

Narrow Row Corn Evaluation

Steve Ruhl, Agriculture and Natural Resources Extension Agent
Ed Lentz, Extension Agronomy Specialist

Objective

Narrow-row corn may increase yields due to spreading the plants out to take better advantage of sunlight, moisture, and soil fertility. The objective of this study was to examine yield differences between 15- and 30-inch rows.

Background

Cooperator:	Tom Weiler	Fertilizer:	180 lbs/A NH ₃ pre-plant
County:	Morrow		0-0-60 (200 lbs/A)
Nearest Town:	Chesterville		10-34-0 (12 gal/A)
Previous Crop:	Soybeans	Herbicide:	PRE: Bicep II (3 qt/A)
Drainage:	Systematic		POST1: Accent (2/3 oz/A)
Tillage:	Fall chisel, field cultivate		MSO (1 gal/100 gal)
Soil Test:	pH 7.0, P 23 ppm, K 154 ppm		POST2: Banvel (4 oz/A), Spirit (1 oz/A) Crop Oil (1 qt/A), 28% N (1/2 gal/A)
Variety:	Pioneer 33G26	Planting Date:	May 6, 1998
		Harvest Date:	October 15, 1998

Methods

The corn was planted with a six-row Kinze planter equipped for 15-inch rows. Treatments were replicated four times in a complete block design. Strip plots were planted in alternating 12-row plots containing 15- and 30-inch rows; therefore, treatments were not randomized within blocks. Individual strip plots were 30 feet wide and 453 feet long.

Results

Row Width	Planted Population (seeds/A)	Harvest Population (plants/A)	Harvest Moisture (%)	Yield (bu/A)
15-inch	36,200	30,500 a	20.7 a	154.3 a
30-inch	36,000	29,750 a	20.7 a	165.5 b

Treatment means followed by the same letter are not significantly different from each other at $P = 0.05$. LSD for yield equals 7.4 bu/acre. CV = 2.1%

Summary and Notes

Pioneer 33G26 yielded significantly less in 15-inch row widths than in conventional width spacing. The field used for this study has an organic matter of approximately 12 percent. The weed pressure is severe especially for giant foxtail and giant ragweed. We sprayed three times and both post treatments (applied late) injured the corn. The brace roots were injured with the Banvel/Spirit combination. Accent injury was evident in the corn ears. If we conduct a similar plot next year, we will plant around 32,000 seeds in the 30-inch rows and 42,000 to 45,000 in the 15-inch rows. We will also try to be more timely with herbicide applications.

For additional information, contact:

Steve Ruhl
The Ohio State University Extension
ruhl.1@osu.edu