

Three-Year Summary of Effect of Modified Relay Intercropping (MRI) on Wheat Yield in 15-Inch Rows

Dr. Steve Prochaska, Extension Agriculture and Natural Resources Agent

Objective

To evaluate the effect of Modified Relay Intercropping (MRI) on wheat yield in a 15-inch-row spacing

Background

Test Site:	Ohio State University Unger Farm	Soil test:	pH 5.8, P 21 ppm, K 163 ppm
County:	Crawford	Fertilizer:	127-69-60 actual NPK per acre
Soil type:	Pewamo clay loam and Blount silt loam	Planting date:	October 2, 2001
Tillage:	Disk	Planting rate:	120 lb/A
Previous crop:	Soybeans	Row width:	15 inch
Variety:	See table	Herbicide:	2,4-D 1 pt/A
		Harvest date:	July 8, 2002

Methods

A completely randomized design with six replications in small plots (5.5 x 50 feet) in each of three years was used to evaluate the effect of MRI on wheat yield. Treatments were 15-inch-row wheat and 15-inch-row wheat interseeded with soybeans. Wheat and soybeans were planted with a three-point hitch mounted tool bar planter equipped with sunflower openers. Soybeans were interseeded June 5, 2002, with the same planter used to seed wheat. Wheat harvest was completed in late June or early July with a research plot combine.

Results

Table 1. Three Years of 15-Inch Row Spacing Wheat Yields and Summary.

Year and Variety	Yield (bu/A)			
	Not Intercropped	Intercropped	Difference	LSD (0.05)
2000 I9824	70.8	62	8.8	3.4
2001 Agra 962	79.2	68	11.2	4.2
2002 Agra 962	76.8	71.4	5.4	3.4
Average	75.6	67.1	8.5	

Summary

What level of wheat yield can be expected from wheat grown in wide rows that is also intercropped? This question is important to producers in wheat/ soybean double crop systems. In each of the three years of this study, wheat grown in a modified relay intercrop system yielded significantly less than wheat grown in the same spacing conventionally. Interseeded wheat produced 8.5 bu/ A lower yield than non-interseeded wheat when both were grown in rows spaced 15 inches apart.

For further information, contact:

Dr. Steve Prochaska
The Ohio State University
prochaska.1@osu.edu