

## Multiple Treatment Variety Trials

Nowadays the choice of crop varieties is a decision that reflects not only potential yield but also stress tolerance, genetic technologies and their associated fees and restrictions, and even marketing to various identity-preserved niches. **The Dordt College Agriculture Department** modified a variety comparison they carried out in 1997. This involves a Northrup King hybrid, its Bt-enhanced (and expensive) isolate, and a Viking hybrid whose seed is the least expensive of all. With only four reps in the 1997 trial, the yield differences were not statistically significant, but the Bt-hybrid's yield was greatest and the Viking hybrid yielded least of the three.

In 1998, **Rob De Haan**, Director of the college's Ag Stewardship Center, substituted a different cheap Viking hybrid in the trial. And in 1998 corn borer pressure was light across the state. There was no significant difference in yield between the two NK hybrids, and the Viking number yielded best of all ([Table 6](#)). That made the cheap hybrid the financial winner in 1998, even though its greater yield and harvest moisture entailed a significant drying cost.

Dordt College Variety Trial



Dordt College carried out a similar trial in soybeans. There the varieties were a typical field soybean, its Roundup-resistant cousin, and a large-seeded tofu-type soybean. As [Table 6](#) shows, the Roundup-resistant soybean yielded significantly better than the conventional field soybean, and both yielded significantly more than the tofu soybean. The economic figures shown for the trial reflect both the fact that the same, non-Roundup herbicide was used on all the varieties and that all the soybeans were marketed together at the same price.

**The Neely-Kinyon Farm**, Greenfield, compared a tofu soybean, a typical field variety, and a soybean whose oil is high in oleic acid. These were marketed at \$6.50, \$5.20, and \$5.85 per bushel, respectively, and hauling costs were added to markets in Atlantic, Greenfield, and Fontanelle, respectively. The tofu soybeans were not sold as organic or pesticide-free. The field soybean yielded significantly more than the others, but was the least profitable by this calculation ([Table 6](#)). The tofu-type soybean was most profitable even though its yield was least of the three.

Table 6. Multiple-Treatment Variety Trials									Multiple Treatment Variety Trials										
				TREATMENT "A"					TREATMENT "B"					TREATMENT "C"					
COOPERATOR	CROP	PREVIOUS CROP	YIELD SIGNIFICANCE	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	OVERALL COMMENTS
DORDT	CORN	CORN	*	NK4640	159.3	b	\$40.03	\$11.09	NK4640Bt	166.4	b	\$51.12	\$0.00	VIKING 4721, CHEAP HYBRID	178.6	a	\$39.39	\$36.29	CHEAPER HYBRID HAD DRYING COST BUT CHEAPEST SEED, GREATEST YIELD
DORDT	SOY-BEANS	CORN	**	SOI2537 ROUNDUP-RESISTANT	65.0	b	\$29.19	\$8.81	SOI237	72.5	a	\$20.26	\$56.73	ASGROW 2242 TOFU SOYBEAN	62.1	c	\$22.78	\$0.00	SAME SALE PRICE USED FOR ALL VARIETIES
NEELY KINYON	SOY-BEANS	CORN	**	HIGH-OLEIC	49.2	b	\$236.43	\$6.45	FIELD SOYBEAN	53.8	a	\$234.64	\$0.00	TOFU-TYPE SOYBEAN	44.9	c	\$238.39	\$8.50	NET PROFIT OF \$51.43, \$44.98, AND \$53.48, RESPECTIVELY. PRICE OF \$5.85, \$5.20, AND \$6.50, RESPECTIVELY.