



Corn Hybrid, Seeding Rate, and Row Spacing Trial

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Objective

Determine the effects of corn seeding rate and row spacing on corn yields to define best management practices.

Introduction

Timely soybean planting and choosing soybean varieties of the appropriate relative maturity is important to optimize soybean yields. As soybean genetics improve, farmers are attempting to plant soybean at earlier timing and using different maturity groups for their areas. Soybean management systems that include a foliar fungicide can improve soybean yields if foliar diseases are present. The objective of these trials was to investigate the effect of planting date, soybean variety maturity, and fungicide use on soybean yield.

Materials and Methods

Crop Year—2021

Soil Type: Galva	Galva, Primghar
Previous Crop	Soybean
Hybrid	DKC51-18RIB, DKC49-44RIB, W4246RIB, W5086RIB, P0075Q, P1093Q
Planting Date	April 27
Row Spacing	20 in. and 30 in
Seeding Rate	30,000; 35,000; and 40,000 seeds/acre
Tillage	Soil Finisher: April 26
Fertilizer	24-60-80 VRT application: November 13, 2020
Nitrogen	NH ₃ @ 150 lb. N/acre: April 5
Harvest Date	October 12
Experimental Design	Randomized complete block design by corn brand
Replications	Four
Treatments	Cultivar, row spacing, and seeding rate

Results

Table 1. Corn grain yields for hybrid, seeding rate, and row spacing main effects from Bayer, Corteva, and Wyffels hybrids.^a

	Bayer	Corteva	Wyffels
Grain yield (bushels per acre)			
Hybrid X ^b	223.5	221.5 B	239.2 B
Hybrid Y	219.1	238.1 A	246.1 A
	P = 0.3131	P < 0.0001	P = 0.0010
30,000 seeds/ac	222.6	228.4 B	238.3 B
35,000 seeds/ac	223	234.2 A	244.4 A
40,000 seeds/ac	218.3	226.7 B	245.3 A
	P = 0.6185	P = 0.0037	P = 0.0082
20-in. row	226.7 A	231.8 A	248.5 A
30 in.row	215.9 B	227.7 B	236.8 B
	P = 0.0173	P = 0.0246	P < 0.0001

^aP-values within boxes are used to compare yields of the main effects or interaction effects within each box. Yields that are significantly different at P < 0.05 have different letters following the yield values within each box.

^bBayer hybrids were X = DKC52-18RIB, Y = DKC49-44RIB. Corteva hybrids were X = P0075Q, Y = P1093Q. Wyffels hybrids were X = W4246RIB, Y = W5086RIB.