

Comparisons of Yields on Stubble Land Tilled in the Spring With the Mold-Board Plow, the One-Way Disk and the Doubledisk

An experiment comparing the moldboard plow and the double disk for the preparation of stubble land to be seeded to small grain was begun in 1924 and discontinued in 1957. Yields this 34 year period clearly showed spring plowing to be the better tillage method. Yields from spring plowing averaged 3.5 bushels per acre more for the entire period and were higher than yields from disked stubble in 26 of the 34 year. There were three crop failures for both methods, yields were equal four years, and yields from disked stubble were slightly higher than from spring plowed stubble in only two years, 1931 and 1937. In both of these years yields were so low that for all practical purposes they could also be considered crop failures.

In 1955 another trial was begun to compare the yields on stubble land tilled in the spring with the moldboard plow, the one-way disk and the double disk. Yields from this trial for the five year period, 1955-1959, are summarized in Table 15. These results show that spring plowing with a moldboard plow is the best method of tilling stubble land to be seeded to small grain in western North Dakota. Double disking is easily the poorest tillage method of the three compared.

This trial was discontinued in 1960 because it was located on land belonging to the Dickinson State Teachers College, which was returned to the College this year.

Table 15. Summary of Wheat Yields on Stubble Land tilled in the Spring with the moldboard plow, the double disk and the one-way disk, 1955-1959.			
Year	Average Yield in Bushels Per Acre		
	Spring Plowing	One-way disking	Double disking

1955	22.0	17.6	14.5
1956	14.2	11.5	9.3
1957	18.0	16.7	15.5
1958	19.3	18.7	15.1
1959	6.3	9.5	6.3
Average	16.0	14.8	12.1

Annual Cool Season Forage Production Trial

Yields from the 1960 annual cool season forage production trial are given in Table 16.

Table 16. Annual Cool Season Forage Production Trial - 1960					
Description	Yield on Summer Fallow lbs/acre 12% M.				
	1	2	3	Average	% Moisture at harvest
Hairy Vetch	1393	1184	1201	1259	75.7
Austrian Winter Peas	1423	1081	1255	1253	73.8
Oats and Vetch	1562	1489	1426	1492	67.8
Oats and Peas	1379	1235	1111	1242	67.2
Oats	1742	981	1536	1420	61.3
Oats + 50 Lbs. N Per Acre	1297	1374	1008	1226	68.8
Oats + 100 Lbs. N Per Acre	1446	1319	1162	1309	70.7

Description	Yield on Stubble Lbs. Per Acre @ 12				
	1	2	3	Average	% Moisture at harvest
Hairy Vetch	1277	1331	1197	1268	71.7
Austrian Winter Peas	1035	1367	1280	1227	73.4
Oats and Vetch	1267	1485	1548	1433	60.8
Oats and Peas	1168	1350	1461	1326	63.4
Oats	1735	1437	1381	1518	60.9
Oats + 50 Lbs. N Per Acre	1330	1458	1208	1332	63.4
Oats + 100 Lbs. N Per Acre	1442	1477	1222	1380	68.1

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