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Extension Circular 823 - 30

Annual Farm Business Report

Forty-Five Buffalo County Farms

1930

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Farming is a business. The essentials
of success are good management
and efficient operation.

The University of Nebraska Agricultural College Extension Service
and Rural Economics Department, United States Department
of Agriculture, and Buffalo County Farm Bureau
Cooperating, W. H. Brokaw, Director
Lincoln, Nebraska.

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ACKNOWLEDGMENT

The records which form the basis for this report were kept and collected under the supervision of A. R. Hecht, county extension agent of Buffalo county.

Credit is due Messrs. Arthur G. George and L. E. Snipes who worked with Mr. Hecht in placing and collecting the records and to Arthur W. Medlar and Harold Hedges for advice and suggestions relative to the analysis of the data included in this study.

* * * * *

ANNUAL FARM BUSINESS REPORT

Buffalo County, Nebraska, 1930

Non-irrigated Farms

Prepared by Ralph E. Cole

Farm earnings in general were very low in 1930. The principal cause of this situation was the severe decline in prices of farm products which took place during the year. The world-wide business depression which started in July, 1929, continued through 1930 and became more severe as the year progressed. In December the index of farm prices stood at 97 per cent or 38 per cent below December, 1929, and 3 per cent below the pre-war level, 1910-1914. These price declines during the past year made it necessary to reduce inventory values materially, and thus contributed to the low earnings of 1930. As is usually the case, prices of commodities which farmers sell declined more rapidly than prices of things which farmers buy and, as a result, agriculture has been placed in a very unfavorable position. The index of purchasing power of farm products in December, 1930, stood at 65 as compared with an average of 100 for the 5-year period, 1910-1914.

While a majority of the farms in Buffalo county depend upon rainfall for moisture, irrigation is practiced on a considerable number. For the year 1930 a total of 54 farmers in Buffalo county completed business records and sent them to the College of Agriculture to be summarized. Of this number 9 were irrigated farms and 45 depended upon rainfall alone for moisture. The figures from the 9 irrigated farms will be shown in a separate report along with the figures representing 13 irrigated farms in Dawson county. The figures shown in this report represent the 45 Buffalo county farms which depended upon rainfall.

Farm earnings in Buffalo county in 1930, while higher than in most counties farther east in the state, were low. The 45 farmers whose records form the basis of this report earned, as pay for the use of capital invested and for the management and risk of operating the business, an average of 2.71 per cent on their investments. A wage of $60 per month was deducted for each operator's labor. A deduction was made for the labor of members of the family other than the operator on the basis of $60 for each month of man labor replaced. Thus, the percentage return on investment represents the combined return for the use of capital and the operator's management.

Rate earned on investment is one measure of farm earnings. Another measure is Labor and Management Wage, the method of computing which is to deduct 5 per cent interest for the use of capital and to regard the remaining income as pay for the operator's labor and management. The average Labor and Management Wage on the 45 farms included in this study was $122. In other words, after deductions were made for family labor and 5 per cent interest on investment the operators of the 45 farms received an average of $122 per farm to pay for their labor and management. The rate earned on investment and the Labor and Management Wage were computed by using the entire investment in the farm business including both owned and rented real estate.

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The income figures given in this report should not be taken as representative of all farms in the county. These men are progressive farmers as evidenced by their keeping accounts and studying their businesses with a view to increasing their efficiency. Evidence that farmers who keep accounts made larger profits than the average of the community in which they live has been found in other states. A survey made by the Farm Management Department of the University of Illinois indicates that men who were keeping accounts in 3 Illinois counties made net incomes of approximately $1200 per farm greater than the average of all farmers in the same localities.

DIFFERENCES IN FARM EARNINGS

For the purposes of comparison the farms included in this report have been divided into groups. The average figures for the 15 farms which earned the highest return on the investment are found in Column 3 of Table I. The average figures for the 15 farms which returned the lowest rate on investment are found in Column 4. Column 2 includes the average figures for the entire group of 45 farms. In this report comparisons are made between the group which includes the 15 most profitable and the group of the 15 least profitable farms without particular reference to the 15 farms in the intermediate group.

The 15 most profitable of the 45 farms, after deductions for the value of family labor and $720 for the operator's labor were made, had an average of 6 per cent to pay the operator for his management and for the use of capital invested, while the 15 least profitable farms, after the same deductions were made, showed an average loss of .50 per cent on the capital invested.

A comparison on the basis of Labor and Management Wage shows similar results. The 15 most profitable farms, after the value of family labor and interest on the investment at the rate of 5 per cent were deducted, had an average of $1,022 to pay the operator for his labor, management, and risk, while the 15 least profitable farms, after the value of family labor was deducted, lacked an average of $762 of making 5 per cent interest on the investment.

The 15 farms in the high-income group had an average gross income of $11.80 per acre while those in the low-income group had an average of $7.42 per acre. The total expenses per acre were $6.42 and $7.96 on the two groups of farms, respectively. In other words, the most profitable group of farms with $1.54 less expense per acre returned an income of $4.38 more per acre. This gave the high-income group an average net income of $5.38 per acre as contrasted with a net loss of 54 cents per acre for those in the low-income group.

CAUSES OF DIFFERENCES IN EARNINGS

CROP YIELDS.-The average yields per acre on the 15 most profitable farms were corn 24.0 bushels, wheat 26.8 bushels, and alfalfa 2.7 tons. On the farms in the least profitable group the yields were corn 24.9 bushels, wheat 21.2 bushels, and alfalfa 1.7 tons. While the farms in the low-income group had a small advantage in yield of corn the farms in the high-income group had a considerable advantage in yield of wheat and alfalfa.

ACRES IN CROPS.-The farms in the high-income group had an average of 80 acres in corn, 22 acres in barley, 15 acres in wheat, and 35 acres in alfalfa. The farms in the low-income group had an average of 86 acres in corn, 19 acres in

barley, 43 acres in wheat, and 17 acres in alfalfa.

The least profitable farms averaged 11 acres larger in size and had an average of 23 acres per farm more in crops than the farms in the high-income group. The low-income farms had relatively larger acreages of wheat and the high-income farms had an average of approximately twice as many acres of alfalfa as those in the low-income group.

LIVESTOCK RETURNS.-Approximately 57 per cent of the gross income on the 45 Buffalo county farms included in this study came from livestock and livestock products. Thus, it is evident that the efficiency with which livestock is produced and marketed has some bearing upon farm profits in this section of the state.

For each $100 invested in productive livestock the farmers in the most profitable group received $97 while those in the least profitable group received $66.

For each $100 worth of feed fed to productive livestock the farmers in the high-income group received $174 as compared with $119 for those in the low-income group. The total livestock receipts per farm averaged $2,007 on the 15 most profitable farms and $1,132 on the 15 least profitable farms.

VOLUME OF BUSINESS.-A reasonably large volume of business is necessary for the profitable operation of a farm. One of the most satisfactory measures of volume of business is total receipts, often referred to as Gross Income. The average gross income of the 15 most profitable farms was $3,274 as compared with $2,137 for those in the least profitable group.

Since a large volume of business is necessary for the economical operation of a farm, it is to the interest of every farmer to secure such volume. One means of increasing volume is that of expanding farm acreage. Farmers who are not in a position to increase their farm acreages may increase volume by more intensive methods such as producing more livestock and livestock products.

EFFICIENCY OF MAN LABOR.-The labor cost, including the operator's and family labor at hired man rates was $3.35 per acre on the high-income farms and $4.34 on those in the low-income group. The difference of 99 cents per acre in average labor cost was of some importance in accounting for the difference in average earnings on these two groups of farms.

POWER AND MACHINERY COSTS.-The average cost per acre in crops for horse power, tractor, and machinery was $3.31 on the high-income farms and $3.68 on those in the low-income group. These figures include cost of horse feed, depreciation on horses, cost of repairs, fuel, oils, and greases, as well as depreciation on all movable farm equipment. As indicated by the figures quoted, the high-income farms had an advantage of 37 cents per acre in crops in cost of power and machinery.

INVESTMENT

The average investment in the 45 farm businesses included in this report was $25,354, or $90 per acre. These figures represent the average farm unit value and include land, buildings (except residence), livestock, feed, supplies, machinery and equipment.

In making the analysis of these records the investment in the residence of each operator was left out of the farm inventory. The depreciation and upkeep of the residences were also omitted. This is done for the same reason that the business man in town does not include his residence as a part of his business; namely, that the use of the house is considered as an income from an investment outside of the farm business.

TABLE I. SUMMARY OF 45 FARM BUSINESSES IN BUFFALO COUNTY, (Non-irrigated) 1930

Factors Useful in Analyzing the Farm Business	Your Farm	Average of 45 farms	15 most Profitable farms	15 least Profitable farms
Size of farm - Acres	A.	282 A.	277 A.	288 A.
Acres in crops	A.	200 A.	178 A.	201 A.
Per cent of land area tilled	%	75.6 %	69.7 %	73.4 %
Gross receipts per acre $		$ 9.60	$ 11.80	$ 7.42
Total expenses per acre		7.20	6.42	7.96
Net receipts per acre		2.40	5.38	-.54
Land investment per acre		66	60	69
Total investment per acre		90	86	91
Acres in Corn	A.	85 A.	80 A.	86 A.
Barley	A.	21 A.	22 A.	19 A.
Wheat	A.	33 A.	15 A.	43 A.
Alfalfa	A.	28 A.	35 A.	17 A.
Yield per acre of Corn	bu.	24.4 bu.	24.0 bu.	24.9 bu.
Wheat	bu.	23.1 bu.	26.8 bu.	21.2 bu.
Alfalfa	T.	2.1 T.	2.7 T.	1.7 T.
Returns per $100 feed fed to productive livestock $		$ 152	$ 174	$ 119
Returns per $100 invested in:				
All productive livestock		85	97	66
Cattle		47	54	41
Hogs		150	163	97
Poultry		188	174	211
Dairy sales per cow		48	44	49
Receipts from productive livestock per acre		5.51	7.22	3.91
Investment in productive livestock per acre		6.50	7.47	5.92
Man labor cost per $100 gross income		39	28	58
Man labor, power, and mach. cost per $100 gross income		65	46	93
Man labor cost per acre		3.72	3.35	4.34
Total feed cost for horses		342	325	352
Power and machinery cost per acre in crops		3.54	3.31	3.68
Expense per $100 gross income $		$ 75	54	107
Farms with tractors		11	3	3

Table I. Continued

Item		Your Farm	Average of 45 farms	15 most Profitable farms	15 least Profitable farms
Capital Investments - Total	$		$ 25,354	$ 23,810	$ 26,266
Land	$		18,658	16,687	19,954
Farm improvements	$		2,003	2,221	1,942
Horses	$		449	410	437
Cattle	$		1,150	1,173	1,156
Hogs	$		512	701	390
Sheep	$		68	127	72
Bees	$		1	1	1
Poultry	$		145	121	163
Livestock - Total	$		2,325	2,533	2,219
Machinery & Equipment	$		1,298	1,263	1,123
Feed, grain, & supplies	$		1,070	1,106	1,028
Receipts - Net Increases-Total			2,707	3,274	2,137
Horses	$		-	3	-
Cattle	$		242	418	97
Hogs	$		760	1,125	378
Sheep	$		19	64	-
Bees	$		-	-	-
Poultry	$		58	52	57
Egg Sales	$		190	145	245
Dairy Sales	$		284	200	355
Livestock - Total	$		1,553	2,007	1,132
Feed, grain, & supplies	$		1,091	1,193	959
Labor off farm	$		44	49	26
Miscellaneous receipts	$		19	25	20
Expenses-net Decreases- Total			1,142	1,009	1,264
Farm Improvements	$		123	102	140
Horses	$		25	-	28
Misc. L.S. Decreases	$		-	1	6
Mach. & equipment	$		341	268	362
Feed, grain, & supplies	$		-	-	-
Livestock expense	$		31	24	32
Crop expense	$		200	202	218
Hired Labor	$		190	190	243
Taxes	$		212	204	208
Miscellaneous expense	$		20	18	27
Receipts less Expenses	$		1,565	2,265	873
Total unpaid labor	$		887	771	1,030
Net income from investment and management	$		678	1,494	-157
Rate earned on investment	%		2.71 %	6.00 %	-.50 %
Return to capital and operator's labor and management	$		1,390	2,212	551
Interest on investment at 5 per cent	$		1,268	1,190	1,313
Labor and Management Wage	$		122	1,022	-762

TABLE II. The numbers between the lines across the middle of the page are approximate averages in Buffalo county of the factors named at the top of each page. These columns are independent of each other and may be considered as a thermometer of efficiency. By drawing a line across each column at the number nearest approaching the figure for your farm in that factor (See Table I), you can compare your efficiency with that of other farms in Buffalo county.

Rate Earned on Investment %	Bushels per Acre: Corn	Bushels per Acre: Wheat	Returns per $100 Invested: Cattle	Returns per $100 Invested: Hogs	Returns per $100 Invested: Poultry	Returns per $100 worth of feed fed	Power and Machinery Cost per Acre in Crops	Man Labor Cost per Acre	Expense per $100 Gross Income	Gross Receipts: Per Acre	Gross Receipts: Per Farm	Size of
-	45	37	117	290	328	292	---	---	40	24	8300	632
8.71	42	35	107	270	308	272	---	---	45	22	7500	582
7.71	39	33	97	250	288	252	---	---	50	20	6700	532
6.71	36	31	87	230	268	232	1.54	1.72	55	18	5900	482
5.71	33	29	77	210	248	212	2.04	2.22	60	16	5100	432
4.71	30	27	67	190	228	192	2.54	2.72	65	14	4300	382
3.71	27	25	57	170	208	172	3.04	3.22	70	12	3500	332
2.71	24	23	47	150	188	152	3.54	3.72	75	10	2700	282
1.71	21	21	37	130	168	132	4.04	4.22	80	8	1900	232
.71	18	19	27	110	148	112	4.54	4.72	85	6	1100	182
-.29	15	17	17	90	128	92	5.04	5.22	90	4	-	132
-1.29	12	15	7	70	108	72	5.54	5.72	95	-	-	-
-2.29	-	13	0	50	88	52	6.04	6.22	100	-	-	-
-3.29	-	11	-	30	68	32	6.54	6.72	105	-	-	-
-4.29	-	9	-	10	48	-	7.04	7.22	110	-	-	-

FARM MANAGEMENT SUGGESTIONS

The profitableness of any business is determined by the margin between cost of production and selling price. Farm profits to the individual farmer may be increased in two general ways:

I. An increase in the selling price of farm products.
II. A decrease in the cost of producing farm products.

Prices are made through the operation of the forces of supply and demand. By giving attention to quality and studying market conditions both as to time, place, and strategy, the farmer may take advantage of price variations and secure somewhat better prices than he would otherwise. However, the individual farmer has practically no control over the price level of farm products and can hope to accomplish little by the first method listed above.

The individual farmer does have considerable control over his costs of production. It is within his power to increase the efficiency of his business at certain points, and through this means, to decrease his production costs. He may approach the problem of increasing his efficiency from two different angles, as follows:

I. The proper organization of his farm business
II. The adoption and use of efficient practices in the operation of his farm.

The organization of the farm has to do with such questions as:

1. Size of farm,
2. Kinds of crops produced and acreages devoted to each,
3. Types of livestock produced and size of livestock enterprises,
4. Sources of power,
5. Supply of labor

Examples of practices which make for efficiency in the operation of a farm are as follows:

1. Use of legumes in building up soil fertility,
2. Prevention of erosion by various methods,
3. Feeding balanced rations to livestock,
4. Culling of low-producing cows and hens,
5. Sanitary methods in producing livestock in order to prevent disease,
6. Use of large units of equipment to save labor,
7. Early plowing of stubble to conserve moisture,

Farm management studies in various states have established certain definite principles which may well be observed in the organization and operation of a farm. A valuable treatment of these principles is included in Illinois Experiment Station Bulletin No. 329, "Organizing the Corn Belt Farm For Profitable Production". The principles discussed in Bulletin 329 are listed below:

"1. Good yields tend to reduce the unit cost of producing farm crops.

"2. A large percentage of land in the higher profit crops means larger profits.
"3. Livestock production as a means of marketing crops makes for larger farm income
"4. Efficient feeding and handling of livestock materially reduces cost of production.
"5. A large volume of business is necessary for profitable farming.
"6. A well-organized system of crop and livestock production helps use available man labor advantageously.
"7. Costs are reduced when the supply of horse and mechanical power fits the farm needs and is economically handled.
"8. Buildings, machinery, and other equipment expense must be kept under control if low production costs are to be obtained.
"9. A good farm layout and a well-developed farmstead make for economical operation.
"10. Diversity of crop production helps to insure long-time profits.
"11. Production planned in accordance with market demands makes for a larger margin of profit."

These principles are general in nature and certain ones of them may not apply under all circumstances.

Market demands are continually changing. This makes it necessary, for even those farmers who have their businesses well organized, to make adjustments in order to keep their production planned in accordance with market demands. So far as possible it is desirable that these adjustments be made on the basis of what "will be" rather than in response to what "has been" in the immediate past. In practice many adjustments are made on a basis of what is now happening or what has just happened. "Sheep are low in price so let's quit the sheep business," represents an attitude which is too common. A better basis for decision would be that implied by the question, "What is the outlook for sheep over the next three, five, or ten years?"

The organization of the farm should not be planned on the basis of profits for a single year, but should be planned in such a way as to give the greatest continuous profit over a period of years. Radical changes in the cropping or livestock system of a farm are costly. For example, a man may decide to double his number of brood sows because the prospect for hog prices is good. Such a move would involve the provision of more hog equipment, as well as more labor and a larger feed supply for the hog enterprise. If, a year or two later, because the outlook for hog prices appears unfavorable, this same farmer decides to breed only half as many sows as before his farm organization is again disrupted. He now has hog equipment lying idle, and a part of the labor and feed supply formerly utilized by the hog enterprise must be used elsewhere.

Slight increases or decreases in line with what supply and demand conditions "will be" are justifiable, but radical changes based on short time conditions are seldom advisable. The operations of the "in-and-outer" are usually detrimental both to himself and to the industry as a whole.
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When a permanent change in supply and demand conditions occurs the quicker an adjustment is made in accordance with the change the better. For example, the demand for timothy and prairie hay has fallen off materially due to the decline of horse numbers, particularly in the cities. The farmer who recognized this change and shifted his production from timothy or prairie hay to some other crop, fared much better than the farmer who stuck tenaciously to his old cropping system in the face of a rapidly disappearing market.

The present wheat situation is in the nature of a permanent change which will require some adjustment. It is evident that some of the land in the United States which has been used in producing wheat must eventually be used for some other purpose. Many farmers in Nebraska are already reducing their wheat acreage or eliminating this crop from their cropping systems.

Two or three years hence the adjustments which are being made will probably place wheat in a more favorable position than it now is. However, there is little evidence to indicate that wheat will, in the next decade, return to the favorable price relationship which existed from 1925 to 1929.

These illustrations serve to point out the fact that permanent changes do occur and that these changes require adjustments in the farm program. When it becomes necessary to make such changes in the cropping and livestock program of the farm, economic information as to probable supply and demand conditions in the future provides a sound basis for use in deciding what changes to make.

Where may such economic information be secured? The county extension agent in each county having such an agent will be able to secure publications containing economic information for persons living in his county. Persons living in non-agent counties may secure these publications through the Nebraska College of Agriculture. A list of the original sources of economic information suitable for farmers is listed below.

SOURCES OF ECONOMIC INFORMATION

1. NEBRASKA ECONOMIC SITUATION

This brief publication is issued once each month by the Extension Service of the Nebraska College of Agriculture. It contains a discussion of supply, demand conditions, and the price situation of farm products of importance in Nebraska.

2. AGRICULTURAL OUTLOOK FOR NEBRASKA

This is a presentation of facts relating to the agricultural situation with particular reference to the supply and demand conditions affecting products produced on Nebraska farms. This report is published in February of each year and may be secured by addressing the Nebraska College of Agriculture, Lincoln.

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3. UNITED STATES DEPARTMENT OF AGRICULTURE OUTLOOK REPORT

This report attempts to bring together facts relating to prospective world-wide supply and demand conditions which are not generally known to farmers. It is published early in February each year and may be secured in limited numbers by addressing the Nebraska College of Agriculture, or the United States Department of Agriculture, Washington, D. C.

4. THE FARM OUTLOOK FOR 1931

This is a shortened edition of the United States Department of Agriculture report mentioned just previously. It may be secured from the same sources.

5. THE AGRICULTURAL SITUATION

The Agricultural Situation, a monthly publication of the Bureau of Agricultural Economics of the United States Department of Agriculture, gives current information on supply, demand, and price conditions for the United States and for sections of the United States. It is condensed and is useful in keeping up to date on the latest economic information. It is not a free publication, but a subscription price of 25 cents per year is charged for it. Address the Superintendent of Documents, Government Printing Office, Washington, D. C.

6. MISCELLANEOUS MARKET REPORTS OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

This group includes a variety of reports giving supply, demand, and price information on different commodities. Persons interested can secure a list of these reports by addressing the Bureau of Agricultural Economics of the United States Department of Agriculture, Washington, D. C. A few of these reports with the approximate date of release are listed below. They may be secured free of charge by writing to the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

a. Monthly Crop Report.- This report which shows acreage, condition, prices, and probable production of crops is issued once each month of the year beginning with March. A summary of this report may be secured from the "Agricultural Statistician's" office, State House, Lincoln, Nebraska.

b. Special Pig Surveys.- Results of pig surveys are published about January 1 and July 1 of each year. They show supplies of hogs on farms and intentions to breed for the following season.

c. Report of Cattle on Feed or Movement of Feeder Cattle.- This report is issued about the 12th of January, April, August, October, November and December.

d. Report of Lamb Crops and Sheep and Lambs on Feed.- This report is issued about the twelfth of January, March, July, October, November and December.