

Introduction

Rising input costs combined with low commodity prices have increasingly challenged corn producers in North Carolina, reducing profit margins and making cost management a critical component of production. While many inputs can be adjusted to reduce expenses, seed costs are typically considered non-negotiable due to concerns about yield loss. This research evaluates whether alternative planting configurations can reduce seeding rates and input costs while maintaining corn yield potential.

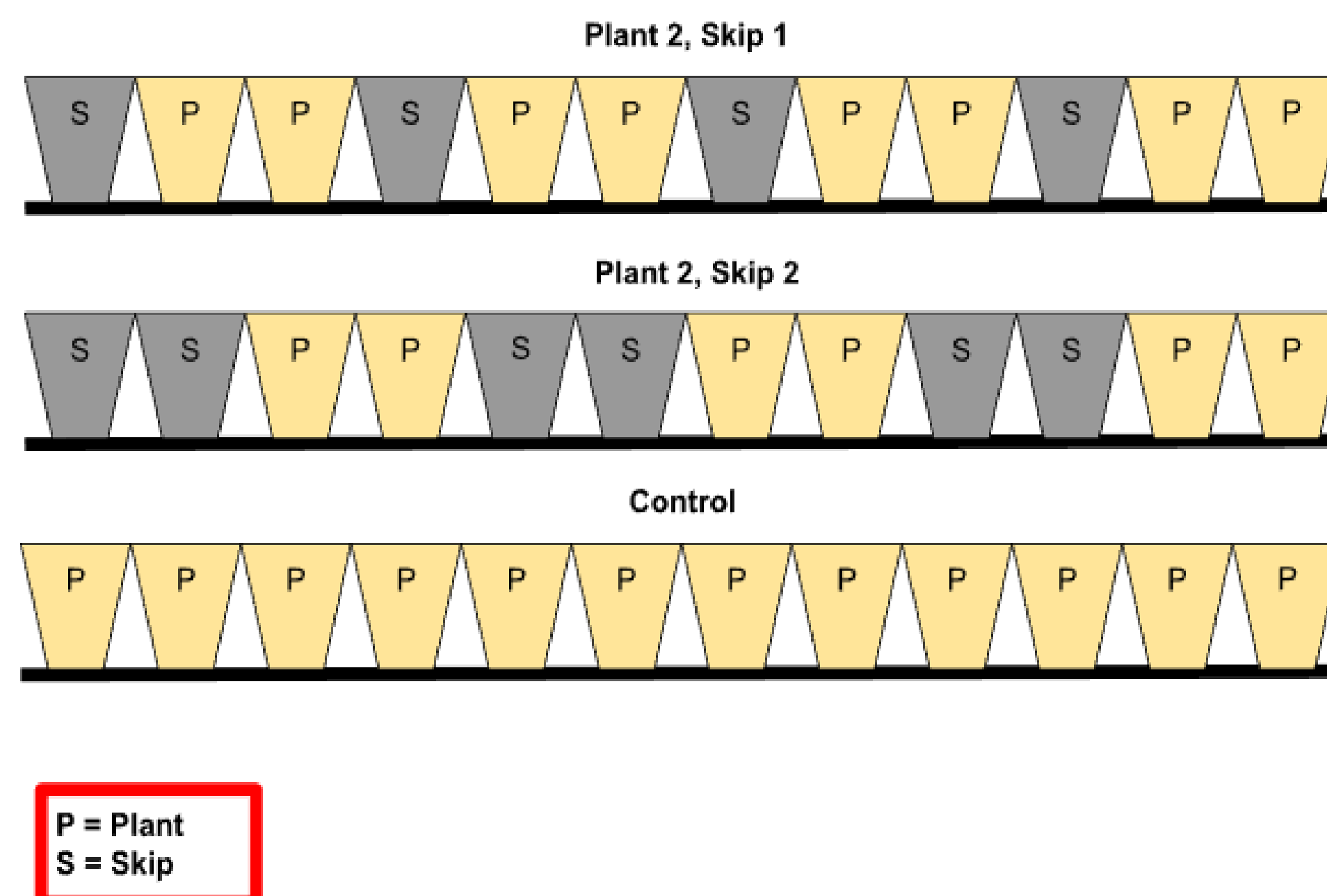
Objective

To evaluate whether different skip-row planting configurations combined with adjusted seeding rates could produce yields comparable to conventional planting—especially on marginal to below-marginal land.

Materials and Methods

A replicated strip trial was conducted using a 12 row, KINZE 2300 no-till planter with 30-inch row spacing. The experimental design consisted of one control and two planting treatments, with each treatment replicated four times in the field. All treatments used a hybrid corn variety with 118-day relative maturity. The control treatment was implemented by operating the planter with all 12 row units engaged and all seed hoppers filled, representing the standard planting configuration at about 26,000 seeds per acre. The first treatment was implemented by disengaging every two row units, thereby reducing the effective planting population to approximately 20,500 seeds per acre. The second treatment followed a skip-row configuration in which two consecutive row units were engaged followed by one disengaged row unit, and this pattern was repeated across the planter width, reducing the effective planting population to approximately 20,500 seeds per acre. This experimental arrangement enabled evaluation of standard full-population planting relative to two modified row configurations under replicated field conditions.

Planter Configurations



Control

- ~26,000 Seeds/Acre
- \$104



Plant 2, Skip 2

- ~20,500 Seeds/Acre
- \$83



Plant 2, Skip 1

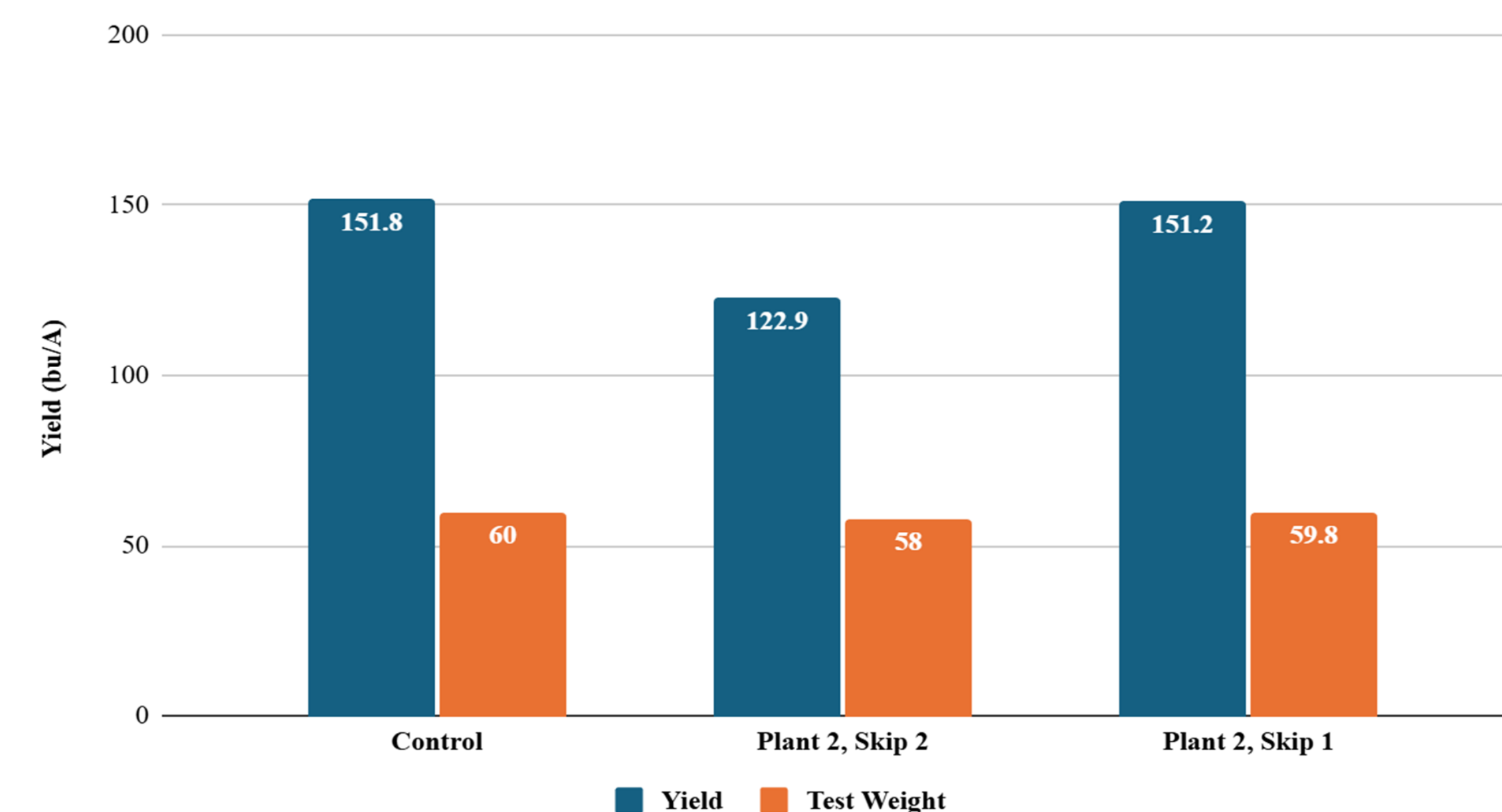
- ~20,500 Seeds/Acre
- \$83



Results and Conclusion

Preliminary results indicate that the plant 2, skip 2 treatment with the adjusted seeding rate resulted in reduced yields compared to the conventional planting configuration. However, no statistically significant difference in yield was observed between the conventional planting system and the plant 2, skip 1 treatment with the adjusted seeding rate. These findings suggest that the plant 2, skip 1 configuration could maintain yield performance while reducing seeding rates. Based on a seed cost of approximately \$320 per bag, this reduction in seed usage corresponds to an estimated cost savings of approximately \$21 per acre.

Skip Row Test (Corn)



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