Biologicals and Unconventional Products

A number of PFI farmers experimented with unconventional products in 1994. **Dave and Lisa Lubben**, Monticello, continued a line of investigation they began several years ago, testing ACA (zinc acetate), ACA is said to increase nitrogen uptake of corn under some conditions, but Dave and Lisa tried the product on soybeans this time (Table 1). There was no effect on yield.

Jeff and Gayle Olson, Mt. Pleasant, evaluated a package of biological soil amendments from Ag Spectrum. In both corn and soybeans, they applied Grozyme™ and Agri-SC™ (Table 1). Jeff reports that Grozyme is said to release soil nutrients, and Agri-SC is said to be a soil conditioner to help the Grozyme go into the ground. The products were added to an herbicide band in each trial. Crop yields were not different than in the check treatment that received the herbicide without the biologicals.

Lynn and Linda Stock, Waukon, evaluated a package of biological amendments from Farm for Profit. Lynn describes Remedy™ as a microbial inoculant that is sold to clean petroleum residues from the soil and improve structure. Achieve™ is a product said to provide nutrients for the microbes in Remedy. The trial was carried out within the strips of a narrow strip intercropping field, and that complicated the analysis. However, no difference in corn or soybean yield was seen between the biological treatment and the control treatment (Table 1).

John and Rosie Wurpts, Ogden, were PFI Sustainable Projects participants in 1994. They carried out an evaluation of two approaches to soil fertility, comparing ISU recommendations to a package of biologicals from Agrienergy (Table 1). This was the fourth year of the comparison. As in previous years, there was no significant difference in yield, so the economic difference was based on input costs alone. In earlier years, the ISU Extension recommendation was for no fertilizer except nitrogen for corn. In 1994, the ISU recommendation included some P and K for the corn. However, the cost of the fertilizer was less than that of the biologicals.

Table 1. STARTER & OTHER FERTILITY TRIALS

STARTER & OTHER FERTILITY TRIALS

COOPERATOR	CROP	TREATMENT "A" DESCRIPTION	TREATMENT "A" YIELD (bu.)	TREATMENT "B" DESCRIPTION	TRT "B" YIELD (bu.)	DIFFERENCE YIELD DIFF.	DIFFERENCE YLD LSD (bu.)	DIFFERENCE YLD SIG.	$ BENEFIT OF TRT "A"	COMMENT
ALERT	SOYBEANS	STARTER, 2" BELOW SEED	46.2	NO STARTER	43.1	3.1	1.9	*	($6.63)	8+24+48 AS 2-6-12 SUSPENSION
DAVIDSON	SOYBEANS	STARTER FERTILIZER	37.6	NO STARTER	37.9	-0.3	1.8	N.S.	($6.33)	2+7+13 AS 2-6-12 1" BELOW SEED. HP204 EDIBLE BEANS
STONECYPHER	CORN	STARTER ON SEED	143.1	NO STARTER	150.6	-7.5	10.9	N.S.	($9.45)	1+6+6 IN STARTER
ROSMANN	SOYBEANS	45 LB/ACRE ROCK PHOSPHATE	69.0	7.5 LB/ACRE ROCK PHOSPHATE	69.2	-0.3	0.9	N.S.	($3.75)	BLACK PHOSPHATE METERED THROUGH PLANTER INSECTICIDE BOXES. SOIL P1 TEST=21 PPM (HIGH)
TIBBS	SOYBEANS	BANDED 22+70+90	54.5	NO FERTILIZER	53.6	0.8	1.7	N.S.	($33.82)	BEANS PLANTED DIRECTLY OVER FALL DEEP BAND. THREE REPS ONLY.
FRANTZEN	CORN	80+8+50 AFTER BERSEEM CLOVER	171.1	20+8+50 AFTER BERSEEM CLOVER	169.1	2.0	8.1	N.S.	($13.38)	LATE SPRING SOIL NITRATE: HIGH RATE 77 PPM, LOW 71 PPM. STALK NITRATE: 673 PPM HIGH RATE, 605 PPM LOW RATE
LUBBEN	SOYBEANS	ACA W. HERBICIDE ON 6/27	62.7	NO ACA, JUST HERBICIDE	62.8	-0.1	2.3	N.S.	($4.14)	UNRANDOMIZED TRIAL, STATISTICS WEAKENED
OLSON	SOYBEANS	GROZYME™ /AGRI-SC™ PREPLANT BAND	63.9	ZERO CHECK	65.0	-1.0	5.2	N.S.	($10.76)	GROZYME™ SAID TO RELEASE SOIL NUTRIENTS, AGRI-SC SOLD AS SOIL CONDITIONER
OLSON	CORN	GROZYME™ /AGRI-SC™ POST BAND	165.2	ZERO CHECK	164.0	1.2	16.1	N.S.	($10.76)	" "
STOCK	SOYBEANS	ACHIEVE™ & REMEDY™ PREPLANT BROADCAST	54.0	ZERO CHECK	53.0	1.0	6.3	N.S.	($13.85)	BIOLOGICAL EFFECT SOMEWHAT CONFOUNDED WITH STRIP "SIDE" (NORTH-SOUTH) EFFECT
STOCK	CORN	ACHIEVE™ & REMEDY™ PREPLANT BROADCAST	159.5	ZERO CHECK	160.5	-1.0	9.6	N.S.	($13.85)	
WURPTS	SOYBEANS	BIOLOGICAL FERTILITY PROGRAM	60.6	ISU FERTILITY RECOMMENDATIONS	60.3	0.3	2.3	N.S.	($8.75)	
WURPTS	CORN	BIOLOGICAL FERTILITY PROGRAM	184.7	ISU FERTILITY RECOMMENDATIONS	187.3	-2.6	7.2	N.S.	($10.11)	