FARM BUSINESS SURVEY

OF 113 FARMS IN GRIDLEY TOWNSHIP, McLEAN COUNTY ILLINOIS

1931

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Summary of Farm Business Survey on 113 Farms Located in Gridley Township, McLean County, Illinois, 1931

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This report is based on survey records secured from 113 Gridley Township, McLean County, farmers in December of 1931 and is typical of the grain surplus area of east central Illinois. The farms included in the study occupied about 72 percent of the total land area of the township. A similar study was made of 113 Gridley Township farms in 1925.

The chief value of survey records is that they present a cross section picture of farming conditions in a particular area. This is true because most of the farms in the area are covered by the study. On the other hand, averages secured from farm financial records kept by farmers are not typical of all farms in the area since these are selected farms. The accounting farms differ both in the organization and in average earnings. The survey records may, however, be used to demonstrate to what extent the accounting records are not typical. A study of this kind is especially valuable in making it possible to present the farmer's case in such instances as freight rate and tax hearings.

Gridley Township is located on the north edge of McLean County and is adjacent to both Woodford and Livingston Counties. It is larger than the normal township since it contains 54 sections.

Type of soil: With the exception of parts of eight sections located in the southwest corner of the Township adjacent to the Mackinaw River, the soils are quite uniform as to type. The area near the river has been surveyed, by the Department of Agronomy, University of Illinois, as yellow gray silt loam, while the soil for the rest of the Township is brown silt loam interspersed with small areas of black clay loam. Ninety-two percent of the land area included in the study was tillable which checks very closely with the data given by the 1930 census.

Size of farms: The 113 farms included in the study averaged 218 acres per farm, but ranged from 53 to 640 acres in size. The following table indicates the number of farms falling into the various size groups:

Acres per farm	Number farms	Acres per farm	Number farms
50 - 99	7	300 - 349	7
100 - 149	17	350 - 399	2
150 - 199	34	400 - 449	7
200 - 249	26	450 - 640	5
250 - 299	8	Total	113

The 1930 census reports 173 farms in Gridley Township with an average of 198 acres per farm. The census classification includes farms as small as three acres which accounts for the difference noted between the average size of the 113 farms included in the survey and the average size of the 173 farms reported by the census.

There were more farms in the survey group which ranged from 150 to 199 acres per farm than in any other group. About 18 percent of

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Item	Your farm	Average of 113 farms	38 most profitable farms	38 least profitable farms
Capital Investments--Land		38 762	45 640	29 391
Farm Improvements		4 414	4 802	4 373
Horses		545	630	477
Cattle		486	617	419
Hogs		211	229	203
Sheep		22	24	22
Poultry		111	127	112
Livestock--Total		1 375	1 627	1 233
Machinery and equipment		1 413	1 533	1 294
Feed, grain and supplies		2 016	2 189	1 791
Total Investment	$	$47 980	$ 55 791	$38 082
Receipts-Net Increases--Horses				
Cattle		39	113	22
Hogs		262	347	214
Sheep		9	15	3
Poultry		55	80	48
Egg sales		93	118	89
Dairy sales		148	208	103
Livestock--Total		606	881	479
Feed, grain and supplies		1 305	1 852	600
Labor off farm		19	29	14
Miscellaneous receipts				
Total Receipts--Net Increases	$	$ 1 930	$ 2 762	$ 1 093
Expenses--Net Decreases				
Farm Improvements		249	259	248
Horses		43	30	37
Miscellaneous livestock decreases		---	---	---
Machinery and equipment		429	402	458
Feed, grain and supplies		---	---	---
Livestock expense		32	36	31
Crop expense		158	170	115
Hired labor		241	314	179
Taxes		464	467	422
Miscellaneous expenses		16	15	15
Total Expenses--Net Decreases	$	$ 1 632	$ 1 693	$ 1 505
Receipts Less Expenses	$	$ 298	$ 1 069	$ -412
Total unpaid labor		787	794	782
Operator's labor		592	600	592
Family labor		195	194	190
Net income from investment and management		-489	275	-1 194
Rate earned on investment	%	-1.02 %	.49 %	-3.14 %
Return to capital and operator'd labor and management		103	875	-602
5 percent of capital invested		2 399	2 790	1 904
Labor and management wage	$	$-2 296	$ -1 915	$-2 506

Gridley Township Survey, 1931

Factors helping to analyze the farm business	Average of 113 farms	38 most profitable farms	38 least profitable farms
Size of farm--acres	217.6	258.9	167.7
Percent of land area tillable	96.2	96.5	96.3
Gross receipts per acre	8.87	10.67	6.52
Total expenses per acre	11.12	9.61	13.63
Net receipts per acre	-2.25	1.06	-7.11
Value of land per acre	178	176	175
Total investment per acre	220	215	227
Acres in Corn	104	124	77
Oats	66	77	50
Wheat	3	4	4
Barley	2	5	1
Soybeans	---	1	1
Crop yields--Corn, bu. per acre	45.4	45.2	45.4
Oats, bu. per acre	47.8	48.0	45.4
Returns per $100 invested in:			
All productive livestock	76	88	67
Cattle	40	53	30
Hogs	127	141	116
Poultry	141	164	132
Investment in productive livestock per acre	3.67	3.86	4.25
Receipts from productive livestock per acre	2.78	3.40	2.86
Man labor cost per $100 gross income	53	40	88
Man labor cost per acre	4.72	4.28	5.73
Expenses per $100 gross income	125	90	209
Machinery cost per acre	1.97	1.55	2.73
Farm improvements cost per acre	1.14	1.00	1.48
Farms with tractor	59%	66%	50%
Excess of sales over expenses	645	1 153	201
Decrease in inventory	347	84	613

the farms contained 300 acres or more. In 1925 the farms covered by the survey averaged 189 acres each.

Investments

Value of land: For purposes of this study, the best grade of land in the Township was valued at $200 per acre which value was exclusive of buildings and fences. On 54 of the 113 farms the bare land was taken at $200 per acre and on the other farms lower values were used. The average value of land for the 113 farms was $178 per acre. The following table indicates the distribution of land values for the entire group:

Value of land per acre	Number of farms
190 - 209[1]	56
170 - 189	27
150 - 169	13
130 - 149	7
110 - 129	5
90 - 109	4
70 - 89	1
	113

Improvements: The average investment in buildings, fences, limestone and phosphate was $4414 per farm (Page 2) or $20 per acre. The land and improvements were inventoried at $198 per acre. In a study of this kind the variation in valuation from farm to farm is of more importance than the standard set for the whole group. Care was taken, therefore, to evaluate all farms on a comparable basis varying the investment to correspond with the different grades of land and improvements.

Livestock: The average investment in productive livestock was $830 per farm or $3.81 per acre. This investment is very low as compared with farms in other parts of the state, but is typical of farms in the grain surplus area of east central Illinois. There were 52 farms in the group which had less than $600 worth of productive livestock per farm on hand at the beginning of the year while only 5 farms had as much as $2100 worth. The distribution showing the amount of productive livestock per farm is as follows:

Investment per farm in productive livestock	Number farms	Investment per farm in productive livestock	Number farms
$100 - $599	51	2600 - 3099	1
600 - 1099	34	3100 - 3599	0
1100 - 1599	15	3600 - 4099	1
1600 - 2099	7	4100 - 4599	1
2100 - 2599	1	4600 and over	1
			112[2]

Machinery and equipment: The average investment in machinery and equipment was $1413 per farm (Page 2) as compared with an average of $1029 for the farms surveyed in 1925. The investment per acre was $6.49 in 1931 and $5.44 in 1925.

[1] No land was valued at more than $200 per acre.

[2] One farm had no productive livestock.

Feed and grain: The average farm had $2016 worth of feed and grain on hand at the beginning of 1931. This inventory may be compared with $2064 which was the value of feed and grain on hand at the end of the year. It will be noted that the value is greater at the end than at the beginning in spite of the fact that the price per bushel at which grains were inventoried was about twice as high at the beginning as at the end of the year. There are two reasons why more grain was on hand at the end of the year than at the beginning. In the first place the crop yields in 1931 were much better than in 1930, and in the second place, farmers marketed less than a normal percentage of the crop during the last months of 1931. Since these were survey records, there is also the possibility that the beginning inventories were under-estimated by some of the operators.

Total investments: The sum of all inventories for the 113 farms indicated an average investment of $47,980 per farm or $220 per acre. The investment at the beginning of 1931 in the various parts of the farm business was as follows:

	Investment per farm	Investment per acre
Land	$38 762	$178.13
Improvements	4 414	20.28
Horses	545	2.50
Cattle	486	2.23
Hogs	211	.97
Sheep	22	.10
Poultry	111	.51
Machinery and equipment	1 413	6.49
Feed, grain and supplies	2 016	9.26
Total investment	$47 980	$220.47

Receipts

The average gross receipts for all farms included in the study were $1930 per farm in 1931. This item varied with the size of the farm, the type of organization, and with the efficiency of the operation. Forty-eight of the farms had gross incomes of less than $1500 per farm while 16 farms had incomes of more than $3000 per farm. The average of $1930 may be compared with $3218, the average gross receipts for 113 Gridley Township farms in 1925. Gross receipts per acre were $8.87 in 1931 and $17.00 in 1925. Receipts were low in 1931 because prices of farm products were low and because of very severe mark down in inventories. The decrease in the value per bushel of grain was about 50 percent when comparing the closing inventory with the beginning inventory. The decrease in the value of some classes of livestock was almost as severe.

The distribution of gross receipts per farm for the 113 farms was as follows:

Gross receipts per farm	Number of farms	Gross receipts per farm	Number of farms
$ 0 - $499	6	3500 - 3999	4
500 - 999	12	4000 - 4499	5
1000 - 1499	30	4500 - 4999	1
1500 - 1999	26	5000 - 5499	1
2000 - 2499	12	5500 - 5999	1
2500 - 2999	11	6000 - 6499	1
3000 - 3499	3	Total	113

The largest item of receipts was $1305 which was the average for the feed and grain account and made up 67.6 percent of the total. The productive livestock accounted for $606 of the income or 31.4 percent. Receipts from hogs made up 13.6 percent of the total while the income from dairy sales and poultry each accounted for 7.7 percent. (Page 2)

Expenses

The expenses and decreases, exclusive of operator's and family labor averaged $1632 per farm. Twenty-eight farms had expenses less than $1000 per farm while 12 farms had expenses of $3000 or more.

The distribution of "expenses per farm" was as follows:

Expenses and net decreases per farm	Number farms	Expenses and net decreases per farm	Number farms
$ 0 - $499	5	3000 - 3499	6
500 - 999	23	3500 - 3999	3
1000 - 1499	34	4000 - 4499	2
1500 - 1999	20	4500 - 4999	0
2000 - 2499	13	5000 - 5499	0
2500 - 2999	6	5500 - 5999	1
		Total	113

Taxes and machinery are the two largest items of expense, if we omit the value of operator's and family labor. They constituted 28 and 26 percent respectively of the total expense. Hired labor and improvements each were responsible for 15 percent of the total expense. Crop expense which accounted for 10 percent of the total was the only other item of importance.

The value of the operator's labor was estimated at $50 per month which was about the rate paid hired men in 1931. No deduction was made to cover the value of the operator's management. The time of other members of the family was estimated on the same basis as for the operator. For the average of the entire group $592 per farm was deducted for operator's labor and $195 per farm for other members of the family. (Page 2). Including the value of operator's and family labor the average expense was $2419 per farm or $11.12 per acre.

Earnings

For the average of all farms included in the survey there was $298 per farm remaining after the expenses were deducted from the receipts. The value of operator's and family labor was estimated to be $787 per farm; therefore, the income lacked $489 of being large enough to cover the value of the unpaid labor and there was no return for the use of the capital invested in the business. When calculated in another manner we find that the income lacked $2296 per farm of being large enough to return 5 percent on the capital invested with no deduction for the value of the operator's labor. Only one farm had earnings large enough to show any return for the operator's labor after deducting 5 percent for the use of the capital invested in the business. There were 18 farms, however, which showed some return for the use of capital after deducting the value of the operator's labor and family labor.

The following data indicate the variation in earnings from farm to farm:

Rate earned on investment	Number farms	Rate earned on investment	Number farms
Gain		Loss	
4.00% to 4.99%	1	0% to - .99%	35
3.00 to 3.99	1	-1.00 to -1.99%	20
2.00 to 2.99	1	-2.00 to -2.99	23
1.00 to 1.99	4	-3.00 to -3.99	9
0 to .99	11	-4.00 to -4.99	3
		-5.00 to -5.99	1
		-6.00 to -6.99	4
		Total	113

A further idea of the variation in earnings may be secured from a comparison of the 38 farms having the highest earnings with the 38 farms having the lowest earnings. In the former group the average rate earned on investment was .49 percent as compared with a loss of 3.14 percent for the average of the latter group.

Variation in the Organization and Operation of the More Profitable as Compared with the Less Profitable Farms

One of the striking differences in the organization of the two groups of farms, when sorted on the basis of rate earned on investment, was the difference in size. The more profitable farms averaged 259 acres per farm as compared with 168 acres for the less profitable group.

Investments: The investment in bare land per acre was the same for both groups, yet the total investment per acre was $215 for the more profitable farms as compared with $227 for the less profitable group. The investment per acre was higher for all items other than land for the less profitable group. In spite of the higher investment per acre on the less profitable farms, the total investment per farm was $55,791 for the more profitable group as compared with $38,082 for the less profitable farms.

Receipts: The gross receipts per acre were $10.67 for the more profitable farms as compared with $6.52 for the other group. Receipts were larger on the more profitable farms from all classes of livestock and from the feed and grain account. Total receipts per farm were $2762 for the more profitable farms and $1093 for the less profitable farms. The investment per acre in productive livestock was $3.86 for the more profitable group and $4.25 for the less profitable group, yet the receipts per acre from these sources were $3.40 and $2.86 respectively. Crop yields were practically the same for both groups, the difference in the income being due to the fact that less feed went to livestock on the more profitable farms and to greater efficiency in marketing. The corn sold from the more profitable farms brought 45 cents per bushel and the oats 22 cents as compared with 39 cents for corn, and 20 cents for oats on the less profitable farms. The difference in the value of corn and oats sold from the farms in the two groups was $793 per farm.

The receipts per farm from sales of corn and oats during 1931 from the 38 more profitable farms as compared with the 38 less profitable farms were as follows:

	38 more profitable farms	38 less profitable farms
Corn:		
Bushels sold	2758	1461
Total value	$1239	$ 569
Cents per bushel	44.9	38.9
Oats:		
Bushels sold	1451	952
Total value	$ 315	$ 192
Cents per bushel	21.7	20.2

Expenses: Total expenses per acre were $9.61 for the more profitable farms and $13.63 for the less profitable farms. Expenses per acre were higher on the less profitable farms for all items except hired labor and when the value of unpaid labor is considered the total labor bill per acre was also higher than on the more profitable farms.

The following data show a comparison of the expenses per acre on the two groups of farms:

Items of expense	38 more profitable farms	38 less profitable farms
Farm improvements	$1.00	$1.48
Horses (decrease)	.11	.22
Machinery and equipment	1.55	2.73
Livestock expense	.14	.18
Crop expense	.66	.68
Hired labor	1.21	1.07
Taxes	1.80	2.52
Miscellaneous	.07	.09
Unpaid labor	3.07	4.66
Total expense per acre	$9.61	$13.63

In a period when farm prices are declining rapidly the cost side of the farm business takes on more than normal importance. There was as much difference in expenses per acre between the two groups of farms as in receipts per acre. For 1932 one of the best opportunities for a farmer to increase his income is to reduce to a minimum his operating costs.

In a year when farm prices decline rapidly, average farm earnings are lower when computed on the inventory basis than when computed on the cash basis. For the farms included in the 1931 survey the average decrease in inventory was $347 per farm. Gross receipts were $1930 per farm on the inventory basis as compared with actual cash sales of $2167. Expenses and decreases on the inventory basis were $1632 per farm as compared with cash expenditures of $1522. The difference between receipts and expenses was $298 per farm by the inventory method and $645 per farm on the cash basis. The following comparison indicates the difference between results secured where inventories are used as compared with cash receipts and expenses.

	Inventory method	Cash basis
Total receipts and net increases	$1930	$2167
Total expenses and net decreases	1632	1522
Receipts less expenses	298	645
Decrease in inventory	347	—

In 1931 the farmers of Gridley Township took in on the average $645 per farm more than they spent to run their businesses. After allowing for the decreased value of buildings, machinery, livestock and grain, however, there was only $298 left as a reward for the unpaid labor (including the operator and members of his family) and the capital invested in the business.

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