

Deep Banding--One Year Later

Deep placement of potassium and phosphorus fertilizer is a practice that PFI members have researched for several years. ISU soil scientist Antonio Mallarino has also been working on the topic (see *The Practical Farmer*, Fall, 1997), and reports that, for producers using no-till and ridge-tillage, deep placement of potassium fertilizer sometimes gives a yield response even beyond that of the same fertilizer surface-applied. In 1997, two cooperators followed up on deep banding research that they carried out in 1996.

In 1996, both **Jeff and Gayle Olson** (Mt. Pleasant) and **Paul and Karen Mugge** (Sutherland) saw significant corn yield increases from fertilizer that was deep banded, compared to no fertilizer at all. Both used a combination of 18-46-0 and 0-0-60, so these were not single-nutrient trials. However, they applied enough total nitrogen that the crop should not have been affected by the N in the deep band. Their question in 1997 was whether the benefit would last another year. As Table 1 shows, neither Paul Mugge's soybeans nor Jeff Olson's corn showed a residual fertilizer effect in 1997.

Table 1. “A/B” Deep Placement and Manure Management Trials							“A/B” Deep Placement and Manure Management Trials							
COOPER- ATOR	CROP	TREATMENT “A”			TREATMENT “B”		TRT “B”		DIFFERENCE				COMMENT	
		DESCRIPTION	YIELD (bu.)	TREAT- MENT COST	DESCRIPTION		YIELD (bu.)	TREAT- MENT COST	YIELD DIFF.	YLD LSD (bu.)	YLD SIG.	\$ BENEFIT OF TRT "A"		
MUGGE	SOYBEANS	DEEP BAND FOR 1996 CORN	56.8	\$0.00	NO DEEP BAND		57.6	\$0.00	-0.8	1.5	N.S.	\$0.00	DEEP BANDING INCREASED CORN YIELD IN 1996	
OLSON	CORN	DEEP BAND NPK FOR '96 CORN	178.3	\$0.00	NO DEEP BAND		176.5	\$0.00	1.8	17.8	N.S.	\$0.00	DEEP BANDING INCREASED CORN YIELD IN 1996	
BOES	CORN	3 T POULTRY MANURE	133.5	\$29.00	NO MANURE		146.6	\$0.00	-13.0	29.4	N.S.	(\$29.00)	AFTER LEGUME-GRASS PASTURE, MORE MANURE MAY NOT PAY	
ROSMANN, K.	CORN	OFF-FARM POULTRY MANURE	126.0	\$49.65	ON-FARM BEEF MANURE		124.0	\$35.25	2.0	25.2	N.S.	(\$14.40)	LOADING AND SPREADING CHARGED TO BEEF OPERATION	