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ANNUAL FARM BUSINESS REPORT

GAGE, JOHNSON AND PAWNEE COUNTIES

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NEBRASKA

17 Farms

Nebraska
Cooperative Extension Work
In Agriculture and Home Economics
U. of N. Agr'l College and U. S. Dept. of Agr. Cooperating
H. G. Gould, Acting Director
Lincoln 1

FARM BUSINESS REPORT

GAGE, JOHNSON AND PAWNEE COUNTIES, NEBRASKA

1947

Arthur G. George, Department of Rural Economics*

This report is made from farm business records kept by 17 Gage, Johnson, and Pawnee county farmers covering the 1947 calendar year. These counties are located in southeastern Nebraska just north of the Kansas line and west of the counties touching the Missouri river. The area contains rolling land for the most part except for some bottom land along the streams found within the area. The soil ranges from a highly fertile one to a stony, porous medium productive type. A favorable climate prevails and generally adequate rainfall make this a fairly productive area. Corn is the most important single crop. Wheat, oats and barley are extensively grown. Cattle raising and hog production are the important livestock enterprises.

Excessive rainfall in the spring and early summer of 1947 prevented timely planting and cultivation of corn. Much corn was washed out or the ground was too wet for planting.

The greater part of the summer was excessively hot and dry. These circumstances resulted in a much smaller than average corn crop and low yields of other crops as well.

The year was characterized by high industrial activity in the United States, a high level of employment and an active demand for farm products both at home and abroad. Prices received by farmers were high as were prices paid by them. Net dollar returns were higher than normal. The average rate earned on the investment was 15.3 per cent for these 17 farms after paying all operating costs and allowing wages to the operator and other unpaid labor at $125 per month. These 17 farms returned on the average $5,210 to the operator for his work and ability as a manager. This amount was the return to the operator after deducting $125 per month from net receipts for the labor of other members of the family who did field work, and an allowance for interest of 5 per cent on the farm capital.

The 5 most profitable farms of the group had average earnings of 26.8 per cent or an average labor and management wage of $10,568. The 5 least profitable farms earned an average of 5.6 per cent on the investment or a labor and management wage of $1,674.

The number of records obtained was too few to be representative of all farms in these counties, but they give important clues as to the type of organization and management that will result in greatest returns on most farms in the area.

The data from the farm records are presented in 12 tables which follow. Tables 1 through 6 show beginning and closing inventories, summary of land use both in acres and per cent of total land in farms, summary of income and expenses including inventory changes with resultant earnings, and a comparison of factors

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*Cooperating agencies: The Department of Rural Economics and Agricultural Extension Service of the College of Agriculture, University of Nebraska, and farmers in Gage, Johnson, and Pawnee counties.

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that affect incomes on the farms in the area. Each of these tables show average data for the 17 farms, for the 5 most profitable, and for the 5 least profitable farms. They are presented without further discussion. Tables 7 to 12, inclusive, show the influence of important factors on incomes as found on the 17 farms studied. A brief discussion accompanies each table.

The thermometer chart is a device for showing at a glance how an individual farm compares with the average of the group for each of the efficiency factors shown. The operator's rating is marked on the particular circular received by each farmer who contributed a record.

Explanations and Definitions

1. Work Unit (Productive Man Work Unit). The amount of work a man can do in a ten hour day when working on crops and productive livestock at average speed with the type of equipment in most common use in his community.

2. Productive man work required for major crops and types of livestock.

Item	Unit	Hours of labor required	
		Eastern Nebraska	Central Nebraska
Milk cow butterfat production			
More than 160 pounds	1 head	130	130
Less than 160 pounds	1 head	100	100
Feeder cattle	1 head	15	15
Other cattle	1 animal unit	40	40
Hogs	100 lbs. gain	3	3
Sheep, farm flock	1 animal unit	35	35
Poultry	100 head	200	200
Corn, husked	1 acre	8	7
Corn, hogged	1 acre	4	4
Corn, silage	1 acre	14	10
Wheat	1 acre	6	4
Oats, barley	1 acre	6	5
Soybeans	1 acre	9	-
Alfalfa hay	1 acre	12	9
Seed (Alfalfa or clover)	1 acre	10	-
Other hay	1 acre	6	3
Temporary pasture	1 acre	3	3
Sorghum (Grain or hay)	1 acre	8	6

3. Animal Unit: One cow, one bull, one feeder, 2 stock cattle 1-2 years old, 4 calves under one year, 7 sheep, 1,000 pounds of hogs produced, 100 head of poultry.

Table 1. Summary of beginning inventories on 17 Gage, Johnson and Pawnee county, Nebraska, farms, 1947.

Item		Your farm	Averages 17 farms	5 most profitable farms	5 least profitable farms
SIZE OF FARM (Acres)			301	364	263
HORSES	$		$174	$171	$113
PRODUCTIVE LIVESTOCK (TOTAL)	$		$4,747	$7,104	$3,732
Milk cows			533	692	390
Feeder cattle			1,635	2,780	2,088
Other cattle			848	905	384
Hogs			1,479	2,516	647
Sheep			---	---	---
Poultry			252	211	223
MACHINERY AND EQUIPMENT (TOTAL)	$		$1,938	$1,700	$2,379
Truck			183	6	483
Automobile			123	128	71
Tractor			304	461	236
Other machinery			1,328	1,105	1,589
FEED, GRAIN AND SUPPLIES	$		$3,252	$5,252	$2,297
PERMANENT IMPROVEMENTS	$		$2,885	$2,930	$2,457
LAND	$		$17,673	$22,575	$17,600
TOTALS: BEGINNING INVENTORIES	$		$30,669	$39,732	$28,578

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Table 2. Summary of closing inventories on 17 Gage, Johnson, and Pawnee county, Nebraska, farms, 1947.

Item		Your Farm	Averages		
			17 farms	5 most profitable farms	5 least profitable farms
SIZE OF FARM (Acres)			301	364	263
HORSES	$		$141	$172	$93
PRODUCTIVE LIVESTOCK (TOTAL)	$		$5,251	$7,573	$3,828
Milk Cows			544	685	375
Feeder Cattle			1,606	2,560	2,195
Other cattle			1,110	1,123	602
Hogs			1,801	3,048	450
Sheep			---	---	---
Poultry			190	157	206
MACHINERY AND EQUIPMENT (TOTAL)	$		$2,866	$1,840	$2,817
Truck			169	6	434
Automobile			261	183	63
Tractor			458	401	190
Other Machinery			1,978	1,250	2,130
FEED, GRAIN AND SUPPLIES	$		$4,771	$8,430	$2,867
PERMANENT IMPROVEMENTS	$		$2,954	$2,845	$2,641
LAND	$		$17,673	$22,575	$17,600
TOTALS: CLOSING INVENTORIES	$		$33,656	$43,435	$29,846

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Table 3. Summary of land use by crops on 17 Gage, Johnson and Pawnee county, Nebraska, farms, 1947.

Item	Your farm	Averages 17 farms	5 most profitable farms	5 least profitable farms
Corn		68	80	70
Oats		20	20	23
Wheat		39	50	34
Alfalfa		14	14	11
Red Clover		3	8	1
Corn Silage		6	3	2
Tilled pasture		22	23	17
Wild hay		13	19	8
Other cropland		15	12	21
Total cropland		200	229	187
Permanent pasture		78	106	52
Farmstead, roads, waste		23	29	24
Total acres in farm		301	364	263
Per cent of total acreage in each use				
Corn		22.6	22.0	26.6
Oats		6.6	5.5	8.7
Wheat		13.0	13.7	12.9
Alfalfa		4.6	3.9	4.2
Red Clover		1.0	2.2	.4
Corn Silage		2.0	.8	.8
Tilled pasture		7.3	6.3	6.5
Wild hay		4.3	5.2	3.0
Other cropland		5.0	3.3	8.0
Total Cropland		66.4	62.9	71.1
Permanent pasture		25.9	29.1	19.8
Farmstead, roads, waste		7.7	8.0	9.1
Total		100.0	100.0	100.0

Table 4. Summary of cash income and cash expenses on 17 Gage, Johnson, and Pawnee county, Nebraska, farms, 1947.

Item		Your farm	Averages 17 farms	5 most profitable farms	5 least profitable farms
		Cash Income			
Improvements		$	$4	--	$12
Horses			24	12	37
Cattle			4,459	7,212	899
Hogs			4,541	5,752	2,124
Poultry			216	127	323
Egg sales			816	685	901
Dairy sales			802	791	459
Machinery and equipment			218	43	461
Feed, Grain and Supplies			2,413	4,313	1,900
Labor off farm			46	22	90
Miscellaneous			172	101	281
Total Cash Income		$	$13,711	$19,058	$7,487
		Cash Expenses			
Improvements		$	$344	$112	$485
Horses			4	--	--
Cattle			1,596	2,008	136
Hogs			219	165	113
Poultry			130	41	108
Livestock expense			101	87	104
Supplies			241	125	516
Machinery and equipment			2,497	1,639	3,074
Feed, Grain and Supplies			3,074	4,098	1,065
Crop expense			241	158	210
Hired labor			553	903	348
Taxes			361	491	301
Miscellaneous			113	84	148
Total Cash Expense		$	$9,474	$9,911	$6,608
Net cash gain		$	$4,237	$9,147	$879
Net inventory gain		$	$2,986	$3,701	$2,865
Net cash loss			--	--	--
Net inventory loss			--	--	--
Net Farm Gain		$	$7,223	$12,848	$3,744

Table 5. Summary of income and expense including inventory changes on 17 Gage, Johnson, and Pawnee county, Nebraska, farms, 1947.

Item		Your Farm	Averages 17 farms	5 most profitable farms	5 least profitable farms
Receipts and Net Increases					
Improvements	$	---		---	---
Horses		---		13	---
Cattle		$3,107		$5,195	$1,014
Hogs		4,644		6,119	1,930
Poultry		24		32	151
Egg sales		816		685	901
Dairy sales		802		791	459
Machinery and equipment		---		---	---
Feed, Grain and supplies		858		3,393	1,898
Labor off the farm		46		22	90
Miscellaneous		172		101	281
Total receipts and net increases	$	$10,469		$16,351	$6,724
Expenses and Net Decreases					
Improvements	$	$272		$199	$246
Horses		13		---	25
Cattle		---		---	---
Hogs	---	---		---	---
Poultry		---		---	---
Livestock expenses		101		87	104
Supplies		241		125	516
Machinery and equipment		1,351		1,456	1,082
Feed, grain and supplies		---		---	---
Crop expense		241		158	210
Hired labor		553		903	348
Taxes		361		491	301
Miscellaneous		113		84	148
Total expenses and net decreases	$	$3,246		$3,503	$2,980
Return to capital and operator's family	$	$7,223		$12,848	$3,744
Value of unpaid labor at $125 per month	$	$2,308		$1,700	$2,150
Net income from investment and management	$	$4,919		$11,148	$1,594
Average investment	$	$32,180		$41,607	$28,395
Rate earned on investment (%)			15.3	26.8	5.6
Returns to capital and operator's labor and management			$6,819	$12,648	$3,094
5% interest on average investment	$		$1,609	$2,080	$1,420
Labor and Management Wage	$		$5,210	$10,568	$1,674

Table 6. Comparison of factors that affect farm income on 17 Gage, Johnson, and Pawnee county, Nebraska, farms, 1947.

Item		Your Farm	Averages 17 farms	5 most profitable farms	5 least profitable farms
Labor and Management Wage	$		$5,210	$10,568	$1,674
Rate earned on Investment	%		15.3%	26.8%	5.6%
Size of Business					
Acres in farm			301	364	263
Average number of men			1.5	1.6	1.6
Productive work units			348	378	290
Animal units (Productive livestock)			47	55	40
Cows milked			5	5	4
Litters of pigs farrowed			11	12	3
Pigs weaned			64	78	13
Volume of Production					
Corn, bushels			807	1,103	807
Oats, bushels			515	529	553
Wheat, bushels			912	1,164	896
Alfalfa tons			20	22	15
Livestock					
Hogs, pounds produced			16,973	22,118	8,650
Dairy sales	$		$802	$791	$459
Egg sales	$		$816	$685	$901
Rates of Production					
Corn, bushels per acre			11.8	13.7	11.5
Oats, bushels per acre			25.5	26.7	24.0
Wheat, bushels per acre			23.1	23.3	26.5
Alfalfa, tons per acre			1.4	1.7	1.4
Crop index			100	114	98
Pigs weaned per litter			5.5	6.2	4.1
Dairy sales per cow	$		$163	$161	$109
Egg sales per hen	$		$3.57	$2.93	$3.18
Efficiency					
Productive work units per man			226	240	186
Labor, power and machinery cost per work unit	$		$11.20	$11.00	$13.80
Returns per $100 worth of feed fed to productive livestock	$		$165	$206	$134
Balance					
Per cent of productive work on crops	%		41%	44%	46%
Per cent of productive work on livestock	%		59%	56%	54%
Productive livestock units per 100 acres			16	15	15

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Influence of Certain Factors on Farm Income

SIZE OF BUSINESS.-The volume of sales or the quantity of grain, livestock and livestock products produced in a year are very important factors in determining income. The size of a business can be measured in number of acres, amount invested, numbers of livestock, days of labor expended, and in other ways. Table 7 considers the number of work units as a measure of size and shows its effect on the labor and management wage. The table shows a tendency for incomes to increase as work units are used.

Table 7. Relationship between size of business, as measured by work units, and labor and management wage on 17 Gage, Johnson, and Pawnee county, Nebraska farms, 1947.

Work units used		Number of farms	Average labor and management wage
Range	Average		
Below 270	216	6	$3,633
270 to 425	350	5	$3,241
425 and above	479	6	$8,426

CROP YIELDS.-Crop yields have a decided influence on farm incomes. They must be considered in connection with acreage, however, and the kind and number of different crops grown. Table 8 presents crop yield index data and shows that as the index of production per acre increases, incomes tend to increase. The crop yield index is a measure of yields of all crops when the average for all 17 farms was taken as 100.

Table 8. Relation of crop yields to labor and management wage on 17 Gage, Johnson, and Pawnee county, Nebraska farms, 1947.

Crop yield index		Number of farms	Average labor and management wage
Range	Average		
Below 90	72	6	$4,842
90 to 110	98	5	$4,783
110 and above	122	6	$5,932

PRODUCTIVE LIVESTOCK.-Amount of productive livestock, which is all livestock except horses and mules, has a distinct influence on farm returns. Experiences of many farmers in eastern Nebraska over a period of years show that livestock farmers obtained greater returns than did crop farmers. Table 9 shows that incomes tend to be greater for those farmers who received a part of their income from the sale of livestock and livestock products than by those farmers who had but little livestock.

Table 9. Relation of number of animal units of productive livestock to labor and management wage on 17 Gage, Johnson, and Pawnee county, Nebraska farms, 1947.

Productive animal units		Number of farms	Average labor and management wage
Range	Average		
Below 25	15	5	$3,997
25 to 55	39	6	$3,003
55 and above	82	6	$8,426

EFFICIENT LIVESTOCK FEEDING.-Many things contribute to high or low returns on the feed fed to productive livestock. Prices of feeds in relation to prices of livestock, quality of feed and type and grade of livestock, balancing of rations, sanitary conditions, health of livestock, and perhaps other factors all have an influence on the amount of returns from a given quantity of feed consumed.

Table 10 shows that farm incomes increase as the returns for each $100 worth of feed fed increases.

Table 10. Relation of returns from feed fed to productive livestock to labor and management wage on 17 Gage, Johnson, and Pawnee county, Nebraska farms, 1947.

Returns per $100 worth of feed fed to productive livestock		Number of farms	Average labor and management wage
Range	Average		
Below $160	$133	6	$3,566
$160 to $190	$176	6	$3,625
$190 and above	$214	5	$9,082

USE OF LABOR.-The number of productive work units used on a farm usually is an indicator as to the relative size of that farm. Table 11 shows that as the number of work units per worker increases, farm returns tend to increase. This does not mean that an increase in number of workers is necessarily advisable but rather an increase in the number of work units that a man performs that is productive of higher returns.

Table 11. Relation of efficient use of labor to labor and management wage on 17 Gage, Johnson and Pawnee county, Nebraska, farms, 1947.

Productive man work units per man			
Range	Average	Number of farms	Average labor and management wage
Below 200	160	6	$5,407
200 to 250	214	5	$4,177
250 and above	320	6	$5,872

LABOR, POWER, AND MACHINERY COST.-The cost of labor, power, and machinery constituted considerably more than half the expenses for operating the average of these 17 Gage, Johnson and Pawnee county farms in 1947 when net increases and decreases were considered. An appreciable addition to the cost for these items is apparent when the value of unpaid labor is added. These items of cost in relation to productive work units used, and labor and management wage earned are given in Table 12. The table shows an upward trend in returns as costs decrease.

Table 12. Relation of labor, power and machinery cost per productive work unit used to labor and management wage on 17 Gage, Johnson and Pawnee county, Nebraska, farms, 1947.

Labor, power and machinery cost per productive man work unit used			
Range	Average	Number of farms	Average labor and management wage
$13 and above	$14.82	6	$4,628
$10 to $13	$11.62	6	$4,424
Below $10	$8.38	5	$6,849

THERMOMETER CHART. By using the figures for your farm in Table 6, each operator can determine his standing in comparison with the averages of the farms included in this study. The averages for the 17 records used in this summary are located between the lines across the center of the page.
17 Gage, Johnson, and Pawnee county, Nebraska Farms, 1947.

	Size			:Productive rates:			Efficiency			:	Balance		
	Acres per farm	Work units	Live-stock units	Crop yield index	Pigs per litter	Return per $100 feed fed	Work units per man	Labor, power, machinery cost per work unit	Per cent work on live-stock	Live-stock units per 100 acres	Rate earned on in-vestment	Labor and manage-ment wage
	501	548	87	135	7.0	$215	326	$6.20	79	26	30.3	$10,210
	461	508	79	128	6.7	205	306	7.20	75	24	27.3	9,210
	421	468	71	121	6.4	195	286	8.20	71	22	24.3	8,210
	381	428	63	114	6.1	185	266	9.20	67	20	21.3	7,210
	341	388	55	107	5.8	175	246	10.20	63	18	18.3	6,210
Average	301	348	47	100	5.5	$165	226	$11.20	59	16	15.3%	$ 5,210
	261	308	39	93	5.2	155	206	12.20	55	14	12.3	4,210
	221	268	31	86	4.9	145	186	13.20	51	12	9.3	3,210
	181	228	23	79	4.6	135	166	14.20	47	10	6.3	2,210
	141	188	15	72	4.3	125	146	15.20	43	8	3.3	1,210
	101	148	7	65	4.0	115	126	16.20	39	6	.3	210

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