AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

MINNESOTA FARM MANAGEMENT SERVICE NOTES

No. 28 March 10, 1925

Prepared by the Farm Management Group at University Farm, St. Paul, Minn.
Andrew Boss, G.A. Pond, L.B. Bassett, W.L. Cavert,
L.F. Garey, A.T. Hoverstad

TRENDS IN CROP PRODUCTION COSTS 1920-1924

In the following tables are presented a comparison of the costs of producing the three leading cereal crops in representative producing areas in this state for the past five years. The yield and crop values are also shown. These costs have been computed on an opportunity basis. In each case the land charge has been based on the prevailing rental system in the locality. Man labor is charged at the average wage paid hired labor plus the cost of board. It is not expected that the data should be indicative of the absolute profits or losses incurred. It is rather intended to show trends in costs and income for these crops and to explain some reasons for the variations that have occurred.

WHEAT-COSTS AND RETURNS PER ACRE*NORMAN COUNTY

	1920	1921	1922	1923	1924
Man hours	9¾	9¾	9¾	9¾	9¾
Horse hours	27½	27½	27½	27½	27½
Labor	$8.92	$4.43	$4.90	$5.47	$5.74
Seed	4.50	1.38	2.25	1.95	1.88
Twine	.30	.25	.20	.21	.22
Threshing	1.00	.70	.90	.60	1.08
Machinery	1.00	1.00	1.00	1.00	1.00
Land rent	5.00	5.00	5.00	5.00	5.00
Total cost	20.72	13.26	14.25	14.23	14.92
Yield - bushel	10	10	15	10	18
Cost per bushel	2.07	1.33	.95	1.42	.83
Dec. 1 price per bushel	1.30	.97	1.01	.95	1.30
Value of crop	13.00	9.70	15.15	9.50	23.40

The above data on wheat costs are based on studies conducted in Norman county for sixteen years ending in 1917. Current price rates for the years 1920 to 1924 inclusive are applied to the physical units of the cost factors found during the earlier years. The yields shown are the county yields for the years 1920 to 1924.

The 1920 acre cost was undoubtedly the highest average cost ever incurred in the history of the county. The 1921 cost was only 64 per cent of the 1920 cost, largely due to lower wages for labor, lower costs of maintaining work horses and lower seed costs. The slight rise in cost since that time is largely accounted for by small increases in wages and in feed costs for horses. The importance of yield as a factor in low unit costs is well illustrated. Altho acre costs in 1922 and 1924 averaged 10 per cent higher than in 1921 or 1923, yet due to higher yields the costs per bushel were 35 per cent less.

OATS - COST AND RETURNS PER ACRE - STEELE COUNTY

	1920	1921	1922	1923	1924
Man hours	11½	8¼	10¼	9½	12½
Horse hours	17½	15¼	19½	20½	27
Tractor hours	1.3	1.0	.6	.4	.1
Labor	$8.20	$4.01	$4.38	$4.61	$6.11
Seed	2.02	.88	.86	1.14	1.16
Twine	.46	.41	.34	.30	.57
Threshing	1.82	1.48	1.94	1.52	2.09
Manure	.31	.27	.31	.18	.34
Machinery	1.00	1.00	1.00	1.00	1.00
Land rent	6.00	6.00	6.00	6.00	6.00
Total cost	19.81	14.05	14.83	14.75	17.27
Yield - bushels	47	35¾	54¾	53½	64
Cost per bushel	.42	.39	.27	.27½	.27
Dec. 1 price per bushel	.42	.24	.34	.37	.44
Crop value	19.78	8.59	18.63	19.79	28.12

As in the case of wheat, the cost figures for the oats are exceptionally high for the year 1920. For the last four years they may be assumed to represent more nearly normal conditions. The importance of high yield in lowering the cost per bushel as was indicated in case of wheat can not be overemphasized. During any one year the cost per acre shows very little variation between different farms due to yield. A high yield is obtained for very nearly the same cost per acre as a low yield. Therefore, greater profits may be expected with high yields.

Altho oats is often considered a poor cash crop, the cost of raising a bushel on these farms during the last three years has been lower than the market price. During these years weather conditions have been unusually favorable to this crop. The yields on these farms have been consistently greater than the estimated yield for the county. The average yield for the five year period on these farms is 51 bushels while the county average is only 40 bushels. Low costs per bushel have only occurred on farms where yields have been considerably above the county average.

The rental system on which the corn table on the following page is based is a share rent system. The tenant pays all the expense incurred in producing the crop except the land charge, and in return receives three-fifths of the yield. In the tabulation both the total yield and the tenant's share of the yield is given. The cost per bushel and the value of the crop are based on the tenant's share only.

The importance of high yields in lowering costs applies as stronly to corn as it does to oats or wheat. Altho the acre costs in 1921 and 1922 were about the same the cost per bushel is lower in 1921. This is due largely to the fact that total cost was shared by 27 bushels(tenant's share) in 1921 and by only 18¼ bushels in 1922. The last three years have been more profitable oat than corn years. In 1922 the yield given was lowered considerably due to damage by hail. The cool weather in 1924 which caused such a large yield of oats also caused the low yield of corn. Ordinarily the corn is assumed to be the most profitable. With weather conditions more suitable to corn it is expected that it may again show a greater return than oats.

CORN * COST AND RETURNS PER ACRE - COTTONWOOD AND JACKSON COUNTIES

	1920	1921	1922	1923	1924
Man hours(not inc. husking)	10	10¾	10¾	10	10¼
Horse hours	41¾	44¼	42⅓	42½	41¼
Labor	$11.88	$6.13	$6.05	$6.37	$6.46
Seed	.72	.53	.22	.25	.33
Husking	3.04	1.80	1.83	4.11	2.41
Manure	.57	.44	.39	.50	.46
Machinery	1.15	1.15	1.15	1.15	1.15
Total cost	17.36	10.05	9.64	12.38	10.81
Total yield - bushels	38	45	30½*	50¼	29
Tenant's share - bushels	22¾	27	18¼	30	17½
Cost per bushel	.76	.37	.53	.41	.62
Dec. 1 price per bushel	.45	.24	.54	.53	.75
Value - tenant's share	10.28	6.47	9.88	15.96	13.09

*Yield lowered considerably by hail

A glance at the acreages of the three crops for the last five years shows that the wheat acreage has steadily declined while oats and corn have made large increases. Since 1920 the acreage of wheat has decreased 44 per cent, oats has increased 21½ per cent and corn 37 per cent. During this same period there has been an increase of 16 per cent in the number of dairy cattle in the state and 31 per cent in the number of hogs. During most of this period these classes of livestock offered a relatively more attractive market for grains than did the cash ~~rentx~~ market. It is only natural that the acreage of feeding crops should be expanded at the expense of a cash crop such as wheat.

STATE ACREAGE OF THREE LEASING CEREAL CROPS

	1920	1921	1922	1923	1924
Wheat	2,800,000	2,279,000	1,900,000	1,730,000	1,574,000
Oats	3,702,000	3,924,000	4,021,000	4,200,000	4,500,000
Corn	3,288,000	3,427,000	3,979,000	4,297,000	4,512,000

During much of 1924, however, many farmers have found it more profitable to sell their crops than to feed them to livestock at prevailing prices. The present cash grain market may be a large factor in determining the acreage of these crops for the coming year. It should be remembered that abnormal conditions during the last year have caused the market prices of corn and wheat to be unusualy high. The high price of corn now prevailing is a result of poor yields over the entire corn belt. Expectation of a normal production in 1925 together with indications of a smaller pig crop lead to the belief that present high prices may not continue thruout 1925. If these indications are true any increase in corn acreages should be made very cautiously. The high price of wheat is caused by a very low world production in 1924. The northwest on the other hand was fortunate in harvesting one of the highest yields on record. However, the present price can not be expected for the 1925 crop if the world production returns to normal. The high yield at the prevailing prices have caused wheat to show a margin which cannot be expected to last. Therefore, any changes in acreages of these two crops should be made only after considering the factors which might tend to change the conditions as they have prevailed recently.

G.A.P. and A.T.H.