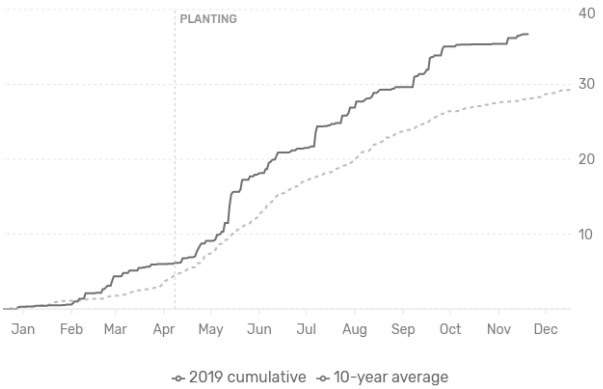
Group 2.1 versus Group 3.1 Soybean Maturity

Study ID: 0802159201901
County: Seward
Soil Type: Hastings silt loam 0-1% slope; Hastings silt loam 1-3% slope; Hastings silt loam 11-17% slopes
Planting Date: 4/22/19
Harvest Date: 9/18/19 and 9/27/19
Seeding Rate: 146,087
Row Spacing (in): 30
Reps: 3
Previous Crop: Corn
Tillage: No-Till
Herbicides: ***Pre:*** 8 oz/ac 2-4D LV6, 24 oz/ac Roundup PowerMAX®, 17 lb/100 gal AMS, 6oz/ac Zidua® PRO on 4/16/2019 ***Post:*** 40 oz/ac Roundup PowerMAX®, 6 oz/ac Select Max®, and 17 lb/100 gal AMS

Seed Treatment: Lumisena™, EverGol® Energy, Gaucho®, Pioneer Premium Seed Treatment (PPST) 2030, PPST 120+, LumiGEN™
Fertilizer: None
Irrigation: None
Rainfall (in):



Introduction: With early planting of soybean (in April or as close to May 1 as possible), a longer-season variety may help take advantage of the longer growing season. However, some growers are also obtaining high yields with mid-group 2 varieties. The goal of this study was to determine if growers need to plant a longer-season maturity soybean to achieve optimum yields when planting early. A group 2 (Pioneer® P21A28X) and group 3 (Pioneer® P31A22X) soybean were evaluated. The soybeans were planted on April 22. Pioneer® P21A28X was harvested on September 18 and Pioneer® P31A22X was harvested on September 27.

Figure 1. Aerial imagery from September 13 displayed as true color (RGB). The shorter season variety appears browner showing earlier senescence.

Results:

	Stand Count (plants/ac)	Pods/ plant	Nodes/ plant	Moisture (%)	Test Weight (lb/bu)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Group 2.1 (Pioneer P21A28X)	108,333 B*	43 B	18 A	9.3 B	57 A	70 A	509.05 A
Group 3.1 (Pioneer P31A22X)	119,333 A	58 A	19 A	13.5 A	56 A	67 B	468.20 B
P-Value	0.028	0.020	0.244	0.001	0.109	0.004	0.002

*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, $61.28/ac for Pioneer® P21A28X, and $76.07/ac for Pioneer® P31A22X.

Summary:

- Nodes per plant and test weight were the same between the group 2 and group 3 soybean varieties tested.
- The group 3 soybeans had a higher stand count, higher grain moisture at harvest, and more pods per plant than the group 2 soybeans.
- The group 2 soybeans yielded 3.2 bu/ac greater than the group 3 soybeans and resulted in a $40.85 increase in profit compared to the group 3 soybeans.

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