

Group 2.4 versus Group 2.7 versus Group 3.1 versus Group 3.3 Soybean Maturity

Study ID: 0802159201902

County: Seward

Soil Type: Hastings silt loam 0-1% slope

Planting Date: 5/2/2019

Harvest Date: 9/20/19 and 10/14/19

Seeding Rate: 139,830

Row Spacing (in): 30

Reps: 4

Previous Crop: Corn

Tillage: Ridge-Till

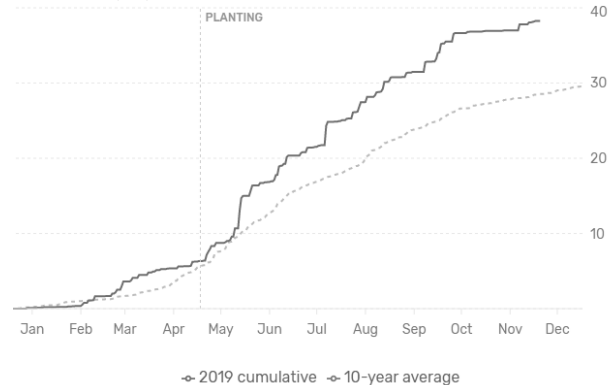
Herbicides: Pre: 24 oz/ac Roundup PowerMAX® and 6 oz/ac Zidua® PRO with 17 lb/100 gal AMS on 4/26/19 **Post:** 24 oz/ac Roundup PowerMAX®, 8 oz/ac Flexstar®, and 6 oz/ac Select Max®, with 17 lb/100 gal AMS

Seed Treatment: LumiGEN®, Lumisena™, EverGol® Energy, Gaucho®, Pioneer Premium Seed

Treatment (PPST) 2030, PPST 120+

Irrigation: Gravity, Total: 4.20"

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. Four soybean varieties with different maturities were evaluated: group 2.4 (Pioneer® P24A99X), group 2.7 (Pioneer® P27A17X), group 3.1 (Pioneer® P31A22X), and group 3.3 (Pioneer® P33A53X). The soybeans were planted on May 2. The group 2 varieties had stand counts, pod counts, and node counts taken on September 13, and were harvested on September 20. The group 3 varieties had stand counts, pod counts, and node counts taken on September 26 and were harvested on October 14.

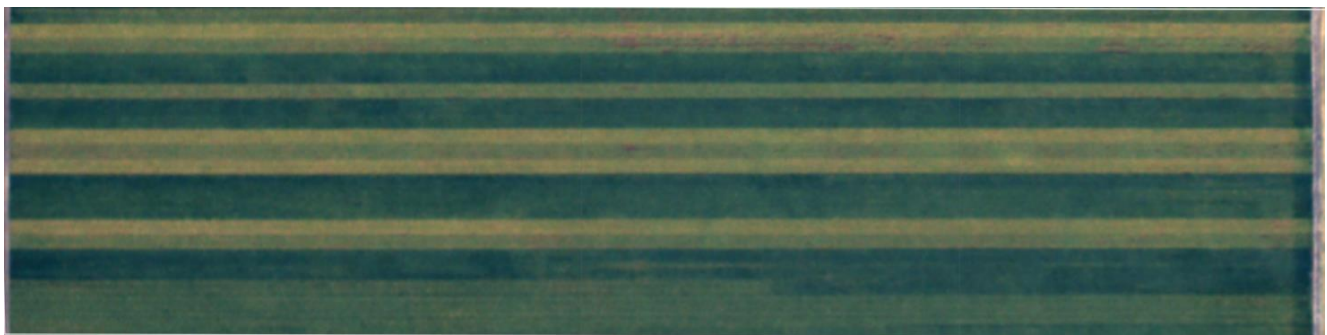


Figure 1. Aerial imagery from September 10 displayed as true color (RGB). The varying senescence of the different maturity soybeans evaluated is apparent.

Results:

| | Stand Count (plants/ac) | Pods/ plant | Nodes/ plant | Test Weight (lb/bu) | Moisture (%) | Yield (bu/ac) [†] | Marginal Net Return [‡] (\$/ac) |
|------------------------------|----------------------------|----------------|-----------------|------------------------|-----------------|-------------------------------|---|
| Group 2.4 (Pioneer® P24A99X) | 105,375 B* | 41 A | 17 B | 54 B | 14.3 A | 71 AB | 533.47 AB |
| Group 2.7 (Pioneer® P27A17X) | 109,875 AB | 55 A | 21 A | 54 B | 13.1 AB | 73 A | 541.85 A |
| Group 3.1 (Pioneer® P31A22X) | 116,875 A | 52 A | 20 A | 56 A | 12.4 B | 70 BC | 513.05 BC |
| Group 3.3 (Pioneer® P33A53X) | 114,125 AB | 47 A | 19 A | 56 A | 12.1 B | 67 C | 493.21 C |
| P-Value | 0.039 | 0.188 | 0.005 | 0.0001 | 0.01 | 0.002 | 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, \$45.18/ac for Pioneer® P24A99X, \$48.54/ac of Pioneer® P27A17X, \$50.57/ac for Pioneer® P31A22X, and \$49.22/ac for Pioneer® P33A53X.

Summary:

- There was some variation in stand counts between the four varieties tested; however, all stands were in the range that previous on-farm research has shown to not result in yield differences.
- Pods per plant were not different between the four varieties tested.
- The group 2.7, 3.1, and 3.3 soybeans had more nodes per plant than the group 2.4 soybeans.
- The group 3 soybeans had higher test weights than the group 2 soybeans.
- The group 2 soybeans resulted in the highest yield, with yields significantly greater than the group 3.3 soybean.

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