

## EFFECT OF GAUCHO AND PRESCRIBE INSECTICIDE SEED TREATMENTS ON CORN YIELD IN NORTHERN ILLINOIS 2002

A 2002 field trial was conducted in northern Illinois to determine the effects of Gaucho and Prescribe insecticide seed treatments, both Gustafson trademarks, on seed corn hybrids of different maturities and sources. The trial was planted five miles east of Rochelle, Illinois, following soybeans in a deep silty clay loam soil on May 5 at a rate of 30,000 seeds per acre.

Garst Seed Co. provided four seed products treated and untreated with Gaucho. LG Seeds and Great Lakes Seed Co. provided three seed products each, treated and untreated with Prescribe. The split-plot design placed the treated and untreated seed of the same hybrid side-by-side for each of the ten hybrids. This design was repeated three times for a total of 60 strips.

Weather was unseasonably cold and wet early in the growing season, but the remainder of the year was generally favorable. No insecticide, other than the seed treatments, was used in this trial. The site was not monitored for insect or disease pressure. Plant development and health were good. Stands were uniform and consistent across the test area, averaging 27,200 per acre. Harvest was delayed until October 31 due to wet fall conditions.

Table 1 presents the yield averages for seed treatments. The average response to treatments was 2.4 Bu/A. The analysis determined this value to be non-significant. Separate analyses of Gaucho and Prescribe show gains of 3.7 and 1.6 Bu/A respectively, the former statistically significant at the 95% confidence level.

TABLE 1 MAIN EFFECT OF FACTOR B (INSECTICIDE TREATMENT)

		GRP YLD	GRAIN YIELD	GRAIN MOIST	PLANTS LODGED	GROSS INCOME
ALL ENTRIES	CONTROL (NONE)		164.3	16.1	0.8	\$407.1
	GAUCHO OR PRESCRIBE		166.7	16.1	0.9	\$413.2
		MEANS =	165.5	16.1	0.9	\$410.2
		LSD(.05) =	ns	ns	ns	
GARST ENTRIES	CONTROL (NONE)		161.5	16.1	0.9	\$400.1
	GAUCHO		165.2	16.0	0.6	\$409.4
		MEANS =	163.3	16.1	0.8	\$404.8
		LSD(.05) =	3.7	ns	ns	
		C.V. % =	1.9			
GREAT LAKES & LG ENTRIES	CONTROL (NONE)		166.2	16.1	0.7	\$411.7
	PRESCRIBE		167.8	16.1	1.2	\$415.8
		MEANS =	167.0	16.1	0.9	\$413.7
		LSD(.05) =	ns	ns	ns	

Table 2 presents a closer examination of seed treatment response by hybrid. Yield averages for the 20 entries are shown in descending order. Response to seed treatment is highlighted and given in Bu/A to the left of entry averages. Seven of the ten comparisons were positive. However, only LG2540-P, which is a Prescribe treatment, is statistically significant. The effect of Prescribe in this trial is more variable than that for Gaucho treatments. Both treatments showed less effect than the differences between seed genetics alone.

TABLE 2 FACTOR B (SEED TREATMENTS) FOR LEVELS OF FACTOR A (GENOTYPE)

BRAND	PRODUCT	TRT EFFECT x GENOTYPE	GRAIN YIELD	GRAIN MOIST	PLANTS LODGED	GROSS INCOME	
GREAT LAKES	6192		188.9	16.5	0.0	\$466.5	
GREAT LAKES	6192-P	-2.6	186.3	16.4	1.3	\$460.5	
GARST	8484Bt/IT		177.0	17.1	0.7	\$435.0	
LG SEEDS	LG2540-P	9.8	176.7	16.3	0.3	\$437.1	
GARST	8484Bt/IT-G	-1.2	175.8	16.8	0.3	\$433.0	
LG SEEDS	LG2540		166.9	16.2	0.7	\$413.2	
GARST	8585GLS/IT-G	4.3	165.7	15.5	1.0	\$412.6	
LG SEEDS	LG2585-P	1.9	164.2	16.6	1.7	\$405.2	
GREAT LAKES	5668-P	3.2	163.2	16.0	0.3	\$404.8	
LG SEEDS	LG2585		162.3	16.8	0.7	\$400.1	
GARST	8590IT-G	6.2	161.9	15.6	0.7	\$402.9	
GARST	8585GLS/IT		161.4	15.5	2.7	\$402.0	
GREAT LAKES	QUAD 5-P	0.2	160.2	14.9	0.3	\$401.0	
GREAT LAKES	QUAD 5		160.0	15.0	2.0	\$400.1	
GREAT LAKES	5668		160.0	16.1	0.0	\$396.5	
GREAT LAKES	5758		159.1	16.2	0.7	\$394.1	
GARST	8550-G	5.1	157.2	16.2	0.3	\$389.3	
GREAT LAKES	5758-P	-3.0	156.1	16.4	3.0	\$385.9	
GARST	8590IT		155.7	15.6	0.3	\$387.3	
GARST	8550		152.0	16.4	0.0	\$376.0	
			MEANS =	165.5	16.1	0.9	\$410.2
(COMPARING SEED TREATMENTS WITHIN GENOTYPE)			LSD(.20) =	8.6	0.9	1.5	
			C.V. % =	4.7	3.9	130.2	

Insecticide seed treatments appear to be effective but variable and hybrid specific. Drawing conclusions about the possible benefits of these treatments will require testing a greater number of seed products in a substantial number of test sites. Additional work is needed to identify and quantify natural insect resistance of popular seed genetics. The careful monitoring of trials like this one is equally important.

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