

SUMMERFALLOW MANAGEMENT STUDY

The objective of this trial is to determine the optimum number of cultivations required on summerfallow in western North Dakota as related to yield and cost of operation.

Previous work on summerfallow at this station has determined the best average date for first tillage of fallow as May 15.

Results of similar trials at two other western North Dakota stations support the observations made at Dickinson. In trials at the North Central Agricultural Experiment Station at Minot, Geiszler found that wheat on fallow which received the first tillage of the fallow year on July 1 produced only about 91 per cent as much grain as when the first tillage was on June 1. At the Northern Great Plains Field Station at Mandan, wheat yields were reduced about 6 bushels per acre on the average when the first tillage of the fallow year was delayed until July 1 as compared to June 1 according to Sarvis and Thysell.

In 1968 a trial was begun at Dickinson which compares grain production from summerfallow where the cultivations have been at 4 week, 5 week, 6 week and 7 week intervals, starting with the first tillage operation as close to May 15 as possible. When the first tillage can be applied on or about May 15, the average number of cultivations required for the 4 week treatment is 6, the 5 week treatment requires 5 and the 6 and 7 week intervals require 4 tillage operations during the season.

Fifty cents per acre can be considered a very conservative cost for one cultivating operation on summerfallow. To get the cost down this low an operator would have to be covering approximately 2000 acres. On this basis the 4 week cultivation interval costs a dollar per acre more and the 5 week cultivation fifty cents per acre per season more than does the 6 and 7 week cultivation method.

Table 50. Yields from the Summerfallow Management Study -1970.

Treatment	Yield in bushels per acre				Avg.
	1	2	3	4	
4 week cultivation	24.2	22.6	13.2	17.8	19.5
5 week cultivation	21.6	19.8	18.3	16.7	19.1
6 week cultivation	18.7	23.5	13.6	17.9	18.4
7 week cultivation	16.9	19.4	16.8	14.1	16.8

Table 51. Yields from the Summerfallow Management Study – 1968-1970.

Cultivation interval	Average yield in bushels per acre			
	1968	1969	1970	3-Year Avg.
4 weeks	38.8	43.0	19.5	33.8
5 weeks	37.4	43.0	19.1	33.2
6 weeks	38.6	40.3	18.4	32.4
7 weeks	39.5	38.0	16.8	31.4