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Report 40

UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Cooperating

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A Preliminary Report of Data Secured in 1929. on the FARM ACCOUNTING ROUTE in ROCK & NOBLES COUNTIES - MINNESOTA

By

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Source of Data

Method of Study

The Division of Farm Management and Agricultural Economics and of Animal Husbandry of the University of Minnesota are cooperating with the Bureau of Agricultural Economics of the United States Department of Agriculture in an accounting study of twenty-four farms in Rock and Nobles Counties in Southwestern Minnesota. This study was started March 1, 1929. The farms were selected in cooperation with the county agricultural agents in the respective counties, Mr. C. G. Gaylord in Rock County and Mr. C. J. Gilbert in Nobles County. Only farms on which some type of beef production is a major enterprise were chosen. The farmers cooperating in this work keep complete record of cash receipts and cash expenditures, a daily record of the labor used on each crop and each class of livestock, a record of the farm produce used in the house and other detailed information regarding their business. These records are checked at least twice a month by the route man and supplemented with inventories, livestock feed records, reports of crop yields and practices and other significant facts about the farm operation. The data collected is sent to the central office at University Farm, St. Paul, where a detailed set of records for each farm is kept. From these records the costs presented in this report have been computed. The financial returns from these farms, the cost and income from livestock production and other significant facts will be presented in later reports as the information becomes available.

cription of Area

Rock and Nobles Counties are located in the southwestern corner of
soil in Rock County and the western edge of Nobles County is
This is one of the most fertile soil types in the state.
County is covered with a glacial till, the prevailing
hern and central part of the state. This too is a pro-
plied with lime. According to the 1925 census, only four
had higher land values per acre than Rock and Nobles and
high land values were due largely to their nearness to
th counties are level to gently rolling with practically
There are some sections, especially in southern Nobles

County that need drainage to insure regular cropping and in Rock County there are limited areas of rock out-crop. The annual rainfall averages between 26 and 28 inches and the average growing season is from 130 to 140 days. Beef cattle and hogs are the principal classes of livestock raised. Corn, oats, and barley are the principal grain crops. They are raised primarily for feed although there is a considerable surplus for sale on many farms. Alfalfa and wild hay are the principal roughages grown.

Description of Farms

The average size of the farms studies was 323 acres. This is approximately 55% larger than the average size of farms in these two counties. The larger farms are better adapted to beef production. Two hundred forty-one acres or about 75% of the total acreage is in harvested crops. Of the balance there are 64 acres of pasture and 18 acres of farmstead roads, headlands, and waste. The crop land included 106 acres of corn, 56 acres of oats, 20 acres of barley, 10 acres of flax, 11 acres other small grains, 12 acres alfalfa, 14 acres wild hay, 7 acres other hay, and 5 acres of miscellaneous crops.

Only four of the farms studied are owned by the operators. Eight are rented and of the remaining 12 the operator owns part of the land and rents the balance. Thiry-seven per cent of all the land is owned by the operators. Two-thirds of the rented land is rented for cash and one-third on a share basis. More than half of all farms in these two counties are operated by tenants.

The average investment on these farms was approximately $47,500. The investment in productive livestock, including poultry, was over $6,000. For the period March 1, 1929 to February 28, 1930, 35% of the cash receipts on these farms came from the sale of cattle, 7% from dairy products, 32% from hogs, 3% from sheep and 4% from poultry, a total of 81% from livestock. About 15% of the receipts were from crops chiefly corn, oats and flax.

Method of Computing and Presenting Data

Comparative costs are presented for each of the important classes of livestock and crops raised. These data represent comparative costs and not absolute costs. They have been computed on an owner basis as though the operator owned all land, livestock and tools.

In studying the tables and in considering the income from the different enterprises, one should keep in mind that these figures represent charges which are not all actual cash expenses. All man labor and horse work, interest on the investment, the use of the buildings and equipment, as well as feed have been charged to the livestock. All man labor and horse or tractor work, machinery and equipment and manure have been charged to the crops. Therefore a minus return means that the particular enterprise has failed to pay the prices charged for the different factors. There may be no other more profitable alternative use for some of these factors. A return above the price of marketable feeds and cash expenses may justify continued production although these comparative figures fail to show a gain.

Livestock

Comparative costs and returns for each of the different classes of livestock produced in 1929 are presented in the first part of this preliminary report.

In so far as possible local prices were used in determining the cost and returns. Marketable feeds were charged at local prices and non-marketable feeds on a comparative feeding value basis. Man labor was figured at 30 cents per hour. Horse work was charged to the individual farm at the rate determined for that farm. The shelter charge was based on the annual cost of the buildings housing the livestock prorated on the basis of space occupied. The equipment charge is based on the annual cost of the particular class of equipment used by that class of livestock. The manure credit is based on a value of 75 cents per ton in the barnyard. Only the amount of the manure actually spread on the fields was credited to the livestock.

All tables for livestock have been computed on a per hundred pounds gain in weight, a per head, or some other similar basis so that the data for different farms are directly comparable. The tables are largely self-explanatory but a few items will perhaps be clearer after a little explanation. All corn has been reduced to a shelled corn basis. The returns have been expressed in several ways. The gain or return over all costs is the amount left after deducting all the charges listed. The return over feed cost is what is left after deducting feed from the total income; or in other words it is what is left to pay for the labor, shelter equipment, interest and miscellaneous cash costs. The return per hour represents what the enterprise returned for each hour of man labor used by it, after allowance has been made for all charges except man labor. The return per pound of grain represents what was left to pay for each pound of farm grain fed, after allowance was made for all other feed and all other charges.

Three types of beef production were found on these farms. Some farmers bought cattle to fatten. Other farmers milked most of their cows and received over a third of their income from the sale of dairy products. A third group raised their own feeders and let the calves take most of the milk. On some farms there was a tendency to combine these types. An average for the farms in each of the three types was computed as well as an average for all farms. The table indicates that for these farms and this particular year the group that raised their own feeders and let the calves take most of the milk did just a little better than either of the other two groups. The group having over 35% of their income from cattle in dairy products di not secure quite as high returns as the others. However, these figures are for only one year. With a little different relationship between prices of butterfat and beef a different result might be realized. Due to the impossibility of determing the pork credit for the feed picked up behind steers, this item was omitted from all calculations.

The hog enterprise fits very well with cattle feeding. The average amount of hogs produced per farm was 29,000 pounds and the average amount of beef was 20,000 pounds. Taken together the gain on hogs practically offset the small deficit on cattle.

Seven farmers kept small flocks of sheep. A few of these also purchased feeder lambs. In general, the farm flocks were profitable but due to the drastic decline in sheep prices, lamb feeding was not profitable.

The poultry enterprise, with a few exceptions, is relatively unimportant. The average return per 100 chickens over all charges was $1.30. Ducks, geese and turkeys were reduced to their equivalent in chickens for comparative purposes. Fifty-five per cent of the farms keeping chickens secured a return over all charges.

The cost of horse work per hour averaged 11.4 cents, the cost varying from approximately 9 to 17 cents. The farms without tractors worked their horses approximately 120 hours less per horse than those having tractors but cost was reduced enough so that there was no significant difference in the rate per hour.

Crops

Comparative costs and returns for the eight principal crops grown on the farms studied are presented following the livestock data. The factors of cost are charged at the local market prices. The man labor rate, 30 cents per hour, is based on the wages to hired men on these farms and includes an allowance for board. Horse work is charged at 12 cents per hour, 2-plow tractors at 75 cents per hour and 3-plow tractors at $1.00 per hour. Manure is charged at 75 cents per ton plus the cost of hauling. Fifty per cent of this is charged against the crop to which the manure is applied and the balance prorated to the other crops in the rotation on an acre basis. Machinery is charged at a flat rate which includes an allowance for interest, depreciation, repairs, and other costs. The land rent charge is based on prevailing cash rental rates in the community. The local market price on December 1, 1929 is used in computing the returns from the various crops. All costs are figured at the farm. No marketing charges have been included. The credits include stubble or stalk pasture, corn picked up after corn binder, and similar items.

The costs are shown both on an acre and a bushel or ton basis. The returns have been computed on the basis of the net return per acre over all charges and the return per hour the farmer received for the labor used on the crop. The net return is the gain or loss left after subtracting from the value of the crop the items of cost that are presented. The return for labor is the amount left to pay the labor after the other costs indicated have been met. A minus figure (-) indicates a loss.

Using Crop Records to Increase Crop Profits

Variations in Cost

The range in cost for each item is shown in addition to the average cost for all farms. It is interesting to note that on the average the returns r from every crop at the price used is sufficient to cover all the costs listed and leave some margin of profit. However, in case of every crop there was some farmers who failed to cover his costs. This is illustrated in Table I. A study of these variations in costs should call to the attention of each cooperator any weaknesses in his cropping plans or methods. It should afford suggestions for shifts or economies in production.

Table I

Variations in Production Costs
Rock and Nobles Counties - 1929

Crop	Cost per Unit			Dec. 1 Price	% producing at loss
	Average	High	Low		
Corn	$.47	$.92	$.36	$.56	25
Oats	.29	.42	.22	.36	18
Barley	.45	.99	.31	.49	31
Flax	1.58	3.32	1.03	2.83	12½
Alfalfa	7.98	15.14	4.41	15.00	6
Wild Hay	8.49	12.90	5.48	9.00	33

There are in general two ways in which the farmer may adjust his own business so as to make it more profitable. He may either (1) reduce his cost per unit of product or (2) select those crops or kinds of livestock or combinations of the two that bring in the largest returns.

One of the most important factors in reducing the cost per bushel or ton of crops produced is to increase yields. This is illustrated in the two following tables.

Table II

Effect of Yield per Acre on Cost and Returns for Corn
Rock and Nobles Counties - 1929

Yield per Acre	Number Farms	Average Yield	Net Cost per Acre	Cost per Bushel	Return per Hr. Man Labor
Under 36 bu.	8	32	19.15	.60	.22
36 - 41 bu.	9	39	18.28	.47	.62
Over 41 bu.	7	45	17.37	.39	.91

In Table II is presented a grouping of the farms according to the yield of corn. The higher the yield the lower is the cost per bushel. Although the production on the higher yielding farms is only 41% above ther lower group the return per hour for the labor spent on them is more than four times as great. There is not only a larger margin of profit per bushel on the higher yielding farms but there are more bushels on which this profit is made. Apparently it costs as much to raise an acre of low yielding corn as it does a high yielding acre. In fact the costs are even higher in case of the low group.

Selecting Profitable Crops

The second way to increase crop returns is to select those crops or combinations of crops which have proven most profitable. In this connection it should be remembered that these figures cover the results in only one year. Crop costs and returns vary from year to year with crop yields, crop prices, and the prices of the cost factors. Those crops which proved most profitable in 1929 may be disappointing in 1930. One must first determine how nearly representative these figures are before drawing any conclusions. In Table IV is presented a comparison between the yield of the grain crops on these farms

in 1929 and the average yield on all farms in the two counties for the ten year period 1919 to 1928 and a similar comparison between the December 1 prices used in these tables with the average December 1 price for the state for the 10 years 1920 to 1929 inclusive.

Table III

Comparison of Yields on Farm Studied and Prices Used with 10-Year Averages

		Corn	Oats	Barley	Flax
Yield	- farms studied, 1929 - bu.	38	50 3/4	32 1/4	11 1/4
	10-year avg. county yields, 1919-28-bu.	34	35	28 1/2	10 1/2
Dec. 1 Price	- farms studied	$.56	$.36	$.49	$2.83
	10-year average state price, 1920-29	.59	.35	.52	2.11

All yields on these farms in 1929 are higher than the 10-year county averages. Since these farms maintain considerable livestock, the yields would probably average higher over a period of years than the average yields of the two counties. The advantage in yield, however, is not uniform between crops. Flax yielded only 3% above the 10-year county average, and corn and barley 13% above, but oats exceeded the average by 46%. The high return for oats must be discounted to some extent in line with this comparison. Oats also have an advantage in price as compared with the other crops. The price of oats is 3% above the 10-year state average price whereas corn is 5% below and barley 6% below. Sine this is an area of surplus production for these crops, their price is normally somewhat below the state average price. The state flax price in 1929 was the highest in 10 years. The December 1 price used in these studies is 34% above the 10-year average state price.

In order to present a more fair picture of the relative returns from these four crops over a period of years the costs and returns have been recomputed on the basis of 10-year average yields and 10-year average state prices. These data are shown in Table IV. Apparently corn is the most profitable of the feed grains in the long run with barley second. The high yield in 1929 gives oats a special advantage for the one year. Flax appears a remunerative crop for this section on the basis of the ten year figure.

Table IV

Comparison between 1929 Crop Costs and Returns and 10-Year County Averages

	Corn	Oats	Barley	Flax
Cost per bushel:				
1929	$.47	$.29	$.45	$1.50
10-year average	.54	.42	.52	1.61
Net return per acre:				
1929	3.33	3.34	1.16	14.85
10-year average	1.75*	-2.40	.11	5.21
Return per hour man labor:				
1929	.54	.76	.47	2.16
10-year average	.38	none	.32	.78

*Loss

Hay, corn fodder, and silage all show favorable returns. Roughages, however, vary widely in quality from farm to farm and the latter two have no regular market price. For this reason the cost comparisons are of more significance than are the return figures. It is worth while noting that it costs no more to produce a ton of alfalfa than it did a ton of wild hay. Since alfalfa has a much higher feeding value than wild hay, it would not seem worth while to keep the latter in the cropping system except on land too wet or otherwise unfit for cultivation. The abundance of lime in the soil in these counties adapts them well for alfalfa production.

Planning for the Future

The data in this report should prove useful in planning the cropping system for the future if one keeps in mind the comparisons on the basis of 10-year average yields and prices and of prospects for the coming year. Since these are livestock farms feed crops must be given first place. Corn and alfalfa hay seem to deserve the most consideration. There must be small grain to balance up the cropping system. It would seem wise to substitute as much barley as possible for oats as a small grain crop, especially if it is grown for sale. Flax offers the best possibility as a cash crop. Because of our high tariff on flax and our heavy imports, flax growers are reasonably sure of a price in 1930 that will insure fair profits wherever average yields can be obtained. Alfalfa promises the most economical roughage.

These crop and livestock studies will be continued thru 1930 and 1931. Averages secured from the farms cooperating in this study will furnish a better basis for planning the cropping systems for these farms than do county averages. It is therefore especially important to those farmers who have kept records in 1929 to continue the work thru the next two years in order to work out cropping systems best adapted to the particular conditions under which they are working. At the end of the three years, the data secured will be analyzed and suggestions will be developed as to the best long time cropping plans and livestock organization not only for these farms but for other farms of similar type in this section of the state. Definite records of what has been done in the past coupled with the best information available as to probable trends of production and prices serve as the safest basis for planning profitable farming systems for the future.

FACTS ABOUT THE ORGANIZATION OF THE FARMS.

	Per Farm: Average	High	Low
Acres in corn	105.7	184.2	46.6
Acres in oats	56.5	167.4	-
Acres in barley	20.3	73.8	-
Acres in other grains and grain mixtures	11.3	103.9	-
Acres in flax	9.5	57.2	-
Acres in alfalfa	11.6	30.9	-
Acres in tame hay	4.1	24.2	-
Acres in wild hay	14.2	43.5	-
Acres in miscellaneous hay	6.2	38.4	-
Acres in miscellaneous crops	1.8	18.1	-
Total crop acres	241.2	480.7	123.1
Acres in pasture	63.8	161.4	16.9
Acres in farmstead, roads, waste, etc.	17.8	33.8	7.9
Total acres per farm	322.8	552.8	162.2
Number of cows	19	33	8
No. pounds cattle produced	20089	66020	9105
No. pounds pork produced	29029	99753	5795
No. of sheep	34	397	-
No. of chickens	255	436	36
No. of laying hens	132	249	27
Total hours man labor per farm	8156	16976	4480
Total hours livestock labor	3866	7639	2439
Total hours crop labor	3138	6929	1375
Total hours miscellaneous labor	1153	2455	307
Total hours hired labor	2656	5369	-
Total hours unpaid family labor	1492	7131	159
Total hours proprietor labor	2882	3696	2089
Hours per man per work day	9.8	11.4	7.5
Hours per man per Sunday	3.3	5.3	1.1
Tractor farms:			
Number of farms using tractors:	12		
Number of horses per farm	10.1	17.0	6.0
Average hours worked per horse	849	1173	584
No. of crop acres per horse	27.5	34.0	16.6
Non-tractor farms:			
Number of farms	11		
Number of horses per farm	7.6	11.0	4.4
Average hours worked per horse	969	1157	756
Number of crop acres per horse	28.8	35.8	20.9

FINANCIAL STATEMENT

	Your Farm	Average All Farms	Five Highest	Five Lowest
RECEIPTS				
Cattle	$	$3278.23	$8423.07	$1908.48
Hogs		3016.82	4548.19	2812.66
Sheep & wool		252.48	591.61	258.12
Poultry & eggs		349.55	455.44	498.86
Dairy products		623.43	699.60	579.76
Horses		45.63	171.00	10.96
Corn		491.56	713.20	629.94
Oats		334.90	314.98	329.16
Barley		198.55	164.11	142.25
Flax		375.53	685.31	141.35
Hay		26.85	52.21	34.96
Other crops		31.39	38.72	69.14
Outside		92.26	156.82	92.12
Miscellaneous		222.03	386.10	97.05
Total Cash Farm Receipts		9339.21	17400.36	7604.81
Farm Produce used in house		338.91	277.13	378.30
Increase in farm inventory		777.20	1616.31	127.76
TOTAL RECEIPTS		10455.32	19293.80	8110.87
EXPENSES				
Hired Labor		467.77	772.91	412.69
Cattle bought		1052.20	3558.97	311.50
Hogs bought		313.68	903.02	215.73
Sheep bought		349.55	582.70	881.59
Poultry bought		47.65	119.10	16.32
Horses bought		72.75	30.00	191.00
Other livestock expense		120.89	159.22	114.06
Feed bought		776.90	2208.16	239.21
Crop expense (twine, threshing, etc).		288.33	436.72	222.84
Real estate		319.62	295.96	336.49
Machinery		588.09	978.49	382.02
Auto (farm share)		97.55	217.09	44.18
Gasoline, kerosene, oil, etc. (farm share)		158.12	198.92	211.60
Taxes		400.24	511.10	494.06
Insurance		32.62	34.59	33.07
Miscellaneous		47.45	29.78	103.11
(5) Total Cash Farm Expense		5133.41	11036.73	4209.47
(6) Decrease in farm inventory		645.42	813.22	1042.30
(7) Board for hired labor		205.89	351.04	167.87
(8) TOTAL FARM EXPENSES (sum of 5, 6 & 7)		5984.72	12200.99	5419.64
(9) Returns to capital and family labor (4-8)		4470.60	7092.81	2691.23
(10) Interest on farm inventory at 5%		2374.49	3198.67	2300.15
(11) Family Labor Earnings (9-10)		2096.11	3894.14	391.08
(12) Estimated value of unpaid family labor		587.54	358.54	824.19
(13) OPERATOR'S LABOR EARNINGS (11-12)		1508.57	3535.60	-433.11

AVERAGE FARM INVENTORIES.

	Your Farm	Route Average	Upper Five	Lower Five
Land		$32182.95	$41943.40	$30819.20
Buildings		3620.66	4798.40	3582.50
Work Horses		918.01	1121.50	863.00
Other horses		94.77	239.00	14.00
Cattle		4177.35	7178.95	3677.40
Hogs		1503.79	2460.73	1499.11
Sheep		277.50	315.90	570.40
Poultry		204.28	218.95	258.56
Machinery		1811.21	2282.50	1840.22
Auto (farm share)		155.82	311.30	62.72
Feeds		2543.52	3102.78	2815.93
Total		47489.86	63973.41	46003.04

FARM PRODUCE USED IN THE HOUSE

	Your Farm	Route Average	Upper Five	Lower Five
Cream		$ 47.10	$ 51.04	$ 46.63
Farm churned butter		29.57	12.14	56.32
Wholemilk		34.96	31.02	29.22
Skimmilk		.83	.15	2.32
Hogs		107.68	85.71	136.00
Cattle		21.71	-	20.40
Sheep		.47	2.07	-
Poultry		25.75	17.81	25.84
Eggs		45.65	56.36	40.42
Potatoes		25.20	20.82	21.03
Total		338.91	277.12	378.18
Size of Family (man equivalent)		4.44	4.58	4.30

COST AND RETURNS FOR CATTLE

(Per 100 pounds gain in weight)

	Average	High	Low	Group* A	Group B	Group C
No. of Farms	22			7	11	6
Pounds Produced	20,089	66,020	9,105	32,297	14,722	17,645
Man Labor, hours	14⅝	26¼	3⅝	12⅜	19¼	10
Horse Labor, hours	1½	3¾	¼	1½	1¾	1
Costs						
Total Labor	$ 4.58	$12.20	$ 1.26	$ 3.99	$ 5.99	$ 3.12
Total Feed	11.04	16.59	7.36	11.25	12.02	9.38
Shelter	.86	2.41	.34	.64	.95	.70
Equipment	.14	.27	.05	.12	.16	.13
Interest	1.18	1.91	.55	1.07	1.21	1.11
Cash	.12	.40	-	.13	.11	.07
Total Cost	17.92	31.37	9.92	17.20	20.44	14.51
Credits						
Dairy Products	5.15	14.57	.48	4.52	7.89	2.45
Manure Credit	.82	1.94	.36	.67	1.01	.66
Misc. Cash Credit	.05	.55	-	.04	.01	.11
Total Credit	6.02	16.23	1.11	5.23	8.91	3.22
Net Cost	11.90	18.28	8.81	11.97	11.53	11.29
Value of Cattle	10.81	19.23	5.12	11.83	9.78	12.01
Return over all Costs	- 1.09	8.78	-10.62	- .14	- 1.75	.72
Return per Hour	$ .23	$ 1.32	None	$ .29	$ .21	$ .37
Return per 100 lbs of Farm Grain Fed	1.08	3.77	None	1.25	1.03	1.35
Return over Feed Cost	4.92	18.15	None	5.10	5.64	5.38
Feeds Fed						
Corn	318	723	89	369	319	285
Small Grain	171	301	27	167	207	144
Commercial Feeds	3	13	-	5	2	2
Oilmeal	4	36	-	8	1	6
Hay and Fodder	431	948	86	382	499	
Silage	221	1107	-	346	199	-
Pasture Days	41	72½	3	31	51	42

*Group A - Farms having purchases of cattle in excess of $850.
Group B - Farms on which dairy products furnished over 35% of the total income from cattle.
Group C - Farms which raised their feeders and on which dairy products furnished less than 35% of the total income from cattle.

Cost and Returns per 100 Pounds Hogs Produced

	Average	High	Low
Number of farms	22		
Pounds of hogs produced	29,029	99,753	5,795
Man labor, hours	2¾	4¾	1
Horse work, hours	½	4¼	-
Costs			
Feed	$7.07	$17.02	$4.12
Total labor	.87	1.43	.30
Shelter	.24	.44	.03
Equipment	.09	.33	-
Interest @ 5%	.31	.64	.12
Misc. cash expense	.28	.67	.01
Total costs	8.86	19.31	5.52
Manure credit	.09	.40	.01
Net cost	8.77	19.18	5.31
Value of product	9.31	10.78	7.11
Return over all costs	.54	4.68	-12.07
Return over feed cost	2.24	5.84	none
Return per hour man labor	.50	3.42	none
Return per 100 pounds of farm grain	1.45	2.91	none
Feeds			
Corn	446	1152	239
Small grain	104	267	23
Commercial feed	4	19	-
Tankage	5	16	-
Skimmilk	35	135	-
Pasture days	21	104	-

COSTS AND RETURNS PER SHEEP*

	Average	High	Low
Man labor, hours	2	4½	¼
Horse labor, hours	½	1¼	-
Costs			
Feed	$ 3.49	$ 5.44	$ 2.14
Total Labor	.66	1.41	.11
Shelter	.21	.48	.02
Equipment	.26	1.57	-
Interest	.50	.61	.35
Misc. Cash	.16	.61	-
Total Expense	5.28	6.99	3.63
Credits			
Manure	.03	.15	-
Misc.	.03	.19	-
Total Credit	.06	-.15	
Net Expense	5.22	6.97	3.63
Value of Product			
Sheep	3.22	9.84	-2.77
Wool	1.33	2.75	.10
Total Product	4.55	12.59	-2.67
Gain	- .67	6.84	-6.30
Return over Feed Cost	1.07	8.24	None
Return per Hour	None	6.98	None
Feeds			
Corn, lbs.	49	197	-
Small grain, lbs.	37	133	
Hay and Fodder, lbs.	113	350	15
Silage, lbs.	31	185	-
Pasture Days	245	359	165

* - 2 lambs considered equivalent to one sheep.

COSTS AND RETURNS PER 100 CHICKENS.

	Average	High	Low
No. of farms	22		
Size of flock	255	436	36
Number of laying hens	132	249	27
Man hours	166¼	429¼	34¼
Horse hours	4½	16	-
COSTS			
Total feed	$59.90	$111.38	$26.52
Man labor	49.91	128.97	10.26
Horse work	.54	2.71	-
Shelter	16.85	133.33	1.65
Equipment	6.39	17.75	.17
Interest	3.97	6.48	.43
Miscellaneous cash expense	4.49	21.47	-
Total costs	142.05	371.89	61.26
Manure credit	3.71	9.37	.39
Net production cost	138.34	369.81	60.87
Product:			
Poultry	45.31	189.78	-67.11
Eggs	94.33	180.05	50.33
Total product	139.64	251.26	11.63
Return over all charges	1.30	130.62	-180.70
Return per hour of man labor	.31	2.01	-.50
FEEDS			
Small grain	3847	7811	1541
Commercial feeds	395	1498	-
Skimmilk	436	2607	-
Eggs per hen	75	122	43
Selling price of eggs	$ .28	$.37	$.22½

Cost of Horse Labor per Work Horse

	Average	High	Low
Man labor, hours	51	93¼	5
Costs			
Man labor	$17.36	$27.96	$11.30
Total feed	63.77	84.83	38.59
Shelter	6.77	22.91	2.04
Equipment	6.02	12.85	1.58
Interest	5.17	7.86	2.77
Cash	.59	2.52	.02
Depreciation	10.24	41.75	.89
Total Cost	109.92	156.58	81.36
Credits			
Miscellaneous	.02	11.02	-
Manure	5.62	9.37	1.17
Total Credit	5.64	18.45	1.17
Net cost	104.28	150.90	76.28
Hours worked	916	1173	622¼
Cost per hour	$.114	$.168	$.091
Feeds			
Hay, lbs.	3487	8376	718
Grain, lbs.	3682	9227	2146
Pasture, days	132	190	6

Cost per Acre of Producing Corn

	Average	High	Low
No. of farms	24		
Acres per farm	96	184	14
Man labor, hours	13¾	21	8¾
Horse work, hours	40⅕	55	24¾
Tractor use, hours	½	3¾	-
Labor cost	$9.45	$12.99	$7.08
Seed	.42	.74	.19
Husker	.37	.70	-
Manure	1.75	7.38	.37
Machinery	.95	.95	.95
Land	6.00	6.00	6.00
Total cost	$18.94	$28.06	$16.76
Credit	.99	1.00	.63
Net cost	17.95	27.06	15.76
Yield, bu.	38	46⅕	29½
Cost per bu.	$.47	$.92	$.36
Dec. 1 price	.56	.58	.54
Crop value at Dec. 1 price	21.28	26.97	15.90
Net return	3.33	8.98	-11.15
Return per hour of man labor	.54	1.06	none

Cost per Acre of Producing Flax

No. of farms	8		
Acres per farm	28	57	7
Man labor hours	8	10¾	6¼
Horse work, hours	23	34½	15¼
Labor cost	$5.16	$7.17	$3.75
Seed	2.21	3.75	1.04
Twine	.22	.52	-
Threshing	1.64	2.29	1.19
Manure	.77	1.89	.12
Machine	.99	1.30	.95
Land	6.00	6.00	6.00
Net cost	$16.99	$20.90	13.96
Yield, bu.	11¼	16⅕	6
Cost per bu.	$1.50	$3.32	$1.03
December 1 price	2.83	2.83	2.83
Crop value @ Dec. 1 price	31.84	46.70	16.98
Net return	14.85	29.74	-2.96
Return per man hour	2.16	4.40	.02

Cost per Acre of Producing Oats

	Average	High	Low
No. of farms	22		
Acres per farm	65	167	16
Man labor, hours	7¼	11⅓	4½
Horse labor, hours	15¾	23	9
Tractor use, hours	1/5	1¼	-
Labor cost	$4.12	$5.50	$2.82
Seed	1.58	2.03	1.19
Twine	.34	.49	.23
Threshing	1.21	1.83	1.00
Manure	.89	1.98	.12
Machinery	.95	.95	.95
Land charge	6.00	6.00	6.00
Total Cost	$15.09	$17.46	$13.29
Yield, bu.	50¾	73	38⅓
Cost per bu.	$.29	$.42	$.22
December 1 price	.36	.36	.36
Crop value at Dec. 1 price	18.27	27.40	13.91
Net return	3.34	10.31	-2.25
Return per hour of man labor	.76	1.87	.04

Cost per Acre of Producing Barley

	Average	High	Low
No. of farms	16		
Acres per farm	30	74	8
Man labor, hours	6¾	12	5¼
Horse work, hours	15	22¾	8½
Tractor use, hours	-	¾	-
Labor cost	$3.89	$6.02	$3.07
Seed	1.49	1.86	.89
Twine	.36	.57	.17
Threshing	.99	1.31	.64
Manure	.96	2.59	-
Machinery	.95	.95	.95
Land charge	6.00	6.00	6.00
Total Cost	$14.64	$18.71	$13.15
Yield, bushels	32¼	47¼	15⅓
Cost per bu.	$.45	$.99	$.31
December 1 price	.49	-	-
Crop value at Dec. 1 price	15.80	23.18	7.62
Net return	7.16	14.68	-1.85
Return per hour of man labor	.47	1.43	-.59

Cost per Acre of Alfalfa

	Average	High	Low
No. of farms	17		
Acres per farm	13	34	3
Man labor, hours	10¾	18½	8¾
Horse work, hours	16½	28¼	10¾
Tractor work, hours	.08	¾	-
Labor cost	$5.31	$8.08	$4.19
Seed	1.00	1.00	1.00
Manure and fertilizer	2.16	7.26	.45
Machine	1.63	2.00	1.50
Land charge	6.00	6.00	6.00
Total cost	$16.10	$21.91	$13.62
Credit	.14	1.29	-
Net cost	15.96	21.91	12.95
Yield, tons	2.0	3.9	.9
Cost per ton	$7.98	$16.14	$4.41

Cost per Acre of Wild Hay

No.of farms	15		
Acres per farm	22	44	4
Man labor, hours	5¼	9	3½
Horse work, hours	8¾	13¼	5¾
Labor cost	$2.62	$4.85	$1.68
Machine cost	.90	1.10	.85
Land charge	5.00	5.00	00
Total cost	$8.51	$10.70	$7.53
Credit	.02	.37	-
Net cost	8.49	10.70	7.53
Yield, tons	1.00	1.7	.7
Cost per ton	$8.49	$12.90	$5.48

Cost per Acre of Producing Corn Fodder

	Average	High	Low
No. of farms	12		
Acres per farm	8	15	3
Man labor, hours	13¼	19½	10
Horse work, hours	30	42½	18
Tractor use, hours	⅓	3	-
Total labor cost	$7.93	$11.64	$6.12
Seed	1.01	1.85	.39
Twine	.63	.94	.37
Manure	1.58	2.79	-
Machine	1.65	1.65	1.65
Land	6.00	6.00	6.00
Total cost	$18.80	$21.75	$16.74
Credit	-	-	-
Net cost	18.80	21.75	16.74
Yield, tons	3.3	5.0	2.1
Cost per ton	5.70	9.04	4.24

Cost per Acre of Producing Corn Silage

No. of farms	8		
Acres per farm	16	32	7
Man labor, hours	21¾	25½	17½
Horse work, hours	48¼	59½	36¼
Tractor use, hours	1¼	3¼	-
Total labor cost	$13.39	$15.27	$11.51
Seed	.71	1.04	.51
Twine	.48	1.13	-
Manure	3.10	7.31	.45
Silo filling	2.53	4.16	1.09
Machine	1.56	1.65	.95
Land	6.00	6.00	6.00
Total cost	$27.77	$34.31	$22.82
Credit	1.24	3.58	-
Net cost	26.53	31.20	21.49
Yield, tons	7.3	11.5	4.8
Cost per ton	$3.60	$5.06	$2.48