

ROTATION AND TILLAGE TRIALS - 1953

The 1953 trials complete 47 years of study in Dry Land Soil Management at the Dickinson Experiment Station. In 1907 all trials were grown on uniform cropping and are not included in the long time average.

In the following summary tables, 1953 yields for the 4 principal crops, wheat, oats, barley and corn, included in these trials are compared with annual averages for the past 5 years and with the 45 year average score for the more important cultural methods under investigation.

Table 3 - Summary - Wheat Yields - 1953 Rotation and Tillage Trials

Cultural Method	No. Plots	1948	1949	1950	1951	1952	1953	Av. 1908-1952	Relative Yields % 1908-1952
Fallow	5 ¹	41.2	9.7	23.1	23.9	10.7	22.2	20.7	100%
Green Manure	3 ²	37.1	6.5	24.5	23.7	8.9	24.3	18.8	91%
Disked Cornground	9	34.7	10.3	18.4	21.4	9.8	20.7	18.2	88%
S.P. Stubble	1	20.3	5.7	17.2	13.5	7.5	18.7	13.4	65%
F.P. Stubble	2	20.2	7.5	23.5	15.6	9.0	18.7	14.8	71%
Continuous:									
Spring Plowing	1	21.7	3.2	14.5	13.7	7.5	15.8	11.5	56%
Fall Plowing	1	19.5	2.7	8.7	13.0	9.2	14.6	11.0	53%

Alternate Wheat and Fallow	1	34.5	7.2	17.5	22.2	8.2	21.2	19.6	95%
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¹3 plots only from 1908-1952.

²5 plots from 1908-1951. 3 plots in 1952-1953.

Table 4 - Summary - Oat Yields - 1953 Rotation and Tillage Trials

Cultural Method	No. Plots	1948	1949	1950	1951	1952	1953	Av. 1908-1952	Relative Yields 1908-1952
Fallow	3	89.7	24.9	51.9	62.2	27.3	59.5	46.8	100%
Green Manure	3	87.4	15.9	58.7	54.6	24.6	65.1	45.2	97%
Disked Cornland	5	71.7	22.7	40.8	54.2	22.1	48.9	37.2	80%
S.P. Stubbles	4	63.2	32.8	44.2	35.6	22.5	58.7	36.1	77%
F.P. Stubble	5	48.4	19.1	46.9	37.1	26.3	50.0	32.1	69%
Sod	3	49.2	23.6	43.1	44.9	26.5	48.2	33.8	72%
Continuous:									
Spring Plowing	1	31.6	13.8	30.6	42.5	16.9	37.8	26.6	57%
Fall Plowing	1	29.1	8.1	43.0	33.8	20.0	31.6	24.6	53%
Alternate Oats and Fallow	1	62.2	23.4	53.8	60.6	29.4	50.3	45.5	97%

Table 5 - Summary - Barley Yields - 1953 Rotation and Tillage Trials

Cultural Method	No Plots	1948	1949	1950	1951	1952	1953	Av. 1908-1952	Relative Yields 1908-1952
Fallow	2	33.8	5.8	25.4	43.8	25.2	35.0	27.0	100%
Disked Cornland	2	38.4	14.1	24.0	35.2	15.9	29.3	21.2	79%
S.P. Stubble	1	23.1	5.8	29.6	22.7	12.4	29.0	16.2	60%
Continuous:									
Spring Plowing	1	22.3	7.7	19.4	28.1	16.9	27.1	16.0	59%
Fall Plowing	1	18.3	1.5	12.9	29.2	20.0	23.7	14.8	54%
Alternate barley and fallow	1	54.2	12.7	32.7	38.5	29.4	32.4	24.2	89%

Table 6 - Summary - Corn Yields - 1953 Rotation and Tillage Trials

Cultural Method	No. Plots	1948	1949	1950	1951	1952 ¹	1953 ¹	Ave. 1908-1952	Relative Yields 1908-1952
CORN GRAIN									
Spring Plowing	16	30.0	13.9	22.0	23.2	16.0	50.0	17.6	100%
Fall Plowing	4	30.2	13.7	24.1	25.5	18.1	30.0	16.2	92%

Continuous:									
Spring Plowing	1	26.4	5.0	22.1	29.1	14.9	22.9	19.0	108%
Fall Plowing	1	28.4	14.1	20.4	34.4	17.6	14.3	18.9	107%
Alternate Corn and Fallow	1	26.4	13.8	16.4	29.1	32.9	14.3	20.9	119%
CORN SILAGE									
Spring Plowing	16	8902	4526	7990	7928	5569	13300	7168	100%
Fall Plowing	4	8860	3920	7224	8726	5450	10175	6268	88%
Continuous:									
Spring Plowing	1	7100	2100	7900	8180	2700	8900	6380	89%
Fall Plowing	1	6780	4720	6360	9520	4600	7100	6122	85%
Alternate Corn and Fallow	1	6600	5740	6600	7800	7000	9600	6900	96%
¹ Silage yields previous to 1952 figured on basis of corn fodder yield calculated as 50% of silage weight.									

Yields were good for all major crops in these trials in 1953, with corn being the most outstanding crop.

Small grain yields followed rather closely the pattern of the 45 year average. Yields on plots green manured in 1952 were exceptionally good, which is usually the case in years when seasonal rainfall is good.

Stem rust race 15-B caused some damage to wheat and oat stem rust race 8 caused some damage to oat plots, but because these plots were seeded early and the damage was considerably less than that which occurred in later plantings.

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