

Miscellaneous Trials

PFI cooperators make their own decisions on what trials are to be done, so it's not surprising that there are some "one of a kind" trials. **The Dordt College Agricultural Stewardship Center**, for example, is located near Sioux Center, an area with many dairy farms. The Center carried out two corn variety trials in 1993, one for silage and one for grain ([Table 4](#)). They were interested in seeing if the waxy varieties, not usually grown in Sioux County, would perform as well as others, which they did.

Dordt College Agriculture Stewardship Center showing of a Soy Bean Cropping System Trial



Ted and Donna Bauer, Audubon, continued two trials they have carried out before ([Table 6](#)). They compared purchased soybean seed to seed they grew and cleaned themselves. As in 1992, the seed that was saved back yielded as well and was more economical than purchased seed of the same variety.

The Bauers also repeated a comparison of corn harvest dates. Ted combined strips through the field every 48 rows on October 15. Then on November 4, after three weeks of good drying weather, he harvested strips halfway between the previous harvest areas. Whereas in 1991 late-harvested corn was more profitable, in 1993, ear drop and stalk rot combined to make late harvest less desirable by almost \$7 per acre.

Jeff and Gayle Olson, Winfield, raised corn with and without 9 pounds per acre of Force™ rootworm insecticide ([Table 6](#)). They did not scout the previous year's corn, so they did not know what to expect for insect pressure. The corn without insecticide yielded 9.2 bushels less, more than justifying the cost of insecticide.

Tom and Irene Frantzen repeated their evaluation of the rotational effects of grain amaranth ([Table 6](#)). In 1992 trials, soybeans following amaranth had performed as well as following corn, but corn following amaranth grew unevenly and yielded much less than corn following soybeans. In 1993, however, no such difficulties were encountered. Corn following corn required additional nitrogen, which the Frantzens supplied in manure, but it still did not yield as well as corn following amaranth. The information from these trials will be very useful as more growers begin to integrate amaranth into their cropping systems.

Repeating trials like these, far from indicating a lack of creativity, shows that cooperators have a lasting commitment to addressing some basic questions. Many questions in farming can't be answered in a single trial. A variety of years and sites are required to discover the range and reliability of a practice or response. Especially when weather and other changeable factors are involved, patience and persistence pay off.

Table 4. MULTIPLE-TREATMENT TRIALS

MULTIPLE-TREATMENT TRIALS

				TREATMENT "A"					TREATMENT "B"					TREATMENT "C"					
COOPERATOR	CROP	PREVIOUS CROP	YIELD SIGNIF- CANCE	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	N.S.	LAND O'LAKES 568 FOR SILAGE	5.4 T	a	\$28.00	\$0.00	PIONEER 3394 FOR SILAGE	5.0 T	a	\$28.00	\$0.00	NK 6440 (WAXY) FOR SILAGE	5.2 T	a	\$28.00	\$0.00	PROTEIN AND TDN WERE ALSO SIMILAR
DORDT	CORN	SOYBEANS	N.S.	LAND O'LAKES 568 FOR GRAIN	135.7	a	\$28.00	\$0.00	PIONEER 3417 FOR GRAIN	131.0	a	\$28.00	\$0.00	NK 4747 (WAXY) FOR GRAIN	125.1	a	\$28.00	\$0.00	
"														LAND O'LAKES 522 FOR GRAIN	131.1	a	\$28.00	\$0.00	
ALERT	CORN	SOYBEANS	*	NO STARTER, (117 LBS N TOTAL)	71.5	b	\$25.90	\$0.00	STARTER 3" TO SIDE, (116 LBS N TOTAL)	80.6	a	\$38.03	\$12.24	STARTER 2" BELOW SEED (116 LBS N TOTAL)	81.4	a	\$38.03	\$12.24	CONTROL RECEIVED 10 LBS LESS N AT PLANTING
GRAU	CORN	SOYBEANS	*	CHECK (NO ADDITIONAL FERTILIZER)	79.2	b	\$0.00	\$3.80	DEEP BANDED 12+30+100	87.2	a	\$22.64	\$0.00	BROADCAST 12+30+100	85.9	a	\$22.64	\$0.00	FERTILIZER APPLIED JULY 28 WITH NEW-MATICS DRY BANDER
THOMPSON	CORN	SOYBEANS	*	NO PLANTER FERTILIZER BAND	56.9	b	\$0.00	\$0.00	20+14+27 APPLIED 2" BELOW SEED	70.6	a	\$16.10	\$18.94	26+17+35 APPLIED 2" BELOW SEED	66.1	a	\$20.82	\$14.21	HIGHER LEAF TISSUE P IN ZERO-STARTER
"														34+23+46 APPLIED 2" BELOW SEED	74.9	a	\$27.35	\$7.68	
MUGGE	"THIRD CROP" IN STRIPS	SOYBEANS	ñ	BERSEEM CLOVER SEEDED WITH OATS	\$218	—	—	—	BERSEEM SEEDED INTO OATS	\$177	—	—	—	OATS WITHOUT BERSEEM	\$65	—	—	—	"YIELD" SHOWS GROSS VALUE OF GRAIN, STRAW, AND BERSEEM HAY
THOMPSON	SOYBEANS	CORN	N.S.	NO COVER CROP	45.4	a	\$0.00	\$8.85	SPRING-SEEDED RYE COVER	46.3	a	\$8.85	\$0.00	FALL-SEEDED RYE COVER	46.7	a	\$8.85	\$0.00	
"	BROAD-LEAFED WEEDS:		*	BROADLEAFED WEEDS:	1,816	bc			BROAD-LEAFED WEEDS:	2,465	a			BROAD-LEAFED WEEDS:	2,078	ab			
ROSMANN	CORN	SOYBEANS	N.S.	2 HOE, 2 CULTIVATIONS, 0 HERBICIDE	91.4	a	\$10.99	\$10.14	0 HOE, 2 CULT, 0 HERBICIDE	93.4	a	\$6.25	\$14.87	1 HOE, 2 CULT, DUAL	94.6	a	\$15.04	\$6.09	
"				BROADLEAF RATING:	2.8	a			BROADLEAF RATING:	3.3	a			BROADLEAF RATING:	2.8	a			
"									1 HOE, 2 CULT, BLADEX	94.8	a	\$17.90	\$3.22	0 HOE, 2 CULT, DUAL/BLADEX	92.8	a	\$21.12	\$0.00	
"									BROADLEAF RATING:	2.8	a			BROADLEAF RATING:	2.9	a			

Table 6. TILLAGE & OTHER TRIALS					TILLAGE & OTHER TRIALS						
COOPERATOR	CROP	TREATMENT "A"		TREATMENT "B"	TRT "B"	DIFFERENCE					COMMENT
		DESCRIPTION	YIELD (bu.)	DESCRIPTION		YIELD (bu.)	YIELD DIF.	YLD LSD (bu.)	YLD SIG.	\$ BENEFIT OF TRT "A"	
DAVIDSON	SOYBEANS	NO-TILL PLANT, POSTEMERGE BROADCAST, 1 CULTIVATION	28.2	RIDGE-TILL PLANT, 2 CULTIVATIONS	36.1	-7.9	2.4	*	(\$57.13)	SECOND YEAR OF TRIAL. HAULING COSTS INCLUDED	
"		BROADLEAFED WEEDS:	385	BROADLEAFED WEEDS:	15	370	44	*		MORE BROADLEAFED WEEDS IN NO-TILL	
"		GRASS RATING:	3.3	GRASS RATING:	1.8	1.4	0.4	*		MORE GRASS IN NO-TILL	
DAVIDSON	CORN	NO-TILL PLANT, POSTEMERGE BROADCAST, 2 CULTIVATIONS	56.5	RIDGE-TILL PLANT, POSTEMERGE BROADCAST, 2 CULTIVATIONS	69.4	-12.9	5.5	*	(\$23.25)	NO STARTER IN NO-TILL. CROP DELAYED, MORE WEEDS	
		GRASS RATING:	3.8	GRASS RATING:	3.3	0.6	0.6	N.S.			
OLSON	CORN	PLANTED INTO 1992 DRILLED BEAN GROUND	104.5	RIDGE-TILL	114.1	-9.6	12.7	N.S.	\$0.00	BOTH TREATMENTS CULTIVATED ONCE	
BAUER	SOYBEANS	SAVED SEED FROM 1992	32.7	PURCHASED SEED	33.1	-0.4	2.3	N.S.	\$7.71	150,000 SEEDS PER ACRE, 55.4 LB SEED PER ACRE, \$1.55 / BU. CLEANING & HAULING	
BAUER	CORN	EARLY HARVEST (OCT. 15)	85.2	LATE HARVEST (NOV. 4)	79.9	5.3	1.1	*	\$6.98	RESULTS IN 1991 FAVORED LATE HARVEST	
FRANTZEN	SOYBEANS	FOLLOWING CORN	26.2	FOLLOWING AMARANTH	26.5	-0.3	2.8	N.S.	\$0.00		
FRANTZEN	CORN	FOLLOWING CORN, (MANURE SIDEDRESS)	41.6	FOLLOWING AMARANTH, (NO MANURE)	52.8	-11.2	1.1	*	(\$49.95)	LATE SPRING SOIL NITRATE TEST WAS 23 PPM AFTER AMARANTH, 13 PPM AFTER CORN, SO CORN-AFTER-CORN WAS SIDEDRESSED	
OLSON	CORN	FOLLOWING CORN, NO INSECTICIDE	113.8	FOLLOWING CORN, INSECTICIDE USED	122.9	-9.2	8.5	*	(\$9.39)	1992 CORN NOT SCOUTED	