Fifth annual farm business report (March 1938 to March 1939). March 1938 to March 1939

Wisconsin Agricultural Experiment Station in cooperation with soil conservation service and bureau of agricultural economics, United States Department of Agriculture

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VERNON, MONROE, AND LA CROSSE COUNTIES

Fifth Annual
Farm Business Record Report
(March 1938 to March 1939)

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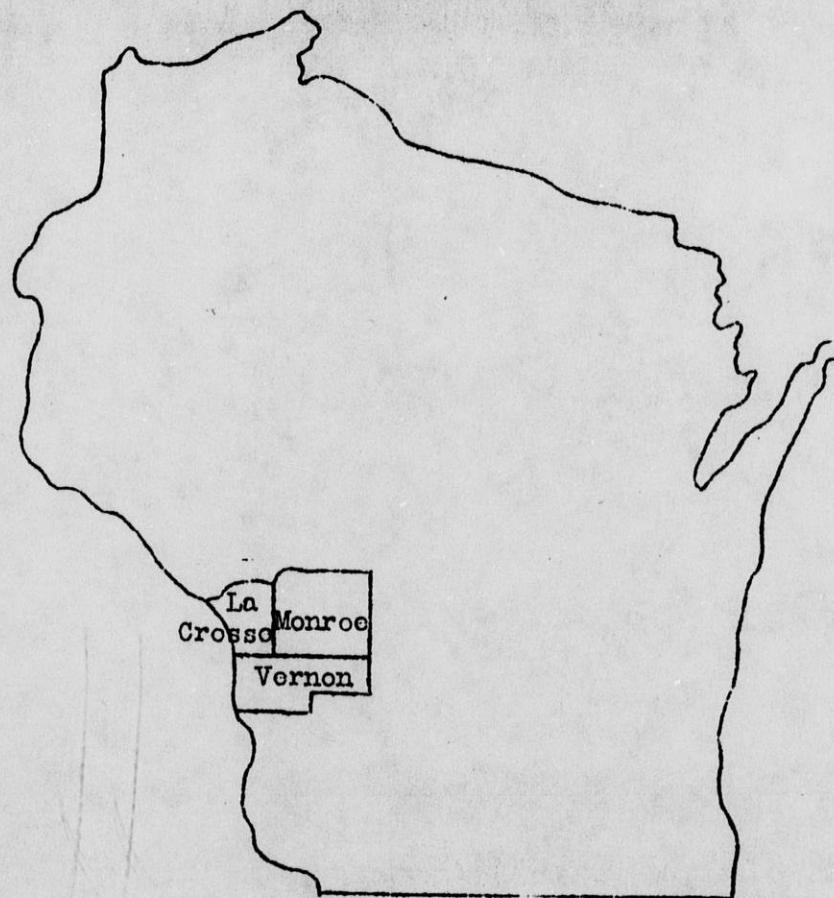
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Wisconsin Agricultural Experiment Station
in cooperation with
Soil Conservation Service and
Bureau of Agricultural Economics
United States Department of Agriculture

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FIFTH ANNUAL REPORT OF
THE COON CREEK FARM ACCOUNT WORK
COON VALLEY, WISCONSIN

H. O. Anderson, D. M. Keyes,
P. E. McNall[1]

INTRODUCTION

Location and Systems of Farming

Coon Creek area includes part of three counties—southwestern Monroe, southeastern La Crosse, and northwestern Vernon, with the latter comprising the bulk of the area. The topography of the area is quite rough with small fields prevailing. Most of the cropland of those record keepers are on ridges and on prairie soils.

Dairying provides the principal source of income with tobacco and poultry ranking next in importance on most farms. Hogs, sheep and beef cattle are of minor importance.

Purpose of the Project

Farm accounting service in the Coon Creek demonstration area in 1938 was made possible by the joint efforts of the Operations and Research divisions of the Soil Conservation Service and the Division of Agricultural Economics, University of Wisconsin. This service has been provided to farmers in the area by the Operations Division during the previous years, and many of the farms included in this report were included in the 1937 report. Thirty-three of the 45 account keepers were cooperating with the Soil Conservation Service in a soil conserving program.

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[1] Associate Soil Conservationist, Cooperative Agent, Division of Research, Soil Conservation Service; and Professor of Agricultural Economics, University of Wisconsin, respectively.

Immediate supervision of the records during the year was under the direc-
tion of D. E. Davies who was assisted by Fred Reber, W. Lowell Gee, and Ed Higbee
of the Coon Valley Project staff and by Donald M. Keyes of the Economic Research
Project office. Summarization and analyses were completed by the two agencies
mentioned in cooperation with the Wisconsin Agricultural Experiment Station.

This report has been prepared for the farm operators who have cooperated in
keeping these records and in making them available for analysis by the above
named agencies.

Kind of Records Kept

The records kept include inventories of land and buildings, livestock,
machinery, feed and supplies; and includes a complete record of crop production,
sales and purchases, and distribution of feed to the various classes of livestock.
The business transactions of the farm were checked during the year. An estimate
of farm produce used in the house and the amount of family labor used was obtained
at the time of taking the final inventory.

Weather Conditions

Growing conditions during the year 1938 were favorable for corn production,
the rainfall being above normal and well distributed throughout a growing season
which was longer than normal. Hay and pasture crops were heavy but of poor
quality because of rank growth and exposure of the hay to rain before it was
cured.

The small grain crop was light and of poor quality. Much of the grain
lodged before the kernels were completely filled and this resulted in low yields
of poor quality grain.

SUMMARY OF RECORDS

Summary of Inventories

The farms of nine farmers with highest labor earnings in 1938 were larger and comprised larger investments than the average of all farms studied. The larger numbers of productive livestock as well as greater productions of feed were associated with the higher earnings. Table 1 gives, for all farms, and the nine most and the nine least profitable farms, the average crop acres, number of man work units[1], and average inventory of land and buildings, machinery and equipment, feed, productive livestock, and horses.

Table 1.--Investment in farming business.

	Your farm	45 farms	9 least profitable farms	9 most profitable farms
Crop acres		59	56	75
Man work units[1]		403	378	505
Total farm inventory[2]		$12910	$12056	$16034
Land and buildings		9517	9494	11514
Machinery and equipment		1122	689	1537
Feed and supplies		685	679	829
Productive livestock		1220	908	1702
Horses		366	286	452
Labor earnings		628	129	1276

[1]Total man work units are used as a measure of size of farm business. The average number of man work units (ten-hour days) of man labor required per acre of crops and per head of livestock other than horses is used as a basis for combining the crops and livestock into one single measure of size. The number of man work units of productive work for each animal and each acre of crops are taken from data presented in Wisconsin Research Bulletin 83.

Man work units to care for:

1 acre alfalfa silage (1 cutting)	1.2	1 heifer	1.8
1 acre alfalfa	1.5	1 dairy cow	14.0
1 acre other hay	.9	1 unit beef cattle	4.2
1 acre oats or barley	1.2	1 calf	2.4
1 acre corn grain	2.5	1 bull	6.3
1 acre corn hogged off	1.2	200 lb. hog	1.2
1 acre corn silage	2.3	100 head poultry	16.0
1 acre tobacco	20.0	1 sheep or two lambs	.3
1 acre clover or timothy seed	1.0		
1 acre canning peas or soybean silage .	1.9		

[2]Average farm inventory.

Table 2.--Detail of earnings.

	Your farm	45 farms	9 least profitable farms	9 most profitable farms
Cash receipts				
Butterfat sales		$1077	$855	$1605
Cattle sales		296	211	478
Poultry and egg sales		175	87	166
Other livestock		165	107	275
A.A.A. payment		81	60	122
Tobacco sales		161	186	205
Miscellaneous income[1]		189	146	413
Total cash receipts		$2144	$1652	$3264
Cash expense				
Feed bought		$121	$88	$158
Gas, oil, and equipment repair		64	44	90
Livestock expense		56	55	49
Crop expense		110	89	166
Labor hired		114	134	87
Real estate expense		30	35	35
Farm share of auto		50	55	52
Taxes and insurance		188	174	236
Miscellaneous expense		37	28	33
Total cash operating expense		$770	$702	$906
Livestock bought		92	110	128
Real estate improvement		131	258	76
New equipment bought		169	155	235
Total cash paid out		$1162	$1225	$1345
Difference (receipts minus expenses)		$982	$427	$1919
Increase in feed inventory		93	3	132
Increase in other inventory		70	219	-102
Plus farm products to home		290	247	365
Farm and operator's earnings		$1435	$896	$2314
Minus interest on investment		645	600	801
Minus unpaid family labor		162	167	237
Operator's labor earnings		$628	$129	$1276
Percent cash income from:				
poultry		8	5	5
crops		10	11	14
butterfat sales		50	52	49
cattle and hog sales		20	19	16

[1] Includes food crop sales.

Summary of Earnings

The summary of earnings and expenses is given in table 2. This type of information is valuable because it indicates the relationship of gross receipts and expenses to earnings.

The average returns to operators for labor and management was $628 — the range being from $1845 to a loss of $143. These amounts were left after paying all expenses and allowing for changes in inventorial value, unpaid family labor, and interest on total investment. The average value of farm produce used in the home was $290, which equalled from 5 to 17 percent of the cash income.

ANALYSIS OF RECORDS

Relation of Factors to Earnings

These farms have been sorted into two size groups and sub-sorted according to various organization and efficiency factors. Obviously these factors are not equally significant. No attempt has been made in this analysis to establish the degree of association between the various factors and average operator's earnings.

Large volume of business makes high net earnings possible.

Total man work units is used as a means of indicating the comparative size of business. In most cases the farms with the larger amount of productive work had higher net earnings and an increase in amount of productive work ordinarily results in increased income. However, if the large amount of work is procured at high cost, as is occasionally the case, smaller net earnings may result.

Table 3.—Relation of size of business to operator's labor earnings.

	Average man work units	Ave. crop acres	Average operator's labor earnings
22 farms, highest number man work units[1]	495	74	$850
23 farms, lowest number man work units	314	45	$416

[1] In the remainder of this report, those groups are referred to as 22 farms, most m.w.u., and 23 farms, least m.w.u.

A large amount of work per worker tends to reduce cost per unit of production.

Efficient use of labor tends to reduce the unit cost of production of crops and livestock. Planning work so as to distribute it more evenly throughout the year is an effective way of increasing the amount of work performed per worker.

Convenient arrangement of buildings, equipment and yards, adequate pastures for livestock, self feeders for hogs and poultry, and larger horse hitches should be considered as methods for increasing labor efficiency, particularly on farms where a shortage of available labor occurs. On farms where surplus labor is found, supplementary enterprises should be developed to use this labor. The relationship of amount of work per worker to earnings is given in table 4.

Table 4.--Relation of man work units per man to operator's labor earnings.

	Man work units per man	Average operator's labor earnings	No. men per farm
The 22 farms, most m.w.u.			
11 farms, highest number of man work units per man	301	$980	1.7
11 farms, lowest number of man work units per man	221	$719	2.2
The 23 farms, least m.w.u.			
12 farms, highest number of man work units per man	240	$523	1.5
11 farms, lowest number of man work units per man	185	$300	1.5

An example of suggestions for improvement in labor efficiency for a specific farm is given on the following page. Plans are already underway to increase the amount of productive work on this farm by substituting alfalfa for the mixed hay and through the expansion of the dairy and poultry enterprises. These changes should add to the total volume of business and hence to net earnings.

To enable him to do this without hiring more help, he will have to increase the efficiency of his labor. The following suggestions have been offered: fall plowing of grain and corn land not subject to washing, spreading of manure

in winter when fields are open, repair of machinery and fence during slack
seasons, use of a motor to turn the cream separator, a self feeder (homemade)
for chickens and hogs, building feed hoppers in poultry and hog houses.

Acres		m.w.u. per unit	Total m.w.u.
22	Mixed hay	.9	19.8
8	Corn grain	2.5	20.0
7	Corn silage	2.3	16.1
8	Oats	1.2	9.6
2	Tobacco	20.0	40.0

Total man work units on crops 105.5

Number			
12	Cows	14.0	168.0
5.5	Heifers	1.8	9.9
6	Calves	2.4	14.4
1	Bull	6.3	6.3
20	200 lb. hogs	1.2	24.0
57	Chickens	.16	9.1

Total man work units on livestock 231.7
                                                        7.2
Total man work units on crops and livestock 338.8

The labor supply on this farm consisted of the operator, 2 months of
family help and 2 months hired help or a total of 1.33 man years. On the
basis of the above figures the average number of man work units per worker
was 253.

Farms with the higher food returns had the larger incomes.

Food constitutes the largest single item of cost in livestock production
and the total livestock returns for each $100 worth of feed fed is a good
indicator of the relative profitability of the livestock enterprises.

To obtain high livestock returns from food requires considerable feed-
ing skill and judgment. Best returns from food are secured when cows are fed
according to their production. Feeding large amounts of grain to poor cows
usually does not pay; neither does it pay to food good cows too small amounts.

A good balance of feed is also important. Corn or barley alone which contain much starchy food elements may not contain sufficient protein to get the best production of butterfat from the feed. Protein is a necessary part of a balanced ration and if the ration fed is low in this element, growth of livestock or milk and butterfat production probably will be low.

Proper feeding does not mean expensive feeding. Many of the farmers with highest returns from livestock buy only small amounts of food; but use an ample supply of high quality hay and pasture.

How can feeding efficiency be improved on your farm?

The following items should be watched in an effort to increase the feed efficiency especially if livestock returns from food are below the average ($204 in 1938).

(1) Sales of butterfat per cow. The average for this group was about 200 pounds in 1938. A lower production than this should not be expected to give high returns from food.

(2) Sales of poultry and eggs. The nine most profitable farms averaged $214 returns over food cost per 100 hens. Check the returns for your flock as given on page 15, table 13, to see if you can improve the returns from your flock.

(3) Utilization of waste products, skim milk and whey. All skim milk, whey, or "waste" products should be fed.

(4) Proportion of young stock. Too large a proportion of young stock, if they are not sold to advantage, may reduce the net earnings.

(5) Livestock efficiency. Check over your farm as shown in tables 12 and 13 to see if there is some way of increasing your efficiency in connection with the production levels on your farm.

Table 5.--Relation of livestock returns per $100 food used to operator's labor earnings.

	Average live-stock returns per $100 food used	Average operator's labor earnings
22 farms, most m.w.u.		
10 farms, high livestock returns per $100 food used	$249	$1168
12 farms, low livestock returns per $100 food used	$178	$ 584
23 farms, least m.w.u.		
12 farms, high livestock returns per $100 food used	$225	$ 506
11 farms, low livestock returns per $100 food used	$164	$ 318

<u>High butterfat production per cow contributes to high earnings.</u>

Under ordinary farm conditions, an increase in butterfat per cow tends to lower the cost per pound of butterfat produced and to increase the efficiency with which food, labor, and building space is used. The larger production per cow is usually associated with larger labor earnings.

<u>Can you increase butterfat production per cow?</u>

If butterfat sales per cow are less than average (202 pounds this year) it may be profitable to consider some of the following:

(1) Cows which freshen in the fall usually produce more butterfat than those that freshen in the spring or early summer.

(2) Plenty of good pasture during a long pasture season is an effective means of maintaining production at low cost.

(3) Low producing cows should be sold. If you are short on barn feed or on pasture, more returns may be realized by selling some of the lowest producers and feeding the rest of the herd somewhat better.

(4) Feeding grain to the good cows in your herd, even during the pasture season, may be **profitable.**

Table 6.--Relation of butterfat sales per cow to operator's labor earnings.

	Average butterfat sales per cow	Average operator's labor earnings
The 22 farms, most n.w.u.		
11 farms, highest butterfat sales per cow ..	235	$968
11 farms, lowest butterfat sales per cow ...	184	$731
The 23 farms, least m.w.u.		
10 farms, highest butterfat sales per cow ..	219	$491
13 farms, lowest butterfat sales per cow ...	164	$359

<u>Large numbers of efficiently managed livestock contribute to high earnings.</u>

The number of crop acres per unit of productive livestock indicates the amount of cropland used to maintain one unit of livestock during the barn feeding period.[1] Farms which are heavily stocked have a small number of crop acres per livestock unit. With nearly all the farm income coming from livestock enterprises, the amount of livestock kept is important. If the livestock are yielding a high return over feed cost, the larger the number kept, the larger the earnings should be. On most farms which were heavily stocked, crops were grown which could be used to advantage with the kind of livestock on hand. A more suitable choice of crops apparently had been made on farms which were heavily stocked.

Table 7.--Relation of amount of livestock to operator's labor earnings.

	Ave. crop acres per l.s.u.[1]	Feed raised per l.s.u.	Feed bought per l.s.u.	Value of crops per crop acre	Ave. tobacco sales	Average operator's labor earnings
The 22 farms, most n.w.u.						
13 farms, smallest number/crop acres per livestock unit..	2.0	$32	$5	$18	$112	$986
9 farms, largest number/crop acres per livestock unit..	2.6	$41	$6	$19	$198	$652
The 23 farms, least n.w.u.						
11 farms, smallest number/crop acres per livestock unit..	1.7	$29	$4	$19	$112	$417
12 farms, largest number/crop acres per livestock unit..	2.4	$33	$3	$18	$204	$415

[1] A livestock unit consists of one mature cow or horse or the following equivalents: two head of young cattle, or 100 chickens, or 5 sows, or 10 pigs, or seven ewes.

High crop values make higher earnings possible.

Value of crops per crop acre indicates the strength of the cropping system on your farm. This factor combines two important things—the kind of crops grown and the yields obtained. If the value of crops per acre on your farm is not as much as the average, $19 per acre, it may be that you are not growing as much alfalfa, tobacco, and corn as your neighbors (see table 10) or it may be that the yield of crops on your farm are somewhat lower than the average. The right kind of feed crops and high yields make possible greater livestock carrying capacity.

Table 8.--Relation of value of crops per crop acre to operator's labor earnings.

	Average value of crops per crop acre	Average operator's labor earnings
The 22 farms, most m.w.u.		
12 farms, high value crops per crop acre ...	$21	$886
10 farms, lowest value crops per crop acre..	$16	$806
The 23 farms, least m.w.u.		
13 farms, highest value crops per crop acre.	$21	$433
10 farms, lowest value crops per crop acre..	$15	$393

Oper. labor earnings	Man work units	Man work units per man	Livestock returns per $100 feed used	Pounds butterfat sold per cow	Crop acres per l.s.u.	Value of crops per crop acre	
$1845	655		$336			$27	High
		331		271	1.1		
$628	403	237	204	202	2.1	$18	Ave.
-$143	215	152	99	123	3.3	$11	Low
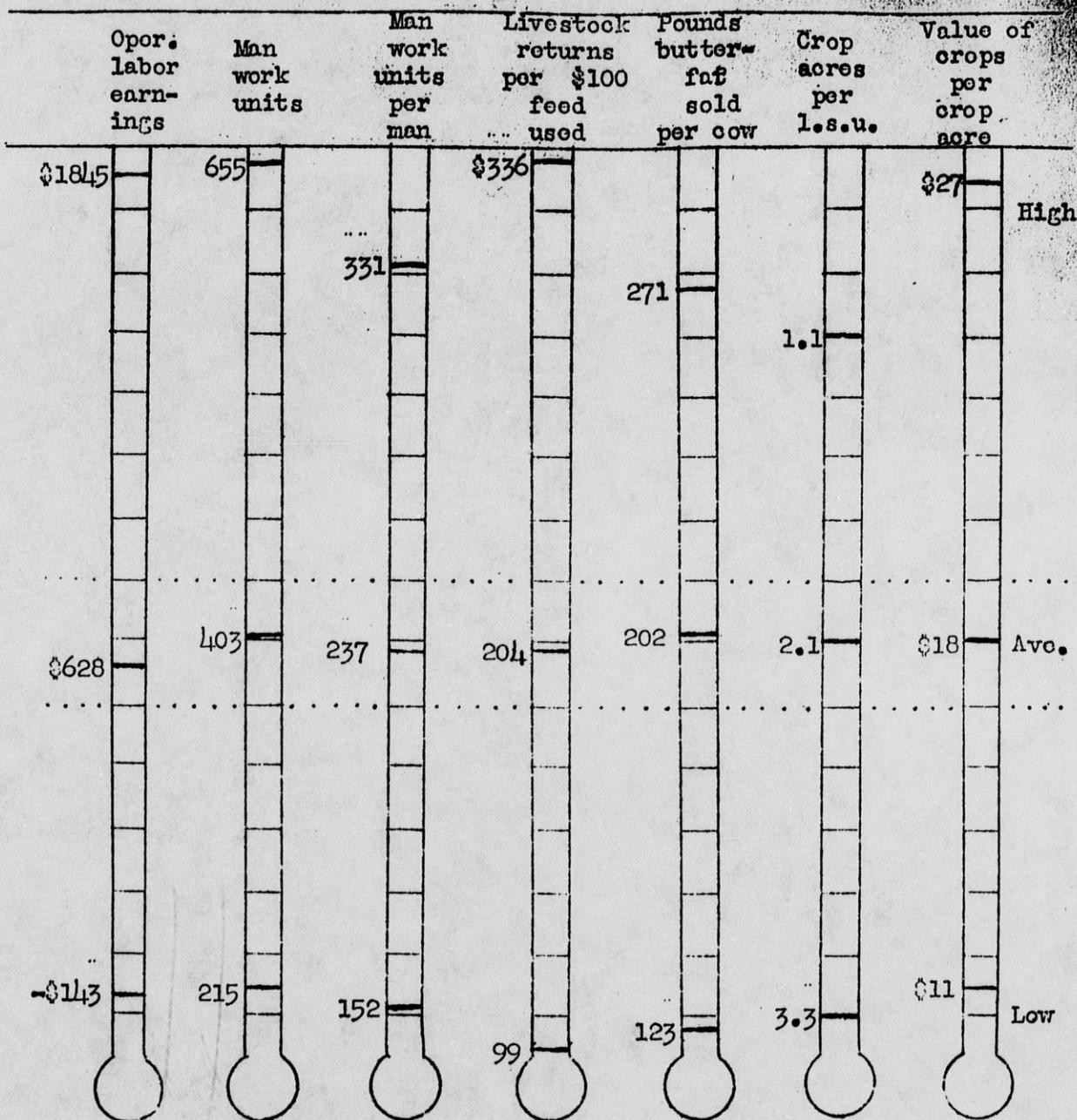
Averages for the forty-five farms are shown between the dotted lines.

Table 9.

No. of factors in which farm excels	No. of farms	The length of the shaded lines are in proportion to the average operator's labor earnings	Average operator's labor earnings
5	6	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	$1287
4	9	xxxxxxxxxxxxxxxxxx	766
3	11	xxxxxxxxxxxxx	544
2	13	xxxxxxxxxx	419
None or 1	6	xxxxxxxx	368
your farm			

Table 10.--Crop organization of farms of all record keepers and of 9 least and 9 most profitable farms.

	Your farm	45 farms	9 least profitable farms	9 most profitable farms
	acres	acres	acres	acres
Alfalfa		13.4	10.8	15.3
Mixed legume hay		11.4	10.1	16.5
Timothy hay		2.4	5.3	2.6
Miscellaneous hay		1.0	1.3	----
Total hay		28.2	27.5	34.4
Corn grain		5.2	3.5	5.6
Corn silage		6.4	5.2	7.9
Total corn		11.6	8.7	13.5
Tobacco		1.7	2.2	1.3
Oats		10.2	11.0	17.1
Barley		2.5	.5	2.4
Mixed grain		3.8	4.9	3.2
Total grain		16.5	16.4	22.7
Miscellaneous crops		1.4	1.6	3.4
Total crop acres		59.4	56.4	75.3

Table 11.--Crop yields of farms of all record keepers and of 9 least profitable and 9 most profitable farms.

	Your farm	45 farms	9 least profitable farms	9 most profitable farms
Alfalfa, tons		2.5	2.4	2.6
Mixed legume hay, tons		2.0	2.1	2.1
Timothy hay, tons		1.6	1.6	1.7
Corn grain, bushels		53	53	52
Corn silage, tons		9.7	8.7	9.3
Oats, bushels		33	26	35
Barley, bushels		37	33	41
Mixed grain, bushels		32	35	35
Tobacco, pounds		1367	1365	1397

Table 12.—Amount of food fed, cost of food, and returns over food cost per cow, 45 farms, 10 farms with low butterfat sales per cow and 11 farms with high butterfat sales per cow.

	Your farm	45 farms	10 farms with low butterfat per cow	11 farms with high butterfat per cow
Number of cows		17	13	19
Number of young stock		8	6	8
Butterfat sales per cow		202	152	246
Price of butterfat		$.32	$.31	$.32
Lbs. food per cow				
Home grown grain		690	642	700
Commercial feed		167	92	256
Total concentrates		857	734	956
Mixed legume hay		4464	5166	3659
Straw and fodder		231	404	141
Total dry roughage		4695	5570	3800
Corn silage		4808	2506	6352
Food cost per cow				
Home grown grain		$5.52	$5.14	$5.60
Commercial feed		2.24	1.36	3.57
Total concentrates		$7.76	$6.50	$9.17
Mixed legume hay		$13.88	$15.67	$11.62
Straw and fodder		.23	.40	.14
Corn silage		7.21	3.76	9.53
Total roughage		$21.32	$19.83	$21.29
Total food cost		$29.08	$26.33	$30.46
Value butterfat sales per cow		$63.51	$46.79	$78.72
Returns per cow above food cost excluding pasture		$34.43	$20.46	$48.26

Prices of feed used in calculating food costs of dairy, poultry, and horse enterprises:

Alfalfa, ton	$8.00	Wheat, bushel	$0.48
Mixed legume hay, ton	6.00	Corn grain, bushel	0.45
Silage, ton	3.00	Rye, bushel	0.45
Corn shreds, grain straw, ton	2.00	Barley, bushel	0.38
		Oats, bushel	0.25

Table 13.--Food used per 100 hons and cost of food, 43 farms, 9 farms with highest returns over food cost, and 9 farms with lowest returns over food cost.

	Your farm	43 farms	9 farms with low returns over food cost per 100 hons	9 farms with high returns over food cost per 100 hons
Average number of hons		113	68	116
Average lbs. food per 100 hons				
Corn and small grain		5,662	4,813	5,495
Commercial food		1,440	1,359	1,312
Total food used		7,102	6,172	6,807
Food cost per 100 hons				
Corn and small grain		$45.29	$38.50	$43.96
Commercial food		26.58	23.17	27.84
Total food cost		$71.87	$61.67	$71.80
Total returns per 100 hons ...		$180.14	$88.14	$286.11
Returns over food cost per 100 hons		$108.27	$26.47	$214.31

Table 14.--Food cost per horse and average cost of food, 45 farms, 12 farms with lowest food cost and 13 farms with highest food cost per horse.

	Your farm	45 farms	12 farms with low food cost per horse	13 farms with high food cost per horse
Number of horses		4	3	4
Average lbs. food per horse				
Mixed hay		3,964	3,775	4,549
Other roughage		1,893	604	3,094
Total roughage		5,857	4,379	7,643
Oats		802	270	1,386
Other grain		210	98	393
Total grain		1,012	368	1,779
Total food cost per horse ...		$21.88	$14.88	$30.95

Farm Produce Used in the Home

Detailed data relative to amounts and values of farm produce used in the home were obtained on 41 farms, table 15. This constitutes an important source of income, especially on the smaller farms.

Table 15.--Quantity and value of various farm products used by the farm families Coon Creek area, 1938.

Products	41 farms		9 farms which used most farm products		9 farms which used least farm products	
	Quantity	Value	Quantity	Value	Quantity	Value
Eggs, dozen	165	$30	284	$44	91	$19
Poultry, number	22	10	28	14	19	6
Milk, gallons	380	68	644	126	195	33
Cream, quarts	109	20	125	31	97	18
Veal and beef, pounds	286	15	690	33	69	5
Pork, pounds	460	33	704	49	264	19
Potatoes, bushels	25	13	30	15	17	9
Farm products, canned and fresh		37		55		24
Wood, cords	34	66	38	76	23	40
Total value		292		$443		$173
Range	$107 - $499					