

Table 1. Grain crop performance in Neely-Kinyon LTAR, 2010.

Rotation	Corn				Soybean		Oat		Alfalfa
	Yield bu/acre	Population plants/acre	LSNT $\mu\text{g}\cdot\text{g}^{-1}$ N-NO ₃	Stalk nitrate (ppm)	Yield bu/acre	Population plants/acre	Yield bu/acre	Straw tons/acre	Yield (tons/acre)
Conv C-S ^z	148.7	29,333	2.25	1934.5	53.7ab	92,583	N/A	N/A	N/A
Org C-S-O/A	118.9	27,333	2.00	29.25	54.2ab	85,889	74.0b	1.2	N/A
Org C-S-O/A-A	147.6	25,933	3.25	1419.5	57.3a	86,778	90.7a	1.1	4.7
Org C-S-C-O/A	149.7	25,166	2.50	100.5	47.1b	71,167	N/A	N/A	N/A
LSD _{0.05}	NS ^y	NS	NS	NS	7.8	NS	16.5	NS	N/A

^zC = corn, S = soybean, O = oat, and A = alfalfa.

^yMeans within a column are not significant (NS), or are statistically different at $P \geq 0.05$ when followed by different letters (Fisher's protected LSD test).

Table 2. Weed and nematode populations in Neely-Kinyon LTAR, 2010.

Rotation	Corn		Soybeans		
	June 24,2010		June 24,2010		
	Grass	Broadleaves	Grass	Broadleaves	SCN (Eggs/100cc)
Conv C-S	0.8b	2.8b	6.8b	2.8b	75.0
Org C-S-O/A	17.3b	11.6b	12.4ab	10.4a	87.5
Org C-S-O/A-A	10.3b	9.4b	17.7ab	6.9ab	150.0
Org C-S-C-O/A	109.5a	28.2a	26.7a	7.2ab	162.5
LSD _{0.05}	46.0 ^z	12.2	16.0	6.0	NS

^zMeans within a column are not significant (NS), or are statistically different at $P \geq 0.05$ when followed by different letters (Fisher's protected LSD test).

Table 3. Grain quality in Neely-Kinyon LTAR, 2010.

Rotation	Corn					Soybean				
	Density	Starch	Oil	Protein	Moisture	Carbohydrates	Fiber	Oil	Protein	Moisture
Conv C-S	1.3	61.4b	3.7	6.9	15.1	24.5	4.9	17.3	35.3	8.7b
Org C-S-O/A	1.3	62.3a	3.6	5.9	16.0	24.3	4.9	17.3	35.6	9.2ab
Org C-S-O/A-A	1.3	62.0ab	3.6	6.5	15.7	24.0	4.9	17.7	35.5	9.1ab
Org C-S-C-O/A	1.3	61.9ab	3.6	6.4	15.4	24.0	4.9	17.6	35.5	9.8a
LSD _{0.05}	NS ^z	0.78	NS	NS	NS	NS	NS	NS	NS	0.90

^zMeans within a column are not significant (NS), or are statistically different at $P \geq 0.05$ when followed by different letters (Fisher's protected LSD test).

Table 4. Insect populations (per 20 sweeps) in soybean plots in LTAR trial, Neely-Kinyon, 2010.

Rotation	Aphid population	BLB ^y population	Thrips population	Corn rootworm	Stinkbug population	MPB ^y population	Spider population	Wasp population
Conv C-S	1.25	0.5	10.0	1.75	0.25	1.50	1.00	0.00
Org C-S-O/A	7.50	1.0	13.3	1.25	0.75	6.50	1.00	2.00
Org C-S-O/A-A	1.25	0.25	6.00	2.00	0.25	2.25	0.25	1.50
Org C-S-C-O/A	2.75	0.75	10.3	0.75	0.25	4.50	0.50	0.50
LSD 0.05	NS ^z	NS	NS	NS	NS	NS	NS	NS

^zMeans within a column are not significant (NS).

^yBLB = been leaf beetle, MPB = minute pirate bug (predator).