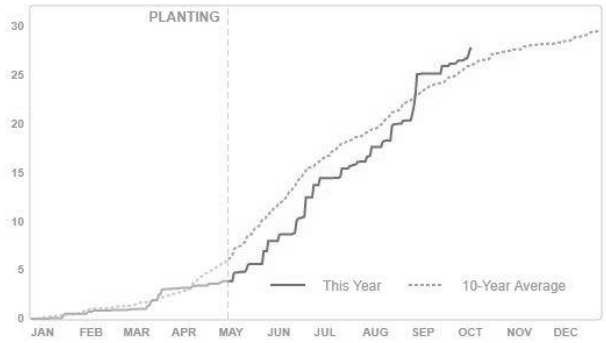
Group 2.5 versus Group 3.1 Soybean Maturity with Early Planting

Study ID: 0802159201801
County: Seward
Soil Type: Hall silt loam 0-1% slope; Muir silt loam 1-3% slope; Hastings silty clay loam 7-11% slopes, eroded
Planting Date: 5/7/18
Harvest Date: 9/18/18 (early maturity group) & 9/24/18 (late maturity group)
Population: 146,087
Row Spacing (in): 30
Reps: 3
Previous Crop: Corn
Tillage: No-Till
Herbicides: ***Pre:*** 17 lb/100 gal AMS, 28 oz/ac Roundup PowerMax®, and 6 oz/ac Zidua® Pro on 5/1/18 ***Post:*** 17 lb/100 gal AMS, 6 oz/ac Select Max, and 32 oz/ac Roundup PowerMax® on 6/15/18

Seed Treatment: PPST fungicide seed treatment (high rate), insecticide seed treatment, PPST 2030, 120+ inoculant for the group 3 variety (Pioneer® 31A22X); no seed treatment on the group 2 variety (Pioneer® 25A12X)
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® 25A12X) and group 3 (Pioneer® 31A22X) soybean were evaluated. The group 2 soybean (Pioneer® 25A12X) did not receive seed treatment. The soybeans were planted on May 7, 2018. The group 2 soybeans were harvested on September 18 and the group 3 soybeans were harvested on September 24. Harvest loss difference due to different harvest dates was not examined.

Results:

	Harvest Stand Count (plants/ac)	Pods/plant	Nodes/plant	Moisture (%)	Test Weight (lb/bu)	Yield (bu/acre)†	Marginal Net Return‡ ($/ac)
Group 2.5 (Pioneer 25A12X)	113,667 A*	49 A	19 B	11.1 B	56 A	62 B	401.07 B
Group 3.1 (Pioneer 31A22X)	92,333 B	56 A	21 A	12.6 A	56 A	65 A	409.96 A
P-Value	0.055	0.461	0.019	0.061	0.703	0.009	0.052

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 13% moisture.
‡Marginal net return based on $7.40/bu soybean, $52.22/unit seed cost for Pioneer 25A12X, and $64.72/unit seed and seed treatment cost for Pioneer 31A22X.

Summary:

- The group 2 soybeans had a higher stand count than the group 3 soybeans. Node counts revealed that the group 3 soybeans had more nodes per plant than the group 2 soybeans, indicating greater branching where stand counts were lower. However, there was no difference in pods per plant between the soybeans tested.
- The group 3 soybeans had a 3 bu/ac higher yield than the group 2 soybeans.
- Because the group 2 soybeans did not receive a seed treatment and the group 3 soybeans did, it is not possible to conclude that the yield difference is due to variety and maturity group alone.
- The group 3 soybeans and seed treatment were more expensive; however, due to their higher yield, they resulted in a greater marginal net return.

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