ac)	% of Planted Seeds Present at Harvest	Dectes Stem Borer Infestation %	Moisture (%)	Test Weight (lb/bu)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
90,000	82,750 C*	92 A	5 A	10.5 A	57 A	72 A	553.62 A
120,000	109,750 B	92 A	6 A	10.5 A	57 AB	74 A	555.24 A
150,000	130,500 A	87 A	9 A	10.7 A	57 B	74 A	556.43 A
P-Value	<0.0001	0.206	0.168	0.207	0.062	0.269	0.970

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre adjusted to 13% moisture.
‡Marginal net return based on $8.10/bu soybean and $49.45/unit ($31.79/ac for 90,000 seeds/ac; $42.39/ac for 120,000 seeds/ac; $52.98/ac for 150,000 seeds/ac)

Summary:

- Final plant stands at harvest ranged from 87% to 92% of the seeding rate.
- There was no difference in grain moisture, Dectes stem borer counts, yield, or net return between the seeding rates evaluated.

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