

## INTERCROPPING CORN AND SOYBEANS - CROP YIELDS

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In the 1980 experiment several different planting combinations of corn were established. These treatments were:

1. Corn alone (Cornell 281) in 36 inch row width.
2. Soybean alone (Harsoy) 12 inch row width.
3. Corn-soybean in same rows.
4. Corn-soybean in 18 inch alternate single rows.
5. Corn-soybean where alternate rows of corn were replaced by 3 rows of soybeans 12 inches apart.
6. Corn-corn-soybean (3 rows replacing the corn row).
7. Corn-corn-soybean (3 rows)-soybean (3 rows).

The plots were sown May 23, 1980. Prior to planting plots were fertilized with 120 lb N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre. Table 1 shows the contribution of the corn and soybean fractions to total crop yield. The corn-soybean combination (treatment 5) did not yield significantly less total silage than the corn alone treatment but did represent about a 20% increase in protein yield. Only treatment 7 and the soybean alone crop yielded significantly ( $P = 0.05$ ) less dry matter than the corn alone crop.

Table 1. Intercropped silage yields from corn and soybeans.

Treatment	Yield of 30% Dry Matter Silage (tons/acre)		
	Corn	Soybean	Total
1. Corn alone	25.4	0	25.4
2. Soybean alone	0	11.7	11.7
3. Corn (C)/Soybean (S)	23.4	1.6	25.0
4. C-S	25.0	1.0	26.0
5. C-SSS	19.5	4.2	23.7
6. C-C-SSS	21.3	2.9	24.2
7. C-C-SSSSSS	16.0	5.1	21.1

In 1981 we are examining plant densities of corn and soybeans in two experiments and varying nitrogen fertilization, and plant densities of corn and cowpeas.