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 1934 on the FARM ACCOUNTING ROUTE in STEVENS COUNTY, MINNESOTA

By

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SOURCE OF DATA

Method of Study

The Division of Agricultural Economics of the University of Minnesota, the West Central Agricultural Experiment Station at Morris, and the Bureau of Agricultural Economics of the United States Department of Agriculture cooperated in an accounting study of farms in Stevens County in West Central Minnesota. The study was started March 1, 1932. Twenty-four records were summarized for 1932, and twenty-two in each 1933 and 1934. Seventeen farmers kept records the entire three years. Farms which were representative of the area were selected in co-operation with the county agricultural agent, Mr. Frank Douglass, and Mr. Allen W. Edson of the West Central Experiment Station. The farmers cooperating in this work keep a complete record of cash receipts and cash expenditures, and a record of the farm produce used in the house. Inventories, feed records and other significant facts about the farm business were also obtained.* The data presented in this report were obtained from these records. All data presented are preliminary and may be subject to later revision.

Description of the Area

Stevens County is located in the west central portion of the state. All of the county lies within the glaciated area, the northwestern part lying within the bed of the glacial Lake Agassiz. As a result of glaciation, the topography is for the most part flat to gently rolling with numerous sinks and depressions, in many of which stagnant water stands all year. The level areas are large and in wet years some difficulty is experienced in farming the land that has not been artificially drained with ditches or tile. The soil material is high in lime and

*During 1932 and 1933 a fieldman visited each farm at least twice per month to check and collect the records. During this period, labor records also were obtained. The records were sent to University Farm, St. Paul, where a detailed set of records for each farm was kept. Mimeographed Report No. 65 contains a summary of detailed costs secured in 1932 and 1933. Because of abnormal conditions resulting from the drouth, the labor records were discontinued in 1934. Each farmer was given an account book in which he kept a record of cash receipts, cash expenses, feed fed to livestock, farm produce used in the house, crop production, and births and deaths of livestock. This record was checked three times during the year and again at the end of the year.

due to the fine texture, the leaching has not extended below an average depth of two feet. Liming is seldom needed, even for alfalfa. In most of the county, the soil is very productive if well drained.

The climate is marked by wide variations in temperature. The growing season approximates 133 days and the average annual rainfall is about 24 inches, two-thirds of which comes in the growing season. A mixed type of farming prevails. Corn, oats, barley, wheat, flax seed and some rye are grown. Alfalfa and wild hay are the principal roughages. Sweet clover is grown for both pasture and hay. Beef cattle, dairy cattle, hogs and poultry are found thruout the county. Recently, the raising of turkeys has become an important enterprise on many farms.

Description of the Farms

Facts about the organization of the farms studied are presented on page 3. The average size of the farms studied was 372, 375, and 352 acres, respectively, in 1934, 1933 and 1932. This is approximately 42, 43 and 35 per cent, respectively, larger than the average for the county as given in the 1930 Census. The 1930 Census lists the farms varying from 260 to 499 acres in size as being the most numerous group in Stevens County. Approximately 82 per cent of the farm acreage is in crops. Approximately 38 per cent of the crop acreage was in oats, barley and wheat, 25 per cent in corn, 19 per cent in hay, and 12 per cent in flax in 1934. The acreage in corn and flax was unusually high because of seedings following the failure of other crops. According to the Census, 47 per cent of the crop acreage in Stevens County was in wheat, oats and barley in 1929, 23 per cent was in corn, 14 per cent in hay, and 3 per cent in flax.

Of the 22 farms studied in 1934, seven were owned by the operator, two were rented and thirteen were partly owned and partly rented. Sixty-five per cent of the land operated in 1934 was owned by the operator. Both share and cash rental leases were employed.

The Crop Season of 1934 Marked by Severe Drouth

The year 1934 was one of severe drouth in Stevens County. Less than 68 per cent of the normal rainfall was received during the year and in the five months of April to August less than 57 per cent of the normal amount for those months was received (see Table 1).

Table 1

Normal Rainfall and Departure from Normal Rainfall, in Inches, at Morris, Minnesota*

Year	Jan. Feb. Mar.	April	May	June	July	Aug.	Sept.	Oct. Nov. Dec.	Annual
Normal	2.35	2.27	2.98	3.95	3.76	2.84	2.37	3.08	23.60
				Departure from Normal, in Inches+					
1931	-.58	-1.66	-1.01	-1.12	-1.38	+.38	-1.15	+2.14	-4.38
1932	+.35	-.97	-.03	-1.97	-.44	+.09	-1.74	+.81	-3.90
1933	+.14	-1.18	-.11	-1.16	-2.54	-.42	-.98	-2.04	-8.29
1934	-1.69	-1.17	-1.80	-.29	-2.77	-.83	+.58	+.24	-7.73

*Data from reports of United States Weather Bureau.

+A minus (-) indicates a rainfall below normal. A plus (+) indicates a rainfall greater than normal.

Facts About the Organization of the Farms

	Your farm	1934 All Farms	1933 All Farms	1932 All Farms
Acres in corn	____	75.6	81.6	79.2
Acres in oats	____	44.5	47.8	57.5
Acres in barley	____	35.6	37.7	37.1
Acres in wheat	____	26.8	41.3	30.7
Acres in wheat and oats	____	6.7	14.0	12.6
Acres in flax	____	37.1	31.9	26.1
Acres in other grains and grain mixtures	____	2.4	6.9	5.6
Acres in alfalfa	____	15.5	15.9	15.5
Acres in tame hay	____	.5	9.3	7.3
Acres in wild hay	____	16.9	14.9	14.7
Acres in miscellaneous hay	____	24.4	5.1	.6
Acres in miscellaneous crops	____	22.2	1.8	2.2
Total crop acres	____	308.2	308.2	289.1
Acres in pasture	____	44.8	47.1	44.8
Acres in farmstead, road, waste, etc.	____	19.1	19.2	17.7
Total acres per farm	____	372.1	374.5	351.6
Number of cows	____	13	15	14
Number of pounds pork produced	____	5546	9791	14515
Number of sheep	____	16	21	20
Number of pounds turkey produced	____	1140	1734	1328
Number of chickens	____	159	228	204
Number of laying hens	____	107	118	114
Tractor farms:				
Number of farms using tractors		13	13	14
Total crop acres	____	362	361	294
Number of work horses per farm	____	6.3	6.7	7.0
Number of crop acres per horse	____	60.3	56.8	52.4
Non-tractor farms:				
Number of farms using horses only		8	8	9
Total crop acres	____	204	193	171
Number of work horses per farm	____	6.0	6.2	5.0
Number of crop acres per horse	____	34.1	30.8	33.5

The shortage of moisture in 1934 was more severe in its consequences because of the shortage in the preceding years. The temperatures during the summer months of 1934 also were much higher than normal (see Table 2).

Table 2

Normal Temperatures and Departure from Normal at Morris, Minnesota*

Year	April	May	June	July	Aug.	Sept.
Normal	44.5	55.9	66.1	70.6	68.1	59.4
	Departure from Normal, in Degrees†					
1931	+2.5	-0.3	+5.7	+3.3	+0.5	+7.3
1932	+0.4	+2.9	+3.5	+1.1	+0.9	-1.1
1933	-0.7	+1.3	+9.1	+4.2	+0.5	+6.4
1934	+0.3	+10.9	+5.4	+4.0	+1.3	-2.8

*Data from reports of the United States Weather Bureau.
†A minus (-) indicates a temperature lower than normal. A plus (+) indicates a temperature higher than normal.

As a result of high temperatures and the shortage of moisture, crop failure was more extensive in 1934 than in 1933. In 1934 the average abandonment on the farms studied varied from 33 per cent in the case of oats to 58 per cent in the case of wheat (see Table 3). In 1934 only 55 per cent of the alfalfa

Table 3

Utilization of Crop Acreage Seeded to be Harvested as Grain, 1933 and 1934

Crop	Percentage Utilization of Seeded Acreage							
	Harvested as grain		Cut for hay		Pastured		Abandoned	
	1933	1934	1933	1934	1933	1934	1933	1934
Wheat	64	24	3	13	-	6	33	58
Oats	62	23	17	31	3	13	18	33
Barley	73	25	2	13	4	12	21	50
Flax	87	42	-	8*	1	2	12	48

*Primarily pigeon grass and thistle hay.

was cut for hay, 11 per cent was pastured and 34 per cent yielded no crop at all. As a result of the impending shortage of feed, crops were harvested which under ordinary circumstances would have been abandoned. Wherever possible, the acreage that could not be cut for grain was either cut for hay or was pastured. The severity of the drouth is indicated further by the total production of grain and roughage on seventeen farms for which records are available in each of the three years (see Table 4).

Table 4

Average Production of Grain and Roughage
17 Farms - Stevens County

Year	Tons per Farm			Pounds per Crop Acre		
	Grain	Roughage*	Total	Grain	Roughage	Total
1932	142.3	89.7	232.0	885	558	1443
1933	25.3	72.0	97.3	157	448	605
1934	6.8	52.5	59.3	43	335	378
% reduction, 1932 to 1934	95	40	74	95	40	74

*Hay and fodder (including pigeon grass and Russian thistle hay) plus one-third of the silage.

Drouth Forces a Reduction in Livestock Production

As a result of the shortage of feed, the numbers of livestock were reduced, and the rations were also reduced. The extent of the reduction in livestock is indicated in Table 5. The reduction would have been larger if relief agencies had not furnished feed to farmers in return for work. The cattle-buying program served to lessen the losses that would have occurred had the surplus cattle been thrown on the public market. The reduction in hogs reflects the shortage of grain. All of these farmers signed corn-hog contracts but the drouth resulted in a reduction in excess of contract requirements. Only 74 per cent of the pigs permitted by the contracts were raised.

Table 5

Average Number of Livestock and Poultry on 17 Stevens County Farms on March 1, 1932-35

Year	Cows	Other cattle	Total cattle	Hogs	Sheep	Chickens	Turkeys
1932	16.2	23.1	39.3	32.8	21.4	134	20
1933	16.9	24.4	41.3	29.4	17.7	154	23
1934	15.8	21.2	37.0	13.6	20.1	143	16
1935	12.6	13.6	26.2	10.4	16.9	125	12
% reduction, 1932 to 1935	22	41	33	68	21	7	40

In general, farmers reduced the amount of grain and roughage fed per unit of livestock. This is shown in Table 6. The reduction was actually greater than these figures indicate since much less than the normal amount of feed was obtained from pasture and the roughage used in 1933 and 1934 contained a much larger than normal proportion of roughages of low feeding value.

Table 6

Pounds of Feed Used per Animal Unit,* 1932-1934

Class of livestock	1932		1933		1934	
	Grain+	Roughage‡	Grain	Roughage	Grain	Roughage
Work horses	3314	4310	2188	4215	1333	4778
Cattle:						
Dairy	2271	5107	1622	5402	1000	4922
Milk-and-beef	1976	2097	1104	5018	188	4502
Beef§	1640	2848	989	3220	316	4139
Sheep	441	2513	329	2485	224	1612
Hogs	9165	-	8316	-	6098	-
Chickens	6153	-	6376	-	6333	-
Turkeys	6713	-	5646	-	6007	-

*One cow, 1 bull, 1 feeder steer or heifer, 2 young cattle, 7 sheep, 14 lambs, 5 hogs, 10 pigs, 100 mature chickens, 200 chickens under six months of age, 33-1/3 mature turkeys or 67 young turkeys, respectively, were considered the equivalent of one animal unit.

+Ten pounds of skimmilk or buttermilk were considered as one pound of grain. All milk omitted for cattle.

‡Hay and fodder plus one-third the weight of silage. No allowance was made for straw or pasturage.

§Includes only those farms maintaining a beef-breeding herd.

FINANCIAL STATEMENTS

Method of Computing and Presenting Data

Average farm inventories and earnings and household expenses are presented on pages 7 to 9 for all farms, for the five farms having the highest earnings and for the five farms having the lowest earnings.

The majority of the farms studied were either partly or entirely rented, with the rental contracts varying from farm to farm. In order to have the data for

these farms comparable, all the farms have been adjusted to a full ownership basis. The inventories include all of the farm property regardless of ownership and the receipts and expenses include those of the landlord as well as of the tenant. Cash rent paid is omitted from the expenses and the landlord's share of crops is included in the receipts. For this reason, sales of grain may be larger than they would be if the farms were entirely owned. The value of the house occupied by the operator was excluded from the value of the farm buildings and all repairs and expenses on the house were omitted from the farm expenses. In calculating these financial statements, feed received from drouth relief agencies was included in the expenses as feed bought at market prices. The credit for work performed in payment for feed and seed obtained from such agencies is included in the receipts for work off the farm. The value of the farm produce used in the house was credited as part of the farm income and board furnished labor was considered as a farm expense. Board for hired labor was charged at $15 per month. The wage for unpaid family labor, 15 cents per hour, was estimated on the basis of wages paid to hired laborers. All interest actually paid has been omitted and interest charged on the total inventory at five per cent.

The returns to capital and family labor is what is left to pay interest on the investment and for the labor of the farm operator and his family. Family labor earnings is what is left after taking care of cash expenses, inventory differences and allowing five per cent on the investment. The operator's labor earnings is what the operator has left after paying all farm expenses, interest on the investment, and allowing hired man's wages for the unpaid family labor. A minus (-) indicates a filure to meet all the charges involved.

In 1932 the operator's labor earnings were low largely because of low prices for farm products. In 1933 they were low because of low prices and the drouth. In 1934 earnings were low chiefly because of the drouth.

Drouth Reduces Earnings

In 1934 the cash receipts from the sale of livestock and livestock products were only 85 per cent of those in 1932, in spite of higher livestock prices. Cash income from crop sales was only 36 per cent of that in 1932. However, the income from corn-hog and wheat adjustment payments and from work off the farm, amounting to $479 and $322, respectively, was great enough to more than offset the reduction in the sales of crops and livestock. As a result, the total cash farm receipts were approximately the same as in 1933 and 1932.

Cash farm expenses were larger in 1934 than in the other years because of increases in the purchases of feed and seed resulting from the drouth. Purchases of feeds, including those received from drouth relief agencies, averaged $592 per farm in 1934, an increase over 1932 of over 250 per cent. The increase is the result both of increased quantities and increased prices. The crop expense is larger in 1934 than in either 1932 or 1933 because of increased purchases of seed at much higher prices.

When the other receipts and expenses are considered the operator lacked $561 of being able to pay operating expenses and five per cent on the investment in the farm business. This loss was not as great as that in 1932 when a severe decline in prices resulted in a large decrease in inventory but it was greater than in 1933. Without the A.A.A. payments and the work off the farm, the loss in 1934 would have exceeded that in 1932.

The data on inventories, receipts, expenses and earnings provide some interesting comparisons. The farmers in the high earnings group had smaller farms

Summary of Farm Earnings

Item	Your farm	1934 All farms	1934 Five highest	1934 Five lowest	1933 All farms	1932 All farms
RECEIPTS						
Cattle	____	$449	$202	$589	$575	$713
Hogs	____	212	118	207	453	376
Sheep and wool	____	56	-	12	88	84
Poultry and eggs	____	428	836	252	409	331
Dairy products	____	397	371	253	348	304
Horses	____	23	1	58	16	40
Flax	____	34	2	22	117	220
Wheat	____	51	84	71	116	102
Other grains	____	46	6	46	92	111
Other crops	____	40	8	27	24	39
A.A.A. payments	____	479	242	574	-	-
Work off farm	____	322	262	139	204	133
Miscellaneous	____	80	49	92	64	65
(1) Total Cash Farm Receipts	____	2617	2181	2341	2506	2518
(2) Farm Produce Used in House	____	213	195	198	216	188
(3) Increase in Farm Inventory	____	-	-	-	-	-
(4) TOTAL FARM RECEIPTS	____	2830	2376	2539	2722	2706
EXPENSES						
Hired labor	____	61	45	71	84	132
Cattle bought	____	26	24	43	50	201
Hogs bought	____	5	-	5	16	11
Sheep bought	____	1	-	2	7	22
Poultry bought	____	14	19	10	31	17
Horses bought	____	30	15	52	2	28
Other livestock expense	____	23	33	22	40	48
Feed bought	____	592	613	522	258	168
Crop expense (twine, threshing, etc.)	____	189	80	204	98	143
Buildings, fences, etc.	____	56	75	50	85	57
Machinery	____	182	144	130	164	173
Auto (farm share)	____	60	46	82	22	24
Gas, kerosene, oil, etc.(farm share)	____	180	56	201	186	186
Taxes	____	224	95	304	238	280
Insurance	____	34	16	44	37	26
Miscellaneous	____	13	10	13	26	20
(5) Total Cash Farm Expenses	____	1690	1271	1755	1344	1536
(6) Decrease in Farm Inventory	____	471	41	1166	290	1098
(7) Board of Hired labor	____	54	48	95	64	74
(8) TOTAL FARM EXPENSES	____	2215	1360	3016	1698	2708
(9) Returns to Capital & Family Labor (4 - 8)	____	615	1016	-477	1024	-2
(10) Interest on Farm Inventory at 5%	____	824	475	1091	865	854
(11) Family Labor Earnings (9 - 10)	____	-209	541	-1568	159	-856
(12) Est. Wage for Unpaid Family Labor	____	352	132	488	356	297
(13) OPERATOR'S LABOR EARNINGS (11 - 12)	____	-561	409	-2056	-197	-1153

Average Farm Inventories

	Your farm	1934 All farms	1934 Five highest	1934 Five lowest	1933 All farms	1932 All farms
Land	_____	$9540	$6038	$11623	$9975	$9626
Buildings (excluding house operator lives in)	_____	2501	1090	4077	2484	2349
All horses	_____	413	273	552	422	425
Cattle	_____	802	490	1132	1023	1080
Hogs	_____	110	72	117	106	170
Sheep	_____	78	-	32	81	72
Poultry	_____	104	141	98	107	119
Machinery	_____	1890	712	2633	2129	2199
Auto (farm share)	_____	92	74	114	57	98
Feed	_____	943	611	1440	921	939
Total	_____	16473	9501	21818	17305	17077

Farm Produce Used in House

	Your Farm Quantity	Your Farm Value	1934 All Farms Quantity	1934 All Farms Value	1934 Five Highest Quantity	1934 Five Highest Value	1934 Five Lowest Quantity	1934 Five Lowest Value	1933 All Farms Quantity	1933 All Farms Value	1932 All Farms Quantity	1932 All Farms Value
Cream, pt.	_____	_____	403	$34.39	454	$39.22	394	$32.51	480	$34.39	400	$24.88
Farm churned butter, lb.	_____	_____	86	19.67	61	16.54	193	36.02	97	21.11	76	14.32
Whole milk, qt.	_____	_____	647	16.41	495	11.72	128	3.69	604	12.99	876	16.40
Skimmilk, qt.	_____	_____	923	2.98	1331	4.29	1237	3.99	728	1.84	508	1.68
Hogs, lb.	_____	_____	833	33.20	345	18.53	799	30.46	694	21.78	712	19.58
Cattle, lb.	_____	_____	452	20.98	250	12.25	397	19.08	484	16.16	483	15.30
Sheep, lb.	_____	_____	5	.10	-	-	-	-	-	-	14	.43
Poultry, lb.	_____	_____	116	11.32	70	7.68	161	16.04	188	13.32	162	13.52
Eggs, doz.	_____	_____	155	24.26	98	16.02	206	32.28	181	20.37	175	19.47
Potatoes, bu.	_____	_____	17	9.22	17	9.43	14	7.37	20	8.92	22	7.28
Fruits, vegetables		_____		5.23		6.00		4.00		7.91		10.96
Farm produced fuel		_____		35.00		53.00		12.00		58.86		44.04
Total		_____		212.76		194.68		197.44		217.65		187.86
Size of family (man equivalent)		_____		4.47		3.58		4.99		4.23		3.96

Average Household and Personal Expenses

	Your farm	1934 All farms	1934 Five high earnings*	1934 Five low earnings+	1933 All farms	1932 All farms
Size of family (man equivalent)		4.47	3.58	4.99	4.23	3.96
Expenses:						
Food	$	$201	$169	$192	$191	$172
Operating and supplies		36	28	34	30	49
Furnishings and equipment		28	62	16	36	34
Clothing and materials		88	92	82	94	76
Health		35	27	56	49	32
Development and recreation		73	58	88	47	48
Personal		46	54	35	62	58
Life insurance and savings		52	23	54	67	55
Housing		9	28	3	16	7
Personal share of auto		91	52	138	141	140
Personal share of electricity		4	-	8	8	5
Total		663	593	706	741	676
Investment:						
House	$	$1739	$1388	$2269	$1820	$1744
Personal share:						
Auto		82	53	149	174	174
Lighting plant		42	-	105	45	37

*Five farms with highest operator's earnings.
+Five farms with lowest operator's earnings.

(186 acres compared with 444 acres), a smaller investment in real estate and cattle, and a larger investment in poultry than the operators of the farms in the low earnings group. In years of crop failure, the operator of a large acreage of land is at a disadvantage because he incurs expenses for taxes, soil preparation and seeding and for seed, for which he receives little or no return.

Dairy products, poultry and work off the farm were relatively more important as sources of income on the farms in the high earnings group than on those in the low earnings group. Until January 1, 1935, it was possible for the operator of a small farm to secure as much feed (a maximum of $25 per month) from relief agencies and therefore to obtain the same quantity of outside work in payment for this feed as the operator of a large farm.

The operators in the high earnings group bought more feed than those in the low earnings group but they fed a large proportion of it to chickens and turkeys. Poultry gave relatively greater returns over feed than other livestock (see page 17). The farmers in the high earnings group incurred much less expense for auto, gasoline and oil, and taxes. They also incurred a smaller charge for interest on the investment and unpaid family labor. As a result of these and other variations, there was a difference of approximately $2500 between the average operator's earnings for the two groups.

LIVESTOCK FEED COSTS AND RETURN OVER FEED COSTS

Feed costs, returns, and returns over feed costs for each of the different classes of livestock maintained are presented on the following pages. All data

Feed Cost and Return for Dairy Cows
(per cow)

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		6		6	8
Cows per farm	_____	14.0	3.7 to 20.6	16.1	13.6
Butterfat per cow, lb.	_____	220	191 to 284	249	225
Feed:					
Corn, lb.	_____	402	30 to 953	593	339
Small grain, lb.	_____	427	177 to 1031	1106	2235
Other concentrates, lb.	_____	524	270 to 1221	275	149
Legume hay, lb.	_____	357	0 to 1051	1747	2148
Other hay, lb.	_____	1552	106 to 2965	843	984
Fodder and stover, lb.	_____	1697	0 to 6263	1862	1905
Silage, lb.	_____	3677	0 to 8962	4895	2154
Total concentrates, lb.	_____	1353	748 to 2491	1974	2723
Total roughage, lb.*	_____	4832	1586 to 10930	6084	5755
Pasture, days	_____	112	97 to 136	124	142
Feed cost	$_____	$42.98	$30.98 to $75.13	$31.18	$32.29
Value of product:					
Sold	$_____	$56.30	$46.15 to $72.30	$49.26	$41.16
Used	_____	6.55	3.37 to 11.54	4.13	4.21
Fed	_____	11.20	7.05 to 16.24	9.88	12.08
Appreciation+	_____	-6.34	-27.16 to 1.89	-3.05	-3.11
Total	_____	67.71	34.39 to 90.29	60.22	54.34
Return over feed	$_____	$24.73	$-8.50 to $48.20	$29.04	$22.05
Feed cost per lb. B.F.	_____	$.20	$.14 to $.37	$.13	$.14
Price received per lb. B.F.	_____	.30	.26 to .34	.22	.21

*Three pounds of silage considered equal to one pound of hay or fodder.
+A minus (-) denotes depreciation.

are shown on the basis of a standard unit such as one head or 100 pounds gain in weight. The amounts of feed, with the exception of pasture, are given in pounds rather than in bushels or tons. All corn has been adjusted to a shelled corn basis. Local prices were used, in so far as possible, in determining feed costs. Marketable feeds were charged at local prices and non-marketable feeds on a comparative feeding-value basis. No charge was made for straw or for corn-stalk pasture.

The weight of livestock produced was obtained by adding the weight on the closing inventory to the weight sold and used in the house and then deducting from this total the sum of the weight bought and the weight on the opening inventory. The value of livestock production was determined in the same manner except that values instead of weights were used. Transfers of cattle from one class to another were handled in the same manner as purchases and sales.

Cattle

Cows. The cow herds were divided into three groups upon the basis of method of management. Herds of cows of dairy breeding which were handled with particular emphasis on butterfat production, were called dairy herds. Herds composed of mixed breeds which were kept for raising calves as well as producing

Feed Cost and Return for Milk-and-Beef Cows (per cow)

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms			12		11	12
Cows per farm		____	12.3	7.7 to 20.0	12.1	9.6
Butterfat per cow, lb.		____	125	76 to 195	156	154
Feed						
Corn	lb.	____	17	0 to 199	65	291
Small grain	lb.	____	152	0 to 479	677	998
Other conc.	lb.	____	43	0 to 178	11	11
Legume hay	lb.	____	565	0 to 1715	1040	1133
Other hay	lb.	____	985	0 to 3645	1007	759
Fodder & stover	lb.	____	1441	0 to 4410	2379	2099
Silage	lb.	____	4202	0 to 8403	3419	2296
Total conc.	lb.	____	212	0 to 751	753	1300
Total roughage*	lb.	____	4314	2297 to 8314	5566	4756
Pasture	days	____	129	92 to 157	133	143
Feed Cost		____	$29.90	$12.63 to $54.56	$17.60	$19.80
Value of product:						
Sold		____	23.05	11.17 to 40.51	20.32	20.26
Used		____	7.42	2.67 to 19.86	7.39	6.92
Fed		____	9.87	4.10 to 32.50	10.90	8.63
Appreciation+		____	-3.00	-7.04 to 5.49	-2.05	-1.00
Total		____	37.34	19.39 to 58.77	36.56	34.81
Return over feed		____	7.44	-17.00 to 27.14	18.96	15.01
Feed cost per lb. B. F.		____	.24	.15 to .31	.11	.13
Price received per lb. B. F.		____	.27	.24 to .31	.21	.18

*Three pounds of silage considered equal to one pound of other roughage.
+A minus (-) denotes depreciation.

butterfat were classed as milk-and-beef herds. Herds which were kept primarily for the raising of beef calves were called beef-breeding herds. Because the major emphasis with both the dairy and the milk-and-beef herds was on butterfat production, the costs and returns for the dairy and the milk-and-beef herds are for cows only. They neither include any feed or expense for the bull nor any credit for calves born. Due to the fact that calves were in some cases allowed to nurse for a short time, it was necessary to estimate their consumption of whole milk while nursing. It was assumed that the calves that were nursing received an average of two gallons of milk per day. The value of the dairy products fed includes all milk and skim-milk fed to calves as well as to the other classes of livestock. The butterfat per cow was calculated by dividing the total butterfat utilized (sales, used in the house, and fed to livestock) by the average number of cows in the herd. Calculated in this manner, the butterfat production may be materially less than that obtained by dairy herd improvement associations because in the latter case no allowance is made for waste and shrinkage and frequently only part of the cows are tested.

Feed Cost and Return per Head for Beef Breeding Herds

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		3		4	4
No. of head per farm	____	21.4	13.9 to 26.2	28.5	30.4
% calf crop	____	112	93 to 147	76	74
Feed:					
Grain, lb.	____	94	2 to 231	286	656
Legume hay, lb.	____	608	0 to 1785	964	795
Other hay, lb.	____	551	251 to 820	344	91
Fodder and stover, lb.	____	1366	903 to 1647	1452	1252
Silage, lb.	____	4890	3970 to 5951	3083	3646
Total roughage*, lb.	____	4155	3221 to 4912	3788	3353
Pasture, days	____	154	139 to 164	140	140
Feed Cost	$____	$22.53	$13.61 to $27.17	$11.64	$14.93
Depreciation	____	11.71	17.48 to 2.08	9.70	1.08
Total feed and depreciation	____	34.24	15.69 to 44.30	21.34	16.01
Value of milk products:					
Sold	$____	$5.46	$2.27 to $8.81	$2.51	$2.10
Used	____	2.76	.95 to 5.46	1.96	2.13
Fed+	____	.71	.32 to 1.06	.36	.55
Total milk products	____	8.93	3.98 to 11.74	4.83	4.78
Feed cost and depreciation minus milk products	____	25.31	11.72 to 33.22	16.51	11.23
Cost per calf	____	23.21	13.59 to 32.49	21.60	14.26

*Three pounds of silage considered equivalent of one pound of hay or fodder.
+Does not include milk fed to calves.

Beef Breeding Herds. The beef breeding herds are kept primarily for raising beef calves. For this reason the cost of the bull is included with the cost of the cows and the data are presented on a per head basis for the entire breeding herd. The credit for dairy products fed does not include any whole or skimmilk fed to calves. The cost per calf was obtained by dividing the net cost by the number of calves raised.

Other Cattle. Data for other cattle are presented for the farms on which dairy or milk-and-beef herds were kept. This class includes the bull and all young cattle. It represents, primarily, the heifers being raised for replacement altho in some cases one or two calves being fattened for sale or home butchering are also included.

All Cattle. Feed costs and returns for the entire cattle enterprise, calculated on an animal unit basis are presented. In these statements, any milk used by calves is omitted from the feeds used and from the value of dairy products fed to livestock.

Feed Cost and Return per Head of Other Cattle Dairy Herds

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms			6		6	8
Head per farm			11.7	6.5 to 19.6	14.9	14.0
Feed						
Corn	lb.		84	0 to 344	128	272
Other grain	lb.		60	0 to 171	211	482
Legume hay	lb.		185	0 to 717	528	676
Other hay	lb.		523	331 to 854	427	477
Fodder & stover	lb.		1074	61 to 4000	948	1025
Silage	lb.		1281	0 to 3710	1472	432
Total concentrates	lb.		144	0 to 344	339	754
Total roughage*	lb.		2209	667 to 4345	2394	2322
Whole milk**	lb.		367	92 to 551	328	334
Skimmilk	lb.		1429	587 to 2014	1674	1745
Pasture	days		111	83 to 159	100	114
Feed cost			$17.94	$8.53 to $27.54	$13.33	$16.39
Value of product			18.76	5.98 to 25.69	12.97	7.02
Return over feed			.82	-8.58 to 8.57	- .36	-9.37

* 3 lbs. of silage considered equal to 1 lb. hay or fodder.
** Includes estimated amount calves received while nursing.

Feed Cost and Return per Head of Other Cattle Milk-and-Beef Herds

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms			12		11	10
Head per farm			13.7	4.5 to 31.9	16.1	16.1
Feed:						
Corn	lb.		15	0 to 123	239	163
Other grain	lb.		53	0 to 209	290	467
Legume hay	lb.		140	0 to 665	416	400
Other hay	lb.		594	0 to 3204	494	351
Fodder & stover	lb.		471	101 to 979	864	666
Silage	lb.		1504	0 to 4055	1246	857
Total concentrates	lb.		69	0 to 209	529	630
Total roughage*	lb.		1706	512 to 3645	2189	1703
Whole milk**	lb.		410	57 to 1023	649	259
Skimmilk	lb.		1006	36 to 2514	1193	1367
Pasture	days		105	53 to 170	73	124
Feed Cost			$14.91	$6.90 to $23.95	$14.74	$12.32
Value of product			14.85	.33 to 24.19	11.90	8.89
Return over feed			-.06	-15.83 to 11.98	2.84	3.43

* Total dry roughage plus one-third the weight of silage.
** Includes estimated amount calves received while nursing.

Feed Cost and Return per Animal Unit of Dairy Cattle

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms			6		6	8
Animal units per farm			20.2	7.2 to 27.9	24.80	21.4
Feed						
Corn	lb.		322	16 to 689	558	410
Small grain	lb.		1190	129 to 1190	876	1757
Millfeeds	lb.		281	125 to 649	188	104
Legume hay	lb.		369	18 to 1227	1461	1800
Other hay	lb.		1687	1318 to 1965	823	955
Fodder and stover	lb.		1784	430 to 3766	1818	1745
Silage	lb.		3247	0 to 19483	3899	1821
Total concentrates	lb.		1000	566 to 1577	1622	2271
Total roughage*	lb.		4922	3140 to 29531	5402	5107
Pasture	days		117	102 to 135	139	167
Feed Cost			$38.37	$29.67 to $53.66	$25.90	$27.64
Value of product						
Livestock			29.76	-29.22 to 84.04	6.56	4.62
Dairy			45.69	31.15 to 56.41	38.20	32.99
Total			75.45	7.78 to 115.19	44.76	37.61
Return over feed cost			37.08	-21.89 to 68.19	18.86	9.97

* Total dry roughage plus one-third of weight of silage

Feed Cost and Return per Animal Unit of Beef Cattle

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms			3		4	4
Animal Units per farm			29.8	11.8 to 45.6	46.6	54.2
Feed						
Corn	lb.		1416	52 to 5100	549	771
Small grain	lb.		90	0 to 218	428	861
Millfeeds	lb.		6	0 to 18	12	8
Legume hay	lb.		909	22 to 172	815	736
Other hay	lb.		870	489 to 1471	444	127
Fodder & stover	lb.		975	382 to 1207	1340	1037
Silage	lb.		3202	0 to 4908	2761	2693
Total concentrates	lb.		1512	170 to 5100	1677	1640
Total roughage	lb.		3821	2868 to 4336	3335	2843
Pasture	days		101	19 to 157	156	146
Feed Cost			$34.33	$21.95 to $69.00	$14.57	$17.25
Value of product						
Livestock			-32.07	-62.09 to 15.55	12.88	13.93
Dairy			4.00	0 to 6.89	3.00	2.59
Total			-28.07	-61.89 to 22.30	15.88	16.52
Return over feed cost			-62.40	-130.89 to -0.25	1.31	-0.73

Feed Cost and Return per Animal Unit of Milk and Beef Cattle

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		12		11	12
Animal units per farm	_____	19.5	10.0 to 36.3	22.1	24.7
Feed:					
Corn, lb.	_____	19	0 to 164	410	897
Small grain, lb.	_____	139	0 to 361	687	1070
Mill feeds, lb.	_____	30	0 to 121	7	9
Legume hay, lb.	_____	500	111 to 1302	1014	1008
Other hay, lb.	_____	1420	330 to 6082	978	689
Fodder and stover, lb.	_____	1408	209 to 3607	2094	1689
Silage, lb.	_____	3523	0 to 8200	2797	1839
Total concentrates, lb.	_____	188	29 to 571	1104	1976
Total roughage, lb.	_____	4502	2258 to 9889	5018	3999
Pasture, days	_____	113	10 to 157	134	150
Feed cost	$_____	$29.06	$12.45 to $49.94	$17.51	$19.10
Value of product:					
Livestock	$_____	$43.30	$-27.56 to $118.49	$13.93	$14.11
Dairy	_____	21.52	13.59 to 33.89	16.46	13.50
Total	_____	64.82	-10.26 to 139.98	30.39	27.61
Return over feed cost	$_____	$35.76	$-39.51 to $105.64	$12.88	$8.51

Feed Cost and Return per Sheep*

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		7		7	9
Sheep per farm	_____	49	10 to 79	65	53
Feed:					
Grain, lb.	_____	27	4 to 113	47	63
Legume hay, lb.	_____	48	0 to 225	51	25
Other hay, lb.	_____	16	0 to 90	10	30
Fodder and stover, lb.	_____	131	0 to 329	260	283
Silage, lb.	_____	104	0 to 403	103	64
Total roughage, lb.	_____	230	0 to 506	355	359
Pasture, days	_____	166	124 to 212	113	163
Feed cost	$_____	$1.22	$.26 to $2.52	$1.07	$1.30
Production:					
Sheep	$_____	$2.20	$.12 to $4.86	$3.31	$.48
Wool	_____	1.01	0 to 1.55	1.42	.83
Total	_____	3.21	.69 to 6.13	4.73	1.31
Return over feed	$_____	$1.99	$.35 to $5.12	$3.66	$.01
Wool per sheep shorn, lb.	_____	9.1	7.5 to 11.4	8.5	9.2
Lambs per ewe	_____	.7	.2 to 1.0	.8	.7
Per cent death loss:					
Sheep	_____	19	0 to 27	15	8
Lambs	_____	32	10 to 84	28	25

*Two lambs under six months considered equal to one sheep.

Sheep

In the data for sheep, the number of head is the average number of mature head for a year when two lambs up to six months of age are considered equal to one mature sheep. The fleece weight was calculated by dividing the total clip by the number of sheep sheared. The lambs raised per ewe is the number of lambs raised to six months of age divided by the number of ewes at lambing time. The per cent of death loss was arrived at by dividing the number of deaths by the total number of individual sheep or lambs, regardless of the length of time that they were on the farm. The death loss of mature sheep was the result of old age as well as of shortage of feed.

Hogs

The pounds of hogs produced was calculated as explained on page 10 of text. Any gain in weight of breeding stock is included. The feed likewise includes that for the breeding herd. The average selling price is based on the weight and value of all pigs and hogs sold. In 1933 it includes the premium received for the sows and pigs sold in the emergency hog reduction program. It does not include the A.A.A. hog adjustment payment received in 1934. The pigs per litter is the number of pigs raised to six months of age plus the pigs sold or butchered at less than six months of age, divided by the number of farrowings. The pigs were farrowed in late spring or early summer. In 1934 pigs were farrowed before April 1 on only one farm and after June 30 only on one farm. The average market weight is the average weight for all pigs and hogs sold. Farrowings in

Feed Cost and Return per 100 Pounds of Hogs Produced

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		20		20	24
Pounds of hogs per farm	____	6088	2425 to 11660	10749	14516
Feed:					
Corn, lb.	____	198	63 to 331	245	261
Small grain, lb.	____	131	14 to 672	189	197
Mill feeds, lb.	____	14	0 to 134	4	1
Total concentrates, lb.	____	393	198 to 783	-	-
Skimmilk equivalent,* lb.	____	310	0 to 1173	190	155
Pasture, days	____	21	0 to 64	26	23
Feed Cost	$____	$5.86	$4.18 to $11.75	$3.30	$2.03
Average selling price	____	3.87	2.05 to 6.21	3.59	2.62
Return over feed cost	____	none	none to .86	.29	.59
Pigs per litter	____	5.6	2.3 to 8.3	5.9	6.0
Average market weight, lb.	____	185	75 to 236	179	225

*One pound of tankage considered equivalent to ten pounds of skimmilk.

Feed Cost and Return per 100 Chickens

	Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
No. of farms		22		20	22
Laying hens per farm	____	107	24 to 255	123	118
Other chickens per farm	____	51	1 to 121	117	93
Feed:					
Corn, lb.	____	2195	18 to 4778	2096	1589
Small grain, lb.	____	2938	0 to 8621	3348	3938
Mill feeds, lb.	____	742	5 to 2346	358	211
Meat scrap and tankage, lb.	____	160	0 to 664	152	98
Skimmilk, lb.	____	2995	0 to 7167	3155	3170
Total concentrates, lb.	____	5875	145 to 10893	5802	5738
Skimmilk equivalent,* lb.	____	5715	471 to 12638	5739	4836
Feed Cost	$____	$92.23	$29.27 to $159.50	$53.92	$36.13
Value of product:					
Eggs	$____	$85.23	$39.89 to $156.75	$46.50	$45.80
Poultry	____	40.28	-52.93 to 119.41	20.15	29.60
Total	____	125.51	20.96 to 200.58	66.65	75.40
Return over feed	$____	$33.28	$-38.34 to $141.54	$12.73	$39.27
Eggs per hen	____	99	51 to 144	95	88
Feed cost per dozen eggs, ¢	____	11.3	2.8 to 21.6	9.9	5.8
Selling price per dozen eggs, ¢	____	15.1	10.8 to 21.4	11.6	11.5

*Skimmilk plus 17 times meat scrap and tankage.

Feed Cost and Return per 100 Pounds of Turkeys Produced

		Your Farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
Number of farms			11		13	14
Pounds produced per farm		____	2274	108 to 13609	2942	2280
Feed						
Corn	lb.	____	730	22 to 1809	308	311
Small grain	lb.	____	270	0 to 594	283	562
Millfeeds and commercial feeds	lb.	____	53	0 to 197	24	43
Meat scraps and tankage	lb.	____	17	0 to 55	11	21
Skimmilk	lb.	____	434	0 to 1306	202	470
Total concentrates	lb.	____	1053	22 to 2051	615	916
Skimmilk equivalent*	lb.	____	757	0 to 1670	389	827
Feed Cost		____	$14.75	$0.17 to $31.80	$5.63	$5.71
Value of product		____	24.07	13.44 to 53.94	13.37	9.13
Return over feed		____	9.32	-6.61 to 22.14	7.74	3.42
Selling price per lb.		____	.19	.14 to .35	.14	.12

*Skimmilk plus 17 times meat scrap and tankage.

1934 averaged about one month later than in 1932 and 1933. As a result of late farrowings and shortage of feed, the gilts kept for the 1935 pig crop were much smaller on March first than on the previous years. Farrowings will be much later in 1935.

Chickens

The data for chickens are presented on the basis of one hundred chickens. Some ducks or geese were raised on a few farms. In such cases, the data include that for ducks and geese and the number of chickens is adjusted accordingly. In arriving at the cost per dozen eggs, the feed cost was divided between the production of birds and the production of eggs on the basis of the receipts from each source. Then the cost of feed chargeable against the production of eggs was divided by the number of dozens of eggs produced.

A larger proportion of the flocks were laying hens in 1934 than in 1932 or 1933.

Turkeys

The turkey flocks on the farms studied were kept primarily for the production of meat. The production of turkey eggs for sale, relatively, was of no importance. For this reason, the data for turkeys are presented on the basis of one hundred pounds gain in weight. The value of product includes sales, used in the house, and the change in inventory valuation. The selling price is based upon the weight and value of all turkeys sold.

The quantity of feed used was larger in 1934 than in 1932 and 1933 partly because of the lack of pasture. Considerable feed was obtained from pasture in 1932 and 1933 but practically none in 1934. The return over feed was greater in 1934 than in either 1932 or 1933.

Feed Cost for Work Horses

		Your farm	1934 All farms	1934 Range	1933 All farms	1932 All farms
Farms Using Tractors for Drawbar Work						
Number of Farms			13		13	14
Number of Horses		____	6.3		6.7	7.0
Per Horse						
Grain	lb.	____	1333	203 to 2736	2188	3314
Hay & fodder	lb.	____	4778	2198 to 8595	4215	4310
Pasture	days	____	83	26 to 157	84	70
Feed cost		____	$38.26	$14.73 to $63.11	$21.99	$23.72
Crop acres		____	60.3	36.6 to 96.6	56.8	52.4
Farms Not Using Tractors for Drawbar Work						
Number of Farms			8		8	9
Number of Horses		____	6.0		6.2	5.0
Per Horse						
Grain	lb.	____	1829	646 to 3007	2487	3194
Hay	lb.	____	6695	4011 to 11071	5086	4391
Pasture	days	____	66	22 to 106	70	85
Feed cost		____	$51.83	$32.01 to $72.97	$24.85	$21.85
Crop acres		____	34.1	26.4 to 44.1	30.8	33.5

Work Horses

The farms were divided into two groups and data are presented for each group. One group consists of the farms on which tractors were used for drawbar work and the other group is composed of the remainder of the farms. The farms on which tractors were used were larger and raised more acres of crops per horse than the farms without tractors.

Comparative Returns from Different Classes of Livestock

In the preceding tables the feed costs and returns have been expressed on the basis of the unit which seemed to fit best the particular class of livestock under consideration. In such form the data do not lend themselves readily to comparisons between different kinds of livestock. The data in the following table (Table 7) provide a comparison between the different classes of livestock.

Table 7

Feed Cost and Return over Feed Cost per Animal Unit*

		1932		1933		1934	
		Feed cost	Return over feed	Feed cost	Return over feed	Feed cost	Return over feed
Cattle:	Dairy	$27.64	$9.97	$25.90	$18.86	$38.37	$37.08
	Milk-and-beef	19.10	8.51	17.51	12.88	29.06	35.76
	Beef	17.25	-.73	14.57	1.31	22.77	-39.56
Sheep		9.10	.07	7.49	25.62	8.56	13.93
Hogs		40.53	2.15	60.99	13.08	89.65	-3.90
Chickens		36.13	39.27	53.92	12.73	92.23	33.28
Turkeys		37.98	41.74	47.68	62.52	75.72	76.40

*See Table 6, page 5, [illegible]anation of animal unit.