Evaluation of a spring wheat in rotation with safflower and chickpea at EARC under chemical and chemical-free production.

Project director:

Chengci Chen

Cooperators/personnel:

Yesuf Mohammed
Rebecca Garza
Calla Kowatch
Thomas Gross
Ronald Brown
Benton Carr

Methods: The objective of this study was to compare the conventional production (with chemicals) to organic production (chemical-free). The spring wheat was planted following chickpea. For the chemical site, nitrogen and phosphorus fertilizers (200 lbs/a urea plus 50 lbs/a 11-52 blend) and herbicides were applied, but no fertilizer and herbicide were applied at chemical-free site.

Results: Due to the drought in 2017, the spring wheat yields were low in both chemical and chemical-free sites. With nitrogen fertilizer applied at chemical site, spring wheat produced much higher yield and protein concentration compared to chemical-free site (Table 8).

Table 8. Spring wheat yield following chickpea in the fields with chemical applied and without chemical applied at EARC dryland farm in 2017.

	Yield (lb/a)	Yield (bu/a)	Protein (%)	Test wt (lb/bu)
Chemical	843	14.5	17.0	58.0
Chemical free	339	5.4	9.0	62.4