

TITLE: No-Till Rotation Systems for Winter Wheat Production

PRINCIPAL INVESTIGATOR: Dwayne Beck

OBJECTIVE: Determination of the most profitable rotations for no-till production of winter wheat in central and western South Dakota.

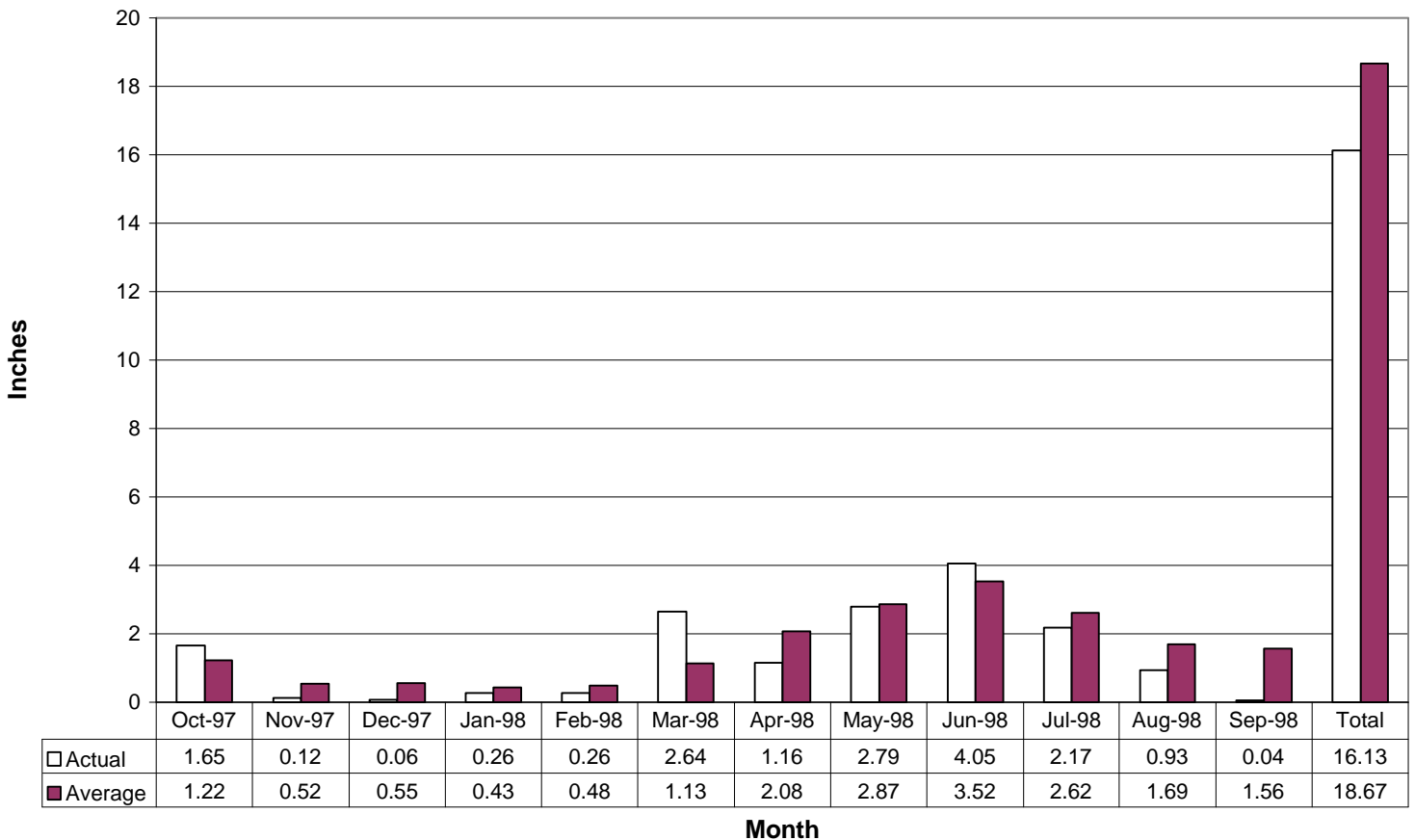
DURATION: Present plans call for performing at least two rotation cycles (1991-2001).

PROGRESS REPORT/ACCOMPLISHMENTS: The no-till rotation study is located on a half section of land approximately 17 miles southeast of Ft. Pierre on an Opal-Promise soil series. Research procedures utilize field scale equipment, weigh wagon yields, and best management practices.

The fall 1997 and spring 1998 precipitation was about average with below average moisture in July, August, and September. The research site had 19 days of temperatures equal to or exceeding 95 degrees F and eight of those days exceeded a high of 100 degrees F. The recorded high at the site this year was 109 degrees F on July 18th.

See the chart below for actual precipitation received at the research site from October 1997 through September 1998 versus average precipitation.

**Wheat Commission Rotation Study
Oct. 97 - Oct. 98 Precipitation vs. Average**



Click on the numbers below to view inputs, operations and economics.

Fifteen no-till rotations are included in the study and **1998** yields are as follows:

1.	Winter Wheat 59.4 bu	-	Fallow			
2.	Winter Wheat 60.0 bu	-	Green Fallow			
3.	Winter Wheat* 44.0 bu	-	Chickpea 1,019 lbs			
4.	Winter Wheat 57.0 bu	-	Flax 10.6 bu			
5.	Winter Wheat 68.0 bu	-	Corn 92.8 bu	-	Fallow	
6.	Winter Wheat 63.5 bu	-	Corn 74.7 bu	-	Flax 9.1 bu	
7.	Winter Wheat 62.0 bu	-	Corn 79.1 bu	-	Field Pea 17.3 bu	
8.	Winter Wheat* 46.1 bu	-	Corn 81.4 bu	-	Chickpea 841 lbs	
9.	Winter Wheat 59.6 bu	-	Corn 73.8 bu	-	Soybean 10.2 bu	- Spring Wheat 45.5 bu
10.	Winter Wheat 63.1 bu	-	Soybean 10.0 bu	-	Corn 51.6 bu	- Spring Wheat 37.4 bu
11.	Winter Wheat 69.2 bu	-	Corn 71.9 bu	-	Soybean 11.5 bu	- Field Pea 14.4 bu
12.	Spring Wheat 46.3 bu	-	Corn 78.9 bu	-	Flax 8.3 bu	
13.	Spring Wheat 48.4 bu	-	Corn 75.2 bu	-	Soybean 7.4 bu	
14.	Winter Wheat 67.3 bu	-	Soybean 6.5 bu	-	Flax 8.2 bu	
15.	Corn 60.2 bu	-	Soybean 6.6 bu			

*Spring wheat replaced winter wheat due to the late harvest of chickpeas in 1997.