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Southeastern South Dakota Farm Record Summary 1946 Fourth Annual Report

C. R. Hoglund

1946

FOURTH ANNUAL REPORT

SOUTHEASTERN SOUTH DAKOTA FARM RECORD SUMMARY

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Agricultural Experiment Station
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FOURTH ANNUAL REPORT OF THE SOUTHEASTERN SOUTH DAKOTA FARM RECORD PROJECT, 1946

Prepared by C. R. Hoglund

This is the fourth annual report of the farm record study started by the Experiment Station in 1943. Farm record cooperators are located in two areas of the state; namely, the Southeastern and North Central Areas. A summary of the results of the North Central area are included in a separate pamphlet.

The analysis of the farm record data and the preparation of the report was carried out under the direction of C. R. Hoglund of the Experiment Station. C. A. Hustrulid, Farm Management Fieldman, made most of the field calls on the cooperating farmers during the year and assisted in the preparation of the material for this report. Arthur Anderson and Lyle Bender, Extension Specialists, assisted in the organization and education work in the field. The following is a list of counties covered in the study, and the county agents who actively cooperated in the project.

County	Agent	Number of records
Clay	Raymond Venard	2
Lake	Clarence Schladweiler	3
Lincoln	Kenneth Ostroot	2
Minnehaha	Glenn Schrader	10
Moody	C. M. Culhane	7

The farm record cooperators were visited one or two times during the year, and again at the end of the year when the records were closed. The cooperators kept records which included cash receipts and expenses, beginning and end of year inventories of feed and seed, machinery and equipment, buildings and land and livestock, crop record, livestock record and a record of farm produce and fuel used by the household. Additional information was obtained on crop and livestock practices used, crop varieties, feed fed to productive livestock, and on family and hired labor.

Operator's labor earnings have been calculated on a full owner basis in order to more nearly compare all farms on an equal basis. However, each cooperator received an earnings statement on the basis of his actual tenure situation. Summary of farm inventories and earnings are prepared as though the operator was a full owner except for table 18 in which a comparison is made between owners, part-owners, and tenants for earnings and various farm organization and management efficiency factors.

Earnings for most of the cooperating farmers were high during 1946. The removal of price controls during the latter part of 1946 affected some farmers more than others. Cattle feeders and hog producers who were in position to sell livestock after prices were sharply increased were greatly benefited. Uncertainty as to future prices for livestock and feed caused some feeders to reduce their operations and thus lower their earnings during 1946.

Increased operating expenses during 1946 were more than offset by increases in prices farmers received for livestock and crops. Most farmers will be faced with continued high operating costs in the future. These high operating costs will probably continue high for some time after farm prices drop. Careful planning of future farm operations will help farmers to meet lower prices.

Climatic Conditions

A late spring freeze plus below normal rainfall in April and May contributed materially to a reduction in small grain yields in 1946. Corn growth was retarded considerably during late summer by insufficient moisture. However, heavier than normal rainfall in the fall months prolonged the growing season to such an extent that much of the corn did not mature properly. Corn yields were very favorable, but the quality was considerably reduced by a too high moisture content. Total precipitation for the year varied considerably for different parts of the area. Total precipitation at Vermillion was reported as about one inch below normal with precipitation at Wentworth nine inches above normal.

Table 1. Monthly and Annual Precipitation and Departure from Normal, Flandreau, Sioux Falls, Vermillion, and Wentworth Weather Stations, 1946

Month	Flandreau		Sioux Falls		Vermillion		Wentworth	
	1946	Departure	1946	Departure	1946	Departure	1946	Departure
January	.23	-0.25	0.05	-0.60	0.30	-0.25	0.06	-0.46
February	1.08	+0.54	0.73	+0.01	0.51	-0.27	0.65	+0.15
March	1.76	+0.74	1.58	+0.29	1.30	+0.07	3.22	+2.19
April	0.63	-1.68	0.73	-1.87	0.91	-1.61	0.66	-1.53
May	1.77	-1.45	2.29	-1.49	5.78	+2.27	1.51	-1.83
June	5.37	+1.33	4.39	+0.09	3.27	-0.64	5.39	+1.35
July	4.32	+1.73	2.97	-0.16	0.66	-2.52	5.84	+2.94
August	0.79	-2.14	2.45	-0.76	1.83	-1.11	1.34	-1.70
September	4.97	+2.55	5.21	+2.57	3.39	+0.23	5.69	+3.10
October	5.00	+3.57	3.99	+2.45	3.35	+1.78	5.19	+3.68
November	1.13	+0.18	1.58	+0.52	2.50	+1.41	2.04	+1.28
December	0.22	-0.36	0.29	-0.47	0.29	-0.40	0.41	-0.14
1946 Total	27.27	+4.76	26.26	+0.58	24.09	-1.04	32.00	+9.03
1945 Total	26.71	+4.20	25.37	-0.31	22.73	-2.40	23.33	+0.36
1944 Total	29.19	+6.68	32.21	+6.53	37.81	+12.68	33.16	+10.19
1943 Total	28.63	+5.51	23.45	-2.97	23.53	-1.93	28.69	+ 4.95

Definition of Terms and Measures Used

1. Operator's labor earnings - is the measure of financial success used in this report. It is a measure of the relative financial success of a farmer and represents the returns for his year's work (including family living from the farm) above all farm expenses, and a deduction for the value of unpaid family labor and an interest charge for the use of farm capital.

2. Productive man work units - is a measure of size of business used in this report. A work unit represents the amount of work that a farm worker can do in a 10-hour day working at average efficiency. For example, it requires about 10 hours of man labor to produce an acre of corn and 140 hours to care for a milk cow for a year. Thus an acre of corn would represent 1.0 work units and a milk cow 14.0 work units.

The work unit standards used in this report are shown in the following tables:

Crops			Livestock		
Item	Per	No. of work units	Item	Per	No. of work units
Corn, grain	Acre	1.0	Milk cows	cow	14.0
Corn, hogged off	"	.6	Other dairy cattle	animal unit	4.0
Corn and cane silage	"	1.5	Beef cows	cow	4.0
Sorghum	"	1.0	Other beef cattle	animal unit	4.0
Soybeans	"	1.0	Bulls	head	4.0
Potatoes	"	4.0	Litter	litter	4.0
Small grain	"	.7	Other hogs	head	.5
Alfalfa hay	"	1.0	Ewes	head	.5
Other tame hay	"	.7	Other sheep	head	.2
Wild hay	"	.5	Hens	100	20.0
Annual pasture	"	.3	Chickens raised	100	4.0

3. Work unit per worker - is a measure of the efficient use of labor on a farm.

4. Livestock increase - is the value of gross livestock sales less purchases and plus or minus changes in inventory values of livestock from the beginning to the end of the year.

5. Crop yield index - is a comparison of the yield per acre of all crops on a given farm or group of farms with the average yield of all crops for the entire group of farms studied. For example, a farm with a crop yield index of 105 means that the average yield for this farm is 5 percent greater than the average.

6. Crop selection index - is a measure of the success of a farmer or group of farmers in choosing high value crops. Crops were rated A, B, C and D. All of the acres in A crops, one-half of acres in B crops and one-fourth of acres in C crops were used in calculating the percent of cropland in high return crops. The group average was then considered 100 with variations compared to this average. The following crops were rated as A crops: alfalfa, alfalfa and grass mixtures, and corn. The following were rated as B crops: silage, soybeans, flax, and oats. C crops were wheat, barley, annual hay and pasture, and sweet clover and mixed legume hay and pasture.

7. Livestock returns per $100 feed fed - is a measure of the efficiency in converting feed into livestock products. It is obtained by dividing the value of the net livestock increase by the value of feed fed to all productive livestock during the year. This figure is multiplied by 100.

8. Part-owner - is a farmer who owns part of the land he operates and rents the rest.

Table 2. Summary of Farm Inventories, 1946*

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Beginning of Year				
Horses and mules	$_____	$ 160	$ 182	$ 127
Productive livestock (total)	_____	7,535	9,780	5,554
Cattle	_____	5,338	6,796	3,573
Hogs	_____	1,526	2,734	1,324
Sheep	_____	483	68	431
Poultry	_____	188	182	226
Feed and seed	_____	4,655	6,119	3,949
Mach. and equipment (total)	_____	3,552	4,988	3,124
Power machinery	_____	1,190	1,716	1,108
Crop and gen. mach.	_____	1,979	2,786	1,640
Livestock equipment	_____	383	486	376
Improvements (farm)**	_____	4,255	4,962	3,471
Land	_____	16,625	16,910	14,910
Total Farm Capital	$_____	$36,782	$42,941	$31,135
End of Year				
Horses and mules	$_____	$ 132	$ 152	$ 100
Productive livestock (total)	_____	7,120	11,220	5,402
Cattle	_____	4,776	6,860	3,445
Hogs	_____	1,609	2,526	1,519
Sheep	_____	566	1,654	227
Poultry	_____	169	180	211
Feed and seed	_____	5,921	8,359	3,612
Mach. and equipment (total)	_____	3,632	4,806	3,004
Power machinery	_____	1,196	1,593	1,003
Crop and gen. mach.	_____	2,047	2,708	1,641
Livestock equipment	_____	389	505	360
Improvements (farm)**	_____	4,127	4,681	3,292
Land	_____	16,625	16,910	14,910
Total Farm Capital	$_____	$37,557	$46,128	$30,320

*These include value of both owner's and operator's share of farm capital investment.

**Does not include value of dwelling.

Table 3. Crop Acreage Summary, 1946

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Corn for grain	_____	108.4	137.7	82.3
Sorghum forage	_____	1.2	.8	1.7
Corn and cane silage	_____	6.9	9.8	4.2
Soybeans		6.5	3.3	5.2
Total Row Crops		123.0	151.6	93.4
Wheat	_____	8.5	24.2	--
Oats	_____	76.2	109.8	54.3
Barley	_____	5.0	8.3	--
Rye-grain	_____	.3	--	--
Flax		9.2	--	9.2
Total Small Grain		99.2	142.3	63.5
Alfalfa hay	_____	15.7	19.0	10.2
Other tame hay		4.1	1.7	3.5
Total Tame Hay		19.8	20.7	13.7
Rotation Pasture		15.1	23.7	10.0
Total Tame Hay & Past.		34.9	44.4	23.7
Idle and Fallow		--	--	--
Total Tillable Land		257.1	338.3	180.6
Native hay	_____	5.3	11.5	5.3
Native pasture	_____	30.5	38.2	34.8
Farmsteads, roads, etc.		19.4	21.0	15.8
Total Acres Operated		312.3	409.0	236.5
% of farm in cropland	_____	81.9	81.8	76.2
% of cropland in row crops	_____	49.2	45.5	52.4
% of cropland in sm. grain	_____	37.0	40.4	36.7
% of cropland in hay & past.	_____	13.8	14.1	10.9

Table 4. Crop Yield Summary, 1946

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Corn for grain	_____	39.3	43.0	40.6
Soybeans	_____	18.7	11.6	18.2
Wheat	_____	15.3	12.7	--
Oats	_____	27.9	26.3	25.6
Barley	_____	23.0	16.0	--
Rye	_____	31.0	--	--
Flax	_____	8.4	--	6.0
Alfalfa hay	_____	1.7	1.4	1.6
Other tame hay	_____	1.7	2.0	2.0
Sorghum forage	_____	3.0	3.0	2.0
Silage	_____	8.8	9.5	7.3
Native hay	_____	1.3	1.3	1.1

Table 5. Livestock Summary, 1946

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Horses	_____	3.1	4.0	1.9
Beef cows	_____	4.6	2.1	6.3
Beef heifers	_____	2.5	1.2	5.3
Other beef cattle	_____	7.0	3.5	11.2
Steers	_____	22.7	34.7	4.8
Milk cows	_____	7.2	12.3	6.8
Dairy heifers	_____	3.1	6.6	1.5
Other dairy cattle	_____	3.0	5.4	1.8
Bulls	_____	.7	1.0	.6
Ewes	_____	11.4	4.1	11.7
Other sheep	_____	33.2	62.9	18.3
Litters of pigs	_____	11	19	8
Hens and pullets	_____	154	188	196
Total Units Prod. Livestock*	_____	46.1	64.2	39.3

*A unit of productive livestock is equal to one mature cow, 2 yearlings, 7 sheep, 14 lambs, 5 sows, 10 pigs, and 100 hens.

Table 6. Farm Produce and Fuel Furnished to Household, 1946

Item	Quantity				Value			
	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Whole milk, qts.	_____	1416	1472	1272	$_____	$106.20	$110.40	$ 95.40
Cream, qts.	_____	134	117	124	_____	67.00	58.50	62.00
Farm-made butter, lbs.	_____	47	49	15	_____	31.02	32.34	9.90
Eggs, doz.	_____	171	253	180	_____	53.01	78.43	55.80
Poultry, lbs.	_____	149	233	65	_____	34.27	53.59	14.95
Cattle, lbs.	_____	728	672	867	_____	116.48	107.52	138.72
Hogs, lbs.	_____	384	640	483	_____	65.28	108.80	82.11
Sheep, lbs.	_____	44	150	--	_____	6.60	22.50	--
Potatoes, bu.	_____	8	12	9	_____	12.80	19.20	14.40
Vegetables	_____				_____	44.79	40.83	43.33
Fruits					_____	3.83	1.67	6.67
Farm Fuel					_____	9.87	19.83	10.67
Total Value					$_____	$551.15	$653.61	$533.95

Table 7. Summary of Farm Earnings, 1946

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
FARM RECEIPTS				
Hogs	$_____	$ 4,180	$ 7,488	$ 2,659
Cattle	_____	5,991	7,861	2,717
Dairy Products	_____	1,107	2,203	1,094
Eggs	_____	520	529	724
Poultry (includes turkeys)	_____	255	261	312
Sheep and wool	_____	1,988	4,978	846
Horses	_____	33	5	17
Crops	_____	3,066	3,662	2,691
Machinery & equipment	_____	53	96	54
Farm program payments	_____	111	192	86
Income from work off farm	_____	350	136	90
Miscellaneous	_____	67	70	46
(1) TOTAL FARM SALES	$_____	$17,721	$27,481	$11,336
(2) Increase in inventories	_____	809	3,188	--
(3) Family living from farm	_____	551	653	533
(4) TOTAL FARM RECEIPTS (sum 1-3)	$_____	$19,081	$31,322	$11,869
FARM EXPENSES				
Auto (farm share)	$_____	$ 300	$ 312	$ 253
Power, mach., & equip. (upkeep)	_____	972	1,160	724
Power, mach., & equip. (new)	_____	573	596	343
Farm improvements (upkeep)	_____	181	181	178
Farm improvements (new)	_____	206	447	22
Hired labor	_____	642	1,509	426
Crop expenses	_____	733	715	568
Feed bought	_____	1,536	3,489	993
Livestock bought	_____	3,742	7,528	1,489
Other livestock expenses	_____	342	544	233
Taxes	_____	328	486	205
Insurance	_____	109	141	77
Miscellaneous farm expenses	_____	123	167	113
(5) TOTAL FARM PURCHASES	$_____	$ 9,787	$17,275	$ 5,624
(6) Decrease in inventories	_____	--	--	816
(7) Board furnished hired labor	_____	118	293	58
(8) Unpaid family labor ($100 per mo.)	_____	262	450	217
(9) Interest on farm capital (5%)	_____	1,863	2,241	1,536
(10) TOTAL FARM EXPENSES (sum 5-9)	$_____	$12,030	$20,259	$ 8,251
(11) OPERATOR'S LABOR EARNINGS (4)-(10)	$_____	$ 7,051	$11,063	$ 3,618
(12) RETURNS TO CAPITAL & FAMILY LABOR (sum 8+9+11)	$_____	$ 9,176	$13,754	$ 5,371

WHY FARM EARNINGS VARY

Favorable prices and high crop and livestock production contributed to extremely high operator's labor earnings in the Southeastern area during 1946. However, earnings on some farms were fairly low. Operator's labor earnings ranged from a low of less than $3,200 to a high of over $12,000. These variations in earnings were due chiefly to differences in size of business, labor efficiency, crop yields, crop selection, livestock selection and livestock feeding efficiency.

Size of Business Important

Size of business as measured in terms of total work units was found to be one of the most important factors affecting earnings. An adequate size of business is necessary to provide a good level of living. A small size farm business may provide an adequate farm income if it is very efficiently operated. However, the size of business will need to be large enough to provide full time productive work for the farm family if high earnings are to be attained. Operator's labor earnings averaged $4,966 on the farms with less than 440 work units compared with earnings of about $9,640 on the group of farms with 800 or more work units. The size of farm business can be increased by keeping more livestock, by farming more land or by shifting to more intensive crop and livestock enterprises. The relationship of size of business to farm earnings is shown in table 8.

Table 8. Relation of Size of Business to Farm Earnings

Number of work units Range	Average	No. of farms	Average operator's labor earnings
Under 440	370	6	$4,966
440 - 799	531	12	$6,043
800 & over	880	6	$9,640

Use Labor More Efficiently

Farmers who plan their work carefully and use the most economical methods in producing crops and livestock usually have higher earnings than other farmers. Work units per worker ranged from less than 200 to over 400 for the 24 farms studied. It is difficult to utilize labor efficiently on the inadequate sized unit. Labor efficiency can be increased by enlarging the size of business, by distributing labor peaks throughout the season and by the use of labor saving equipment and practices. There is considerable opportunity on most farms to increase the amount of work accomplished per worker. Careful planning of field and chore work and the possible elimination of unessential tasks will increase labor efficiency without lowering production.

Table 9. Relation of Amount of Work Performed Per Worker to Farm Earnings

Work units per worker Range	Average	No. of farms	Average operator's labor earnings
Under 300	247	6	$6,634
300 - 419	350	10	$6,382
420 & over	464	8	$7,191

High Crop Yields Lower Costs

High yields tend to lower the per bushel or ton cost of crops. Farm earnings are usually higher on farms on which yields are high. This is particularly true when prices are high. High yields are dependent on the use of adapted seed varieties and recommended cropping practices, including a regular rotation. The use of alfalfa or other recommended legumes helps boost yields. The use of commercial fertilizer may be profitably used on many farms. The relation of crop yields to earnings is shown in table 10.

Table 10. Relation of Crop Yields to Farm Earnings

Percent crop yields were of average of all 24 farms		No. of	Average operator's
Range	Average	farms	labor earnings
Under 85	78	6	$6,486
85 - 114	100	12	$5,952
115 & over	125	6	$8,470

Crop Selection Important

Economical livestock production and high earnings are dependent on the kind of crops a farmer produces. It is important that farmers grow the feed crops that produce the greatest quantity of nutrients per acre. The selection of crops that bring high cash returns per acre is also important. The choice of crops should include alfalfa and other legumes which maintain soil fertility and provide high protein feed.

Table 11. Relation of Crop Selection to Farm Earnings

Percent selection of high return crops were of average of all 24 farms		No. of	Average operator's
Range	Average	farms	labor earnings
Under 95	90	6	$6,172
95 - 104	100	12	$6,242
105 & over	110	6	$8,203

High Livestock Production Needed

The amount and kinds of productive livestock kept on a farm has an important effect on farm earnings. This is particularly true in an area in which crops are marketed chiefly through livestock. The farm resources on the farm and the managerial ability of the operator should determine the kinds and amounts of livestock kept. The selection of livestock enterprises that help distribute the labor load throughout the year needs consideration.

Table 12. Relation of Amount of Productive Livestock to Farm Earnings

Total animal units		No. of	Average operator's
Range	Average	farms	labor earnings
Under 30	18	6	$5,571
30 - 59	43	12	$6,418
60 & over	81	6	$8,453

Efficient Livestock Feeding Needs Attention

Efficient livestock production has contributed greatly to high earnings in recent years. Since such a large proportion of the crops are marketed through livestock in this area, it is extremely important that feed be efficiently used. Increased cost of feed makes it necessary for feeders to watch costs very carefully. Livestock returns per $100 feed consumed varied greatly for the 24 farms studied. On a few farms returns were actually less than the cost of the feed. High production per unit, sanitation, balanced rations, adequate pasture, the right kind of shelter plus good management are all important factors contributing to efficient livestock production. Efficient livestock feeding was an extremely important factor in affecting earnings, as shown in table 13.

Table 13. Relation of Livestock Feeding Efficiency to Farm Earnings

Livestock returns per $100 feed fed to productive livestock		No. of farms	Average operator's labor earnings
Range	Average		
Under 145	126	5	$4511
145 - 199	163	11	$6688
200 & over	288	7	$8155

RELATIONSHIP OF EFFICIENCY IN FARMING TO EARNINGS

Farmers who excel in many efficiency factors usually have higher earnings than do those who rank low in most or all of these factors. Some farmers show good management efficiency and high returns in some parts of the farm business which is offset by poor results in other parts of the business. Table 14 illustrates the importance of an efficiently organized and operated farm business.

Table 14. Relation of Number of Factors Above Average to Farm Earnings

No. of factors above average	No. of farms	Your farm	Average operator's labor earnings
0-1	5	$_____	$4,786
2	5	$_____	$5,476
3	6	$_____	$5,922
4	5	$_____	$8,272
5-6	3	$_____	$10,993

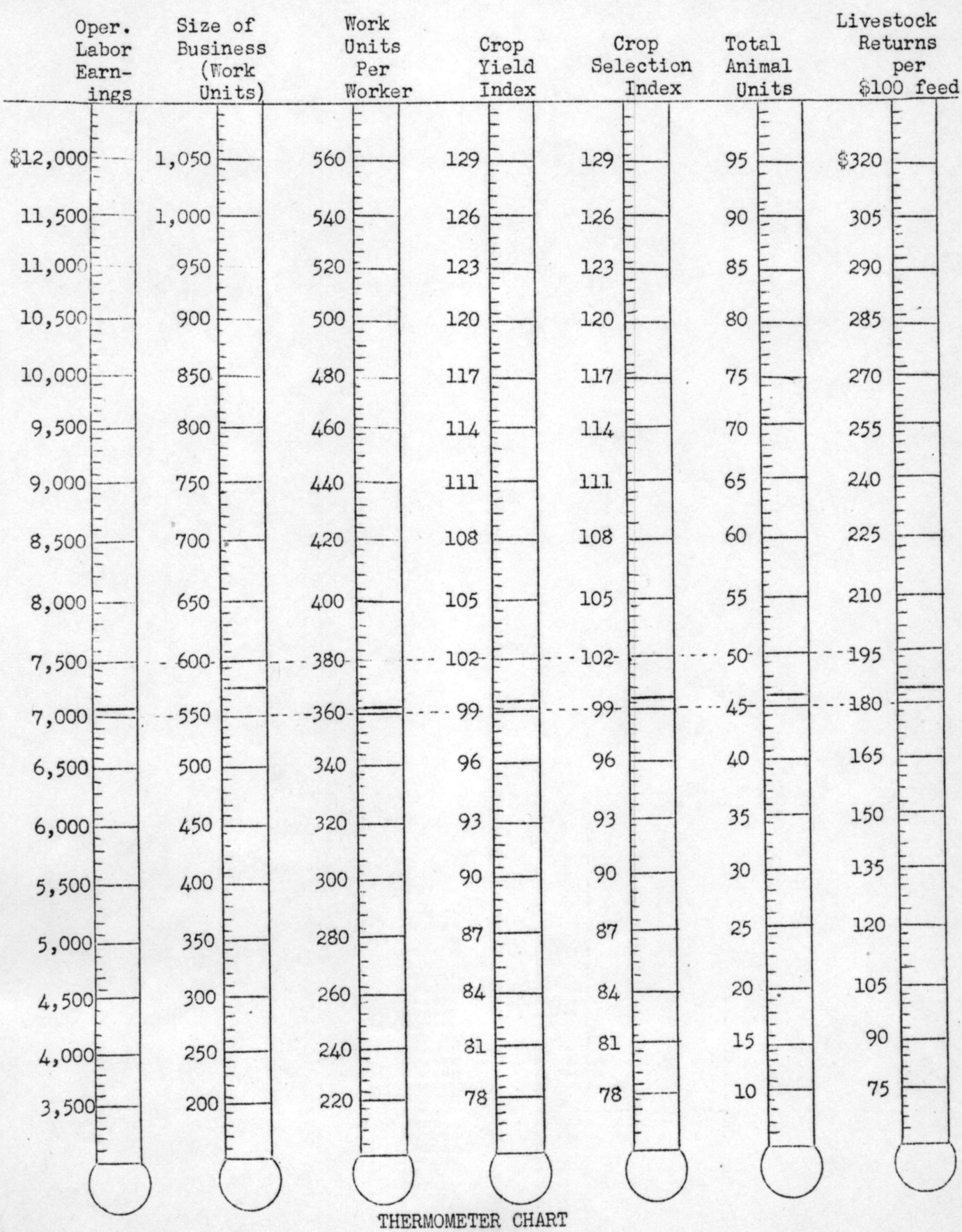
Farmers should study table 15 on page 11, table 16 on page 13 and the thermometer chart on page 12 to determine the weak and strong points in their farm business.

Table 15. Farm Organization and Management Efficiency Factors, 1946

Item	Your Farm	Average of 24 farms	6 most profitable farms	6 least profitable farms
Operator's Labor Earnings	$_____	$ 7,051	$11,063	$ 3,618
Acres owned	_____	175.1	238.5	83.4
Acres rented	_____	137.2	170.5	153.1
Total operated	_____	312.3	409.0	236.5
Capital Investment				
Total capital managed	$_____	$37,175	$44,489	$30,727
Productive livestock	_____	7,328	10,500	5,478
Power and machinery	_____	3,738	5,064	3,178
Rate earned on investment	_____	21.2	28.2	13.7
Size of Business				
*Work units (total)	_____	578	778	456
On crops	_____	210	289	158
On livestock	_____	333	476	290
Off farm	_____	35	13	8
Labor Utilization				
Number of workers	_____	1.7	2.3	1.4
*Work units per worker	_____	362	374	334
Crop acres per worker	_____	154	149	129
Animal units per worker	_____	29	31	28
Livestock increase per worker	$_____	$6380	$8,970	$5,290
Crop Organization and Efficiency				
Total acres in crops	_____	257	338	181
*Crop yield index	_____	100	108	95
*Crop selection index	_____	100	105	97
% cropland is of farm	_____	81.9	81.8	76.2
% cropland in row crops	_____	49.2	45.5	52.4
% cropland in small grain	_____	37.0	40.4	36.7
% cropland in hay & pasture	_____	13.8	14.1	10.9
Livestock Org. and Efficiency				
Number of beef cows	_____	6	3	10
Number of milk cows	_____	6	12	5
Number of ewes	_____	8	3	17
Number of litters of pigs	_____	11	19	8
Number of hens	_____	154	188	196
*Total prod. livestock units	_____	46	64	39
*Livestock ret. per $100 feed	_____	$185	$214	$148
Pounds butterfat per cow	_____	248	276	258
Eggs laid per hen	_____	160	134	190
Pigs saved per litter	_____	6.3	6.4	6.6
Power, Mach. & Equip.				
Power invest. per crop acre	$_____	$5.63	$5.72	$6.95
Crop mach. inv. per crop acre	$_____	$8.54	$9.13	$9.97

*Measures used thermometer chart on page 13.

Compare your standing in regards to the measures of farm organization and efficiency with the average for the group shown between the dotted lines. The figures from the bottom to the top of the seven efficiency bars show the range from the least efficient to the most efficient farms.



THERMOMETER CHART

Table 16. Comparative Standing of Cooperators on Individual Efficiency Factors

Oper. Labor Earnings	Acres per Farm	Power & Mach. Inv. per Crop acre	Work units per worker	Crop yield Index	Crop Efficiency: Yields: Corn bu.	Oats bu.	Alf. tons	Livestock Efficiency: Return per $100 feed	B. F. per cow	Pigs weaned per litter	Eggs laid per hen	Livestock Increase Per Man
		$ 6.93										
		7.22										
		7.55										
		7.81										
		8.31		135								
		8.75		129								$14,517
		10.07		127								12,632
		11.50		124		45.4		$367	459	8.3		8,647
$12,314		11.68	491	119	60.0	39.0		335	391	7.5	296	8,358
11,877	621	11.72	490	115	51.4	37.0		310	360	7.4	274	7,454
11,247	580	12.14	486	112	50.0	34.4		272	354	7.3	249	7,310
11,036	520	12.25	468	108	45.0	31.0	2.8	271	305	7.2	238	7,174
10,066	473	12.62	454	106	41.7	30.5	2.7	253	303	7.0	233	6,909
9,805	400	13.21	445	105	41.2	30.0	2.3	209	286	6.8	191	6,653
7,939	393	13.54	421	102	41.0	29.3	2.0	200	267	6.6	188	6,632
7,147	320	14.00	403	101	40.0	28.0	1.9	192	260	6.5	173	6,461
AVERAGE $ 7,051	312	$14.17	362	100	39.3	27.9	1.7	$185	248	6.3	160	$6,380
6,564	304	15.78	367	93	35.7	27.4	1.5	171	238	6.2	154	6,248
6,383	297	16.13	358	92	32.4	27.0	1.3	161	236	5.9	152	6,148
6,348	265	16.18	354	88	31.8	26.3	1.2	159	224	5.5	135	5,930
6,266	249	17.09	350	86	31.7	25.6	1.0	155	221	5.4	133	5,732
5,999	242	21.38	347	83	30.0	25.0		149	208	5.3	132	5,488
5,799	240	22.71	337	81	25.0	23.5		148	206	5.2	127	4,890
5,708	235	25.82	335	80	24.0	20.0		147	198	5.1	126	4,668
5,319	210	35.65	333	71		19.9		145	184	4.5	102	4,646
4,899	200		320	69		18.0		142	148		87	4,586
4,723	160		293					127	138		72	3,775
4,117			273					119	115		59	3,383
4,050			254					95	105			2,891
3,894			251									1,993
3,327			216									
3,200			194									
3,127												

Table 17. Size of Farm Related to Earnings, Farm Organization & Efficiency Factors, 1946

Item	Under 199 acres	240 Acres	320 Acres	400 Acres	440 & over Acres
Operator's Labor Earnings	$ 4,982	$ 5,888	$ 5,049	$ 7,980	$10,507
Number of farms	4	8	4	4	4
Acres owned	80	95.5	184.0	337.8	257.8
Acres rented	80	122.1	124.3	58.8	290.8
Total operated	160	217.6	308.3	396.6	548.6
Capital Investment					
Total capital managed	$24,168	$29,369	$35,989	$43,400	$60,753
Productive livestock	$ 5,803	$ 5,592	$ 5,477	$ 6,008	$15,491
Power and machinery	$ 2,634	$ 3,101	$ 3,024	$ 5,188	$ 5,377
Rate earned on investment	20.9	21.6	16.5	26.1	20.6
Size of Business					
Work units (total)	405.7	492.5	528.9	682.4	865.2
On crops	117.5	153.2	207.6	240.0	389.6
On livestock	264.5	308.4	318.3	338.0	459.1
Off farm	23.7	30.9	3.0	104.4	16.5
Labor Utilization					
Number of workers	1.1	1.3	1.5	2.0	2.9
Work units per worker	369	379	353	341	298
Crop acres per worker	126	139	166	165	161
Animal units per worker	34.1	28.9	27.8	23.2	26.4
Livestock increase per worker	$6,111	$7,286	$6,072	$4,895	$6,631
Crop Organization & Efficiency					
Total acres in crops	139	181	249	330	466
Crop yield index	103	102	83	106	96
Crop selection Index	100	103	99	95	100
% cropland is of farm	86.6	77.8	80.6	83.3	85.6
% cropland in row crops	49.6	52.8	50.2	44.2	45.6
% cropland in small grain	37.0	30.4	35.2	40.0	46.2
% cropland in hay & past.	13.4	16.8	14.6	15.8	8.2
Livestock Org. & Efficiency					
Number of beef cows	1.5	3.9	9.8	9.3	1.5
Number of milk cows	3.5	6.6	4.8	9.3	7.9
Number of ewes	---	.9	23.5	4.0	---
Number of litters of pigs	9.3	9.3	9.8	12.0	16.3
Number of hens	149	174	209	90	128
Total prod. livestock units	37	38	42	46	77
Livestock returns per $100 feed	$252	$179	$184	$147	$207
Pounds butterfat per cow	268	272	257	223	197
Eggs laid per hen	159	154	208	104	150
Pigs saved per litter	5.9	6.3	7.0	6.1	6.4
Power, Mach. & Equip.					
Power inv. per crop acre	$ 5.87	$ 6.94	$ 4.14	$ 5.36	$ 4.44
Crop mach. inv. per crop acre	$10.99	$ 9.32	$ 7.12	$ 8.31	$ 6.15

Table 18. Tenure Related to Earnings, Farm Organization and Efficiency Factors, 1946

Item	Your Farm	Tenants	Part-Owners	Owners
Operator's Labor Earnings*	$_____	$ 5,904	$ 7,288	$ 6,909
Number of farms	_____	8	9	7
Acres owned	_____	____	225	254
Acres rented	_____	274	167	____
Total operated	_____	274	392	254
Capital Investment				
Total capital owned**	$_____	$19,207	$37,907	$30,584
Productive livestock	$_____	$ 5,269	$10,068	$6,156
Power and Machinery	$_____	$ 3,709	$ 3,843	$3,634
Rate earned on investment	_____	28.1	21.1	22.7
Size of Business				
Work units (total)	_____	462	650	618
on crops	_____	189	262	168
on livestock	_____	257	342	407
off farm	_____	16	46	43
Labor Utilization				
Number of workers	_____	1.4	2.1	1.4
Work units per worker	_____	330	310	441
Crop acres per worker	_____	168	153	142
Animal units per worker	_____	21	29	34
Livestock increase per worker	$_____	$ 5,441	$ 6,292	$ 7,570
Crop Organization & Efficiency				
Total acres in crops	_____	235	322	199
Crop yield index	_____	98	108	93
Crop selection index	_____	105	99	96
% cropland is of farm	_____	85.6	82.3	77.3
% cropland in row crops	_____	52.0	47.7	47.9
% cropland in small grain	_____	35.4	39.8	33.7
% cropland in hay & past.	_____	12.6	12.5	18.4
Livestock Org. & Efficiency				
Number of beef cows	_____	3	8	4
Number of milk cows	_____	5	6	9
Number of ewes	_____	5	11	5
Number of litters of pigs	_____	7	10	12
Number of hens	_____	108	127	222
Total prod. livestock units	_____	29	60	48
Livestock ret. per $100 feed	$_____	$204	$164	$214
Pounds butterfat per cow	_____	295	231	251
Eggs laid per hen	_____	143	156	167
Pigs saved per litter	_____	6.1	6.5	6.3
Power, Mach. & Equip.				
Power invest. per crop acre	$_____	$6.73	$4.46	$ 5.87
Crop mach. inv. per crop acre	$	$8.61	$6.21	$11.44

*Operator's labor earnings are the actual figures for these farms and have not been adjusted to a full owner basis for tenants and part-owners.

**Includes only the operator's share of farm capital.

Table 19. Four Year Summary of Farm Earnings

14 Farms With Continuous Records, 1943-46

Item	1943	1944	1945	1946
Total investment managed	$ 27,335	$ 29,332	$ 31,619	$ 34,540
Rate earned on investment	21.1	24.5	15.6	23.1
FARM RECEIPTS				
Hogs	$ 4,094	$ 4,055	$ 2,887	$ 5,021
Cattle	4,824	4,521	4,619	4,497
Dairy Products	745	927	1,020	1,499
Eggs	620	690	730	569
Poultry (includes turkeys)	192	266	225	258
Sheep and wool	41	118	178	601
Horses	-----	13	19	-----
Crops	2,648	2,901	2,643	3,481
Machinery & equipment	-----	93	89	36
Farm program payments	111	155	75	140
Income from work off farm	-----	376	517	410
Miscellaneous	683	105	174	80
(1) TOTAL FARM SALES	$ 13,958	$ 14,220	$ 13,176	$ 16,592
(2) Increase in inventories	872	626	1,175	999
(3) Family living from farm	502	522	506	482
(4) TOTAL FARM RECEIPTS (sum 1-3)	$ 15,332	$ 15,368	$ 14,857	$ 18,073
FARM EXPENSES				
Auto (farm share)	$ 129	$ 168	$ 221	$ 311
Power, mach., & equip. (upkeep)	563	871	913	1,041
Power, mach., & equip. (new)	531	490	721	589
Farm improvements (upkeep)	167	199	204	243
Farm improvements (new)	213	131	183	318
Hired labor	511	527	521	595
Crop expenses	450	478	544	763
Feed bought	2,586	1,528	1,221	1,505
Livestock bought	3,005	2,034	3,065	2,227
Other livestock expenses	206	233	224	361
Taxes	244	264	284	315
Insurance	68	60	64	142
Miscellaneous farm expenses	90	97	101	127
(5) TOTAL FARM PURCHASES	$ 8,763	$ 7,080	$ 8,266	$ 8,537
(6) Decrease in inventories	-----	-----	-----	-----
(7) Board furnished hired labor	172	96	77	117
(8) Unpaid family labor	232	307	257	264
(9) Interest on farm capital (5%)	1,367	1,467	1,574	1,727
(10) TOTAL FARM EXPENSES (sum 5-9)	$10,534	$ 8,950	$ 10,174	$ 10,645
(11) OPERATOR'S LABOR EARNINGS (4-10)	$ 4,798	$ 6,418	$ 4,683	$ 7,428
(12) RETURNS TO CAPITAL & FAMILY LABOR (sum 8+9+11)	$ 6,397	$ 8,192	$ 6,514	$ 9,419

Table 20. Four Year Summary of Organization and Efficiency Factors

14 Farms With Continuous Records, 1943-46

Item	1943	1944	1945	1946
Acres owned	129.	177	173	172
Acres rented	145	109	123	138
Total operated	274	286	296	310
Crop Organization				
% cropland is of farm	83.9	85.4	84.0	84.9
% cropland in row crops	41.6	47.4	45.6	48.8
% cropland in small grain	39.2	35.4	37.3	37.5
% cropland in hay & past.	19.2	15.2	16.6	13.7
Crop Yields Per Acre				
Corn, bu.	39.3	53.6	34.9	38.7
Oats, bu.	41.4	46.3	45.6	29.2
Barley, bu.	20.9	----	----	30.
Flax, bu.	10.2	8.7	5.1	12.2
Alfalfa, tons	2.4	2.5	2.3	1.5
Livestock Org. and Efficiency				
Number of horses	4	3	3	2
Number of milk cows	9	9	8	8
Number of beef cows	4	2	1	3
Number of ewes	6	6	3	3
Number of litters of pigs	18	13	15	14
Number of hens & pullets	180	222	184	180
Total prod. livestock units	48	51	47	45
Livestock returns per $100 feed	$ 175	$ 173	$ 147	$ 182
Pounds butterfat per cow	---	222	245	269
Eggs laid per hen	---	133	155	153
Pigs saved per litter	---	5.9	5.4	6.3
Size of Business				
Work units (total)	577	633	588	611
Number of workers	2.0	1.9	1.6	1.7
Work units per worker	289	333	368	360
Power, Mach. & Equip.				
Power invest. per crop acre	$ 4.92	$ 5.45	$ 6.41	$ 5.53
Crop mach. inv. per crop acre	$ 6.80	$ 7.02	$ 7.55	$ 8.23