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A Survey of
ILLINOIS FARM LABOR
IN 1946

By **A. J. Cross**
and **P. E. Johnston**

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A Survey of ILLINOIS FARM LABOR IN 1946

By A. J. CROSS and P. E. JOHNSTON¹

DURING WORLD WAR II many of the people who normally do a substantial part of the labor on American farms were called to serve in the armed forces. Others went to urban areas, where they worked in defense plants, shipyards, and other industries in which there was special need for labor. Because of the resulting shortage of agricultural workers, a federal-state organization was set up to help supply the labor needed to produce and harvest the agricultural commodities essential to the prosecution of the war.

The problems met in administering the emergency farm labor program and the need for more knowledge to serve as a background for research in farm labor problems were the chief reasons for undertaking the present study.

PLAN OF STUDY

Scope and Objectives

Studies of farm labor up to the present time have usually been limited to special crops, special areas, or a specific type of farming. No attempt has been made to study large areas, such as a state, in which heterogeneous labor² conditions are found. The purpose of this study was to ascertain the kind, amount, and cost of labor used on Illinois farms in 1946. Information was obtained on the following points: (1) the amount of labor contributed by all classes of farm workers and total cost of labor supplied by all classes of hired workers, (2) amount of work done by members of the farm family, (3) amount and cost of work done by seasonal laborers and by year-round hired

¹ A. J. CROSS, graduate student in Agricultural Economics, College of Agriculture, 1946-47; and P. E. JOHNSTON, Professor of Agricultural Economics Research. A number of people besides the authors were associated with some phase of this study. W. D. Murphy, State Supervisor, and G. B. Whitman, Assistant State Supervisor of Extension Farm Labor Program, helped to develop the forms used in the study and supervised the fieldmen who collected the data. S. T. Rice, Assistant in Agricultural Economics, helped in tabulating the data. The writing of the report was supervised jointly by P. E. Johnston and R. C. Ross, Professor of Agricultural Economics Research.

L. F. Aldrich, John H. Becker, George O. Bollman, Allen L. Higgins, A. H. Hoffman, H. H. Cline, Carl M. McComb, and William E. Williams, Area Fieldmen in the Extension Farm Labor Program, collected the records in the field.

² Thruout this publication the word *labor* refers to farm labor unless otherwise indicated.

workers, (4) amount of custom work done and rates paid for various custom operations, and (5) the number of man and machine hours of labor exchanged.

Source of Data

Because of an increasing need for information to serve as a background for research into problems concerning farm labor, a state-wide survey was undertaken late in 1946 as a part of the Extension Farm Labor Program at the University of Illinois. The survey was carried out under the guidance of the Department of Agricultural Economics, University of Illinois, with funds supplied by the Federal Extension Farm Labor Program, U. S. Department of Agriculture.

Farms to be surveyed were selected by the method of enumerative area sampling known as the Master Sample, which is designed so that averages obtained are representative of the state.¹ By using an expansion factor² on the sample data, state totals were obtained that are statistically correct within limited error (see Tables 3, 5, 6, 7 and 16).

While the area samples give an approximate picture of labor conditions within each area, the samples were not large enough to permit the use of expansion factors that would give an accurate total for any area. The smallness of the sample within an area also prevents an area average from having anything like the same degree of accuracy that the state average has.

By use of the Master Sample, 896 usable surveys were obtained from farms of 30 acres and larger.

Definitions of Terms as Used in This Study

A **farm** is one or several tracts of land consisting of 30 acres or more on which some agricultural operations were performed during 1946.³

¹For a detailed explanation of the Master Sample, see KING, A. J., and JESSEN, R. J., *The Master Sample of Agriculture*. Jour. Amer. Statis. Assoc. 40, 38-56. March, 1945.

²The expansion factor in this study was determined by dividing the number of the 1945 Census farms having 30 acres or more (173,640) by the number of sample farms of 30 acres or more from which usable records were obtained (896); the result is 193.80. The authors are indebted to the Statistical Laboratory of Iowa State College for the plan which guided the selection of the sample farms in this survey and for the determination of the factor for expanding the statistical information obtained from the survey to totals that would represent the state as a whole.

³Farms of less than 30 acres were not included in the survey because of the small amount they contribute to total agricultural production. Of the 204,239 farms in Illinois in 1945, 30,599 included were less than 30 acres. Of the 31,602,186 acres in farms in Illinois only 351,121 acres were in farms of less than 30 acres. (U. S. Census of Agriculture, 1945, Vol. 1, Illinois.)

Agricultural operations consist of the production of crops and plants, vines and trees (excluding forestry operations), or the keeping, grazing, or feeding of livestock for animal products, animal increase, or value enhancement during 1946.

Family labor is labor performed by any member of the farm family not receiving a definite wage.¹

Seasonal labor is labor hired for periods of less than five months.

A **year-round worker** is one hired to work continuously on a farm for five months or more.

Custom work is work done with machines or with horses by one operator for another and for which a cash payment or settlement is made.

Exchange labor is labor that is traded and for which no cash settlement is made. It may be done with or without horses or machines.

The **operator** is the person who manages and supervises the farm. If the farm is operated as a partnership, with all operating capital jointly owned, both partners are considered operators. In "father-son" arrangements the son is considered unpaid family labor and the father is considered the operator.

Youth includes boys and girls under 18 years of age who did farm work.¹

Delineation of Farm Labor Areas

For the purpose of this study Illinois was divided into four areas based on differences in the amount, kind, and cost of farm labor. The average monthly cost per farm worker, average months of labor hired per farm in a year, average cost of hired labor per farm, and total average labor input per farm were the differentiating items.

Area 1 is located largely in northeastern Illinois. Intensive dairy and truck farm predominate. It includes also some counties to the west where beef cattle and hog enterprises combine to create a high demand for labor, particularly for year-round and family labor. Owing to the intensive production of livestock in this area and to the general proximity of the farms to urban centers, competition for labor is keen and wages are high.

The farms in this area are slightly smaller than the state average, as is indicated by the fact that the area includes a larger percentage of the farms in the state (14.5) than farmland in the state (14.0) (Table 1).

¹ Hours of labor done by women and youth were recorded in terms of man-labor equivalent. Each farmer was asked by the enumerator to give the number of hours it would have taken a man to perform the amount of work done by individuals in these two classes.

Table 1.—Number of Farms in Four Illinois Labor Areas, Total Acres in Farms, and Percent of State Totals, 1945
(Data include only farms of 30 acres or more)

	Number	Percent of state.		Number	Percent of state
Area 1			Area 3		
Farms.....	25 182	14.5	Farms.....	23 855	13.7
Acres in farms.....	4 360 152	14.0	Acres in farms.....	6 508 233	20.8
Area 2			Area 4		
Farms.....	82 760	47.7	Farms.....	41 843	24.1
Acres in farms.....	15 454 386	49.5	Acres in farms.....	4 816 631	15.4
			State		
			Farms.....	173 640 ^a	.....
			Acres in farms.....	31 251 065 ^a	.....

^a Area totals added together do not quite equal state totals because of the omission in the Census of separate data for single farms when there was only one farm in a classification. This omission was necessary in order to avoid disclosure of individual operations.

Source of data is U. S. Census of Agriculture, 1945, Vol. 1, Illinois, Part 5, County Table 6.

Area 2 is the territory remaining after the boundaries for Areas 1, 3, and 4 were determined. It is made up of several subareas that differ rather widely in their labor problems but none of the subareas are large enough and none have enough records to be considered separately. In general, the labor situation during the war was less acute in this area than in Areas 1 and 3. In Adams, Brown, Schuyler, Pike, Calhoun, and Scott counties there was more than enough local labor for the volume of work to be done.

That the farms in Area 2 are slightly larger than the state average is shown by the fact that the area includes a smaller percentage of the farms of the state (47.7) than of farmland of the state (49.5) (see Table 1).

Area 3 is composed of a group of counties in central Illinois. Cash grain production is the major enterprise. The farms are the largest of any of the areas; they make up only 13.7 percent of the total farms in the state but include 20.8 percent of the farmland in the state. The total labor used per farm and the amount of year-round labor hired are nearly as high as in Area 1. Because the farms in Area 3 are larger and of different types, less labor is used per 100 acres of farmland. (These comments are based on data which will be found in Tables 1 and 2.)

During the period of labor scarcity the labor problem in Area 3 was complicated by the fact that farmers here had normally relied on seasonal labor for help during the peak-load summer months, and workers of this type were not available.

Farms Grouped by Size

For purpose of analysis the farms were divided into three groups made up of 30 to 99 acres, 100 to 179 acres, and 180 acres or more. The number of sample farms in each group is shown in Table 2.

In all areas the total labor input per 100 acres was inversely proportional to the size of the farms. This does not imply, however, that size is the only factor that influences labor input; the kind of crops raised, the amount of livestock carried, and the mechanical equipment used are also important factors.

Table 2.—Months of Labor Used per Farm in Four Illinois Labor Areas, 1946*
(By size of farm)

Item	Size of farm				Size of farm			
	30-99 A	100-179 A	180-742 A	All sizes	30-99 A	100-179 A	180-742 A.	All sizes
	Area 1				Area 2			
Number of farms.....	21	56	63	140 [†]	64	161	197	422
Class of labor	(months)				(months)			
Operators.....	7.4	11.1	9.9	10.0	10.9	11.2	12.6	11.8
Family.....	4.7	4.4	4.5	4.5	1.3	2.8	3.6	2.9
Year-round married men.....	.6	.3	4.5	2.2	.....	.1	1.1	.6
Year-round single men.....	.....	1.3	2.8	1.8	.....	.5	1.0	.6
Seasonal.....	.4	.8	1.6	1.1	.4	.8	1.4	1.0
Total labor per farm.....	13.1	17.9	23.3	19.6	12.6	15.4	19.7	16.9
Total labor per 100 acres.....	23.6	12.8	7.7	9.7	18.9	10.6	6.3	8.1
	Area 3				Area 4			
Number of farms.....	5	47	84	136	52	63	83	198
Class of labor	(months)				(months)			
Operators.....	11.1	11.1	11.8	11.6	8.8	10.1	11.4	10.4
Family.....	1.0	1.6	3.8	2.9	1.5	1.4	3.2	2.2
Year-round married men.....	2.0	.7	3.0	2.2	.5	1.2	.9	.9
Year-round single men.....	.....	.8	1.5	1.2	.5	.4	.9	.6
Seasonal.....	.9	.6	1.7	1.2	3.2	3.7	1.4	2.5
Total labor per farm.....	15.0	14.8	21.8	19.1	14.5	16.8	17.8	16.6
Total labor per 100 acres.....	24.9	10.3	7.1	8.0	21.8	12.2	6.0	8.9

All four areas: On a total of 896 farms, operators worked 11.2 months per farm; family members other than operator worked 3.0 months per farm; year-round married men worked 1.1 months per farm; year-round single men worked .9 month per farm; and seasonal workers worked 1.4 months per farm; making a total of 17.6 months of labor per farm. The monthly labor input per 100 acres was 8.5.

* Not all commercial custom labor is included in this table.

LABOR PATTERN IN ILLINOIS

The number of workers needed on a farm depends on the type of farming followed, size and organization of the farm, amount of labor-saving equipment available, opportunities to exchange labor with

other farmers, and length of time each worker is employed. One farm may need the full time of two men, while the operator of another farm may have to find outside employment at times in order to make full use of his own labor. During the strawberry season in southern Illinois many workers are needed for picking for a period of ten days; on a small dairy farm in northern Illinois one man employed the year round may be all the hired labor required.

Some workers are paid by the day, some by the month, and some by the amount of work they do. Some farmers pay their help entirely with cash, others supplement cash with goods and services useful to the worker.

Five classifications of labor are used in this study: family, seasonal, year-round, custom, and exchange.

Number of farms using various classes of labor. Family labor was used on 97 percent of the farms in Illinois during 1946. Seasonal labor was hired on 63 percent of the farms while 17 percent of the farms employed year-round workers. Commercial custom work was done on 56 percent of the farms (Table 3).

Seasonal labor in Illinois is provided by local, migratory, and foreign workers. Farmers hire local workers from neighboring farms or nearby towns for many farm jobs, but mainly for planting and

Table 3.—Number of Farms in Illinois Using Each Class of Labor and Number of Workers Employed, 1946

Class of labor	Percent of farms	Number of farms ^a	Number of workers ^a
Seasonal, total.....	63	109 497	417 637
Day, total.....	..	105 427	350 003
Men.....	..	101 745	321 320
Women.....	..	1 357	11 240
Youth.....	..	10 465	17 442
Piece, total.....	..	16 085	67 636
Men.....	..	15 892	66 473
Women.....	..	0	0
Youth.....	..	194	1 162
Year-round, total.....	17	29 070	37 791
Married men.....	..	16 667	20 543
Single men.....	..	15 892	17 248
Commercial custom work, total.....	56	96 512	.....^b
Family labor, total.....	97	168 412	293 995
Operator, total.....	..	167 443	173 451
Other than operator, total.....	..	86 822	120 544
Men.....	..	26 357	31 202
Women.....	..	47 481	48 838
Youth.....	..	31 202	40 504
All classes.....	100	173 640	749 425

^a These state totals were derived by use of an expansion factor, as explained in footnote on p. 560.

^b Number of workers doing commercial custom work could not be ascertained.

Table 4.—Major Classes of Labor, and Percent Each Contributed to Total Labor Used on Sample Farms in 1946

Class of labor	Percent	
Family labor		
Farm operator.....	64.0	
Other than operator.....	16.4	80.4
Hired labor		
Seasonal.....	7.7	
Year-round.....	11.3	
Commercial custom.....	.6	19.6
Total.....		100.0

harvesting of crops. Migratory workers are used chiefly for producing fruits, vegetables, and canning crops. They travel from their home communities to other communities to harvest the crops, returning to their homes during the winter months. Foreign agricultural workers were used during the war to supplement domestic labor.¹ This shifting of workers from farm to farm accounts for the fact that there were about one and one-half times as many seasonal workers as family workers in Illinois in 1946 even tho 97 percent of the farms had family labor and only 63 percent had seasonal labor. Year-round workers are used mainly on dairy and livestock farms, where the services of one or more men are needed to supplement family labor.

Hired labor. Only about 20 percent of the labor used in Illinois is hired. Year-round hired workers contribute 11.3 percent of the total labor supply, seasonal workers 7.7 percent, and commercial custom workers .6 percent (Table 4).

Sixty-seven percent of the farms in Illinois used some hired labor in 1946, but few of these farms used large amounts; 39.3 percent hired less than one month of labor, 55.6 percent hired less than two months, 72.3 percent less than six months, and 84.2 percent less than twelve months (Table 5). Only 15.8 percent of the farms hiring labor hired one full-time year-round worker or his equivalent.

Cost of hired labor. Approximately 95 million dollars were paid for hired labor in Illinois during 1946. Year-round workers received 58.6 percent of the total, seasonal workers 38.3 percent, and commercial custom workers 3.1 percent (Table 6).

¹ During the labor shortage created by World War II agreements were made with foreign governments permitting their citizens to come to the United States (on a contract that provided for their return to their native country) to help produce and harvest seasonal crops. These agreements have been carried into the postwar period.

Table 5. — Distribution of Hired Labor Among All Illinois Farms, 1946^a

Months of labor	Farms using amount of labor indicated		Months of labor	Farms using amount of labor indicated	
	Number ^b	Percent		Number ^b	Percent
0 - .9.....	45 737	39.3	11 - 11.9.....	1 744	1.5
1 - 1.9.....	18 992	16.3	12 - 12.9.....	8 333	7.2
2 - 2.9.....	9 690	8.3	13 - 13.9.....	1 938	1.0
3 - 3.9.....	4 845	4.2	14 - 14.9.....	775	.7
4 - 4.9.....	3 682	3.2	15 - 15.9.....	775	.7
5 - 5.9.....	1 163	1.0	16 - 16.9.....	1 163	1.0
6 - 6.9.....	1 938	1.7	17 - 17.9.....	194	.2
7 - 7.9.....	2 907	2.5	18 - 18.9.....	388	.5
8 - 8.9.....	1 938	1.7	19 - 19.9.....	388	.5
9 - 9.9.....	3 101	2.7	20 and above.....	4 651	4.0
10 - 10.9.....	2 132	1.8	Total.....	116 474	100.0

^a Sixty-seven percent of the farms in Illinois hire some farm labor. Commercial custom labor is not included in this table.

^b These state totals were derived by use of an expansion factor, as explained in footnote on p. 560.

Payments made to seasonal workers were 94 percent cash; the rest was usually made up of meals, altho other goods and services were sometimes furnished. In addition to the 65 percent of their income that was in cash, year-round married workers were furnished housing and products for home use. Year-round single workers received board, room, and laundry. Both married and single year-round workers were given bonuses, sometimes in cash, sometimes in farm produce. The total value of bonuses is expressed in dollars in the tables.

Table 6. — Costs for Hired Farm Labor in Illinois, 1946^a

Class of labor	Cost ^b	Percent	Class of labor	Cost ^b	Percent
All classes			Year-round married workers		
Seasonal.....	\$36 229 941	38.3	Wages.....	\$21 537 382	65.1
Year-round.....	55 514 205	58.6	Bonus.....	2 303 119	7.1
Commercial custom...	2 890 527	3.1	Products furnished...	5 733 573	17.3
Total.....	94 634 673	100.0	Housing.....	3 492 082	10.5
Seasonal			Total.....	33 066 156	100.0
Day wages.....	28 712 633	80.6	Year-round single workers		
Piecework wages.....	5 106 436	13.2	Wages.....	13 686 350	61.0
Value of items furnished.....	2 410 872	6.2	Bonus.....	924 620	4.1
Total.....	36 229 941	100.0	Board.....	6 509 936	29.0
Year-round			Room and laundry...	1 327 143	5.9
Married.....	33 066 156	59.6	Total.....	22 448 049	100.0
Single.....	22 448 049	40.4			
Total.....	55 514 205	100.0			

^a Commercial custom work was valued at \$157 a month.

^b These state totals were derived by use of an expansion factor, as explained on page 560.

FAMILY LABOR

During 1946 the operators of the sample farms furnished 64.0 percent of the labor; other members of the family furnished 16.4 percent. Thus 80.4 percent of the total labor was supplied by the family (Table 4). The months of labor supplied by operators and members of their families are shown on a state basis in Table 7. (Thruout this study the hours or months of labor done by women and youth are given in terms of man-labor equivalent. See footnote on page 561.)

The head of the family is usually the farm operator and in this capacity is responsible for the management and supervision of the farm.¹ When there is a division of labor he does the jobs requiring the greatest skill and responsibility, leaving the less important jobs to hired workers or members of the family. For example, the operator would care for a sow at farrowing time, but might depend on some member of the family to fill the self-feeders or scrub the farrowing houses. Over half the farms in Illinois use some family labor other than that of the operator (Table 3).

Table 7. — Amount of Farm Labor Used in Illinois in 1946

Class of labor	Months worked*	Percent	Class of labor	Months worked*	Percent
All classes			Seasonal		
Hired.....	617 699	19.6	Day work.....	220 215	90.2
Family.....	2 537 094	80.4	Piecework.....	24 031	9.8
Total.....	3 154 793	100.0	Total.....	244 246	100.0
Hired			Year-round hired		
Seasonal.....	244 246	38.3	Married workers.....	196 785	55.4
Year-round.....	355 042	58.6	Single workers.....	158 257	44.6
Commercial custom.....	18 411	3.1	Total.....	355 042	100.0
Total.....	617 699	100.0	Family other than operators		
Family			Men.....	254 014	48.8
Operators.....	2 016 799	79.5	Women.....	95 679	18.4
Other than operators....	520 295	20.5	Youth.....	170 602	32.8
Total.....	2 537 094	100.0	Total.....	520 295	100.0

* These state totals were derived by use of an expansion factor, as explained in footnote on p. 560.

Brothers of the operator or brothers of his wife, mature sons who have not yet left home or who are in school and work during vacation, or other male relatives supply the rest of the adult male labor. These people are usually capable of doing full-time work. On the other hand, there may be older members of the family, such as the father or an uncle of the operator or his wife, whose labor in most

¹ For a definition of *operator* see page 561.

cases is limited to chores, such as feeding or milking, but who may lend a hand in the field during peak-labor periods or periods of emergency.

Women workers for the most part are the wives of the operators, altho occasionally there may be a grown daughter or other relative living with the family. They may help with the milking, be responsible for the poultry and other types of work connected with the farmstead, or work in the fields during periods of emergency when no other labor is available.¹

On a farm there is usually a good deal of work that youth² can do. A boy begins at seven or eight years to handle relatively easy jobs like feeding calves or gathering eggs; in time he takes on more responsibility, until at the age of seventeen he is capable of doing practically any kind of farm work. However, since most youth in Illinois go to school nine months of the year, only during the summer are they available for full-time work. While attending school they can do such chores as milking and feeding in mornings and evenings and a full day's work on Saturday.

Altho members of the family are not usually paid in cash, they live on the farm and must be provided for regardless of the amount of work they do. Farm operators who make the best use of family labor plan their production programs so they can adjust their operations to the change in labor supply.

Table 8. — Average Input of Different Classes of Family Labor, Other Than Operators, on Sample Farms in Four Labor Areas in Illinois, 1946

	Months worked per farm		
	Men	Women	Youth
Area 1.....	2.5	.8	1.2
Area 2.....	1.4	.6	.9
Area 3.....	1.2	.8	.9
Area 4.....	1.0	.2	1.0
Average for four areas.....	1.4	.6	1.0

The amounts of labor furnished by the operator and by other members of the family vary from area to area, as shown in Tables 2 and 8. In Areas 1 and 4 the operator spends less time working on the farm than in Areas 2 and 3. In Area 1 a part of the operators work in urban areas during slack season, while others do part-time farming.

¹ Especially in busy seasons during World War II many women worked by the sides of their husbands, sons, and brothers.

² For definition of *youth* see page 561.

In Area 4 it is necessary for many farm operators to seek employment off the farm in order to make efficient use of their labor; they may find local employment or work in adjacent localities. Since men other than the operator spend more time on the farm in Area 1 (2.5 months) than in the other three areas, they make up for some of the time the operator spends off the farm. Men other than the operator spend an average of 1.4, 1.2, and 1.0 months on the farms in Areas 2, 3, and 4 respectively. The fact that the farms in Area 1 and parts of Areas 2 and 3 require considerable labor besides that of the operator means that in those areas adult members of the family find productive work that keeps them on the farm.

Youth do less farm labor in Areas 2 and 3 than in the other areas. Since these areas have less livestock than Area 1, there is less work that youth can do during the fall, winter, and spring months.

Since there is less nonagricultural work for youth in Area 4 than in other parts of the state, more young people are available for work on farms in that area.

Women do less farm labor in Area 4 than in any other part of the state (Table 8). In this area so much other family help is usually available, in proportion to total amount of work to be done, that women do not need to do farm work.

SEASONAL LABOR

Altho seasonal workers do only 7.7 percent of the farm labor in Illinois (Table 4), they are a very important part of the labor supply. A large number of operators of the more general farms depend on seasonal workers to supplement other labor during periods of heavy labor needs. On commercial fruit and vegetable farms the successful outcome of a year's work often depends on securing seasonal workers during the harvest season.

There are noticeable differences between the four farm-labor areas in amounts of seasonal labor used (Table 9). Since some seasonal workers in Illinois were paid on a time basis and some on a piecework basis, all time units were converted to days (or months) for purposes of analysis.

Amount and Cost

Amount. Two measures were used in determining the input of seasonal labor on farms hiring this class of workers: (1) average months of work done per farm, and (2) average months of work done per worker per farm. The average farm using seasonal workers in 1946

Table 9.—Seasonal Labor: Input and Cost on Sample Farms Using Such Workers, in Four Labor Areas in Illinois, 1946
(By size of farm)

Item	Size of farm				Size of farm			
	30-99 A	100-179 A	180-742 A	All sizes	30-99 A	100-179 A	180-742 A	All sizes
	Area 1				Area 2			
Total number of farms.....	10	33	45	88	20	104	144	268
Total number of workers.....	21	97	142	260	51	295	412	758
Months worked per farm ^a.....	.8	1.3	2.3	1.7	1.2	1.3	1.8	1.5
Months worked per worker per farm	.4	.4	.7	.6	.5	.4	.6	.5
Monthly cost per worker per farm								
Cash.....	\$158	\$148	\$163	\$159	\$214	\$133	\$111	\$124
Items furnished.....	20	27	21	22	3	15	15	14
Total.....	178	175	184	181	217	148	125	138
Total cost per farm.....	142	222	421	315	258	185	227	213
	Area 3				Area 4			
Total number of farms.....	4	30	64	98	16	31	64	111
Total number of workers.....	5	82	294	381	175	314	267	756
Months worked per farm.....	1.2	.9	2.1	1.7	9.7	7.6	1.9	4.6
Months worked per worker per farm	.9	.3	.5	.4	.9	.7	.4	.7
Monthly cost per worker per farm								
Cash.....	\$ 97	\$152	\$184	\$175	\$134	\$146	\$122	\$137
Items furnished.....	2	14	10	10	2	1	6	3
Total.....	99	166	194	185	136	147	128	140
Total cost per farm.....	117	153	409	318	1331	1109	237	638

All four areas: On a total of 565 farms, 2,155 workers worked 2.2 months per farm and .6 month per worker per farm. Monthly cost per farm was \$138 in cash plus \$10 in items furnished. Total cost per farm was \$331.

^a For purposes of conversion it was assumed that 9 hours equal one day and 25 days equal one month.

used 2.2 months of such labor, and the average seasonal worker worked .6 month per farm (Table 9).

Area 4 had the second highest percentage of farms using seasonal labor, the greatest use of seasonal labor per farm, and the workers put in more time per farm than in any other area. These variations are explained by a few simple facts. In all areas some seasonal workers are used on general farms during peak labor seasons, but in Area 4 there are special crops to be harvested that require a large amount of seasonal labor. In certain parts of Area 4 are many apple and peach orchards and quite a few acres of small fruits.

In all areas except Area 4 the input of seasonal labor is proportional to the size of the farms; in Area 4 the exact opposite is true. In this area the fruit enterprises are generally located on the smaller farms, while other types of enterprise are more prevalent on the larger farms. The hiring of a large number of seasonal workers while fruit

is being harvested accounts for the large amount of seasonal labor used on the smaller farms of southern Illinois. In Areas 1, 2, and 3 the same type of farming is common to most farms regardless of size; the average labor input for various classes of labor therefore increases with the size of the farm.

Cost. The average monthly cost per worker, including cash payments and noncash outlays, for seasonal labor in Illinois during 1946 was \$148 (Table 9). Costs were relatively high in Areas 1 and 3, where they were approximately \$183 per worker per month. In Areas 2 and 4 they came to about \$140 a month. There are several reasons for these differences.

In Area 1 there is competition from urban industries for the labor supply at all times. In Area 3 demands arise for several kinds of seasonal agricultural labor, and the peak periods for several enterprises often come at the same time. Competition for labor is not strong in any part of Area 2; in fact some parts of the area have a surplus of labor. There is always a surplus of labor in Area 4; with a large labor supply available, wage rates are lower.

In Area 4 cash made up a larger part of the payment to workers than in other areas. The reason for this is obvious, since most of the payment to seasonal workers other than cash was in the form of meals. In Area 4 most of the seasonal workers were fruit pickers, many of whom came from great distances. It was not practical, in most cases, for the farmers to furnish meals to such a large number. These people set up their own living quarters and prepared their own meals. Also, when the workers were local people, they usually furnished their own meals.

Seasonal Day Labor

More than 90 percent of the total input of seasonal farm labor in Illinois in 1946 was done by workers hired by the day (Table 7). For purposes of analysis the work done by these helpers was divided into seven classes: (1) general farm work, (2) hay and straw harvest, (3) harvest other than hay and fruit, (4) soil preparation, cultivation, and planting, (5) land improvement and building repair, (6) work on fruit enterprise, and (7) miscellaneous. These jobs, together with the average wage rates paid for men, women, and youth, are shown in Table 10.

Around 90 percent of the day labor in Illinois was done by men. Women and youth contributed about 5 percent each. Adaptability of women for work on fruit farms, which are numerous in Area 4, accounts for the high labor input (12.0 percent) by them in that area.

Table 10. — Seasonal Day Labor: Daily Wage Rate and Days Worked on Sample Farms Using Such Workers, in Four Labor Areas in Illinois, 1946
(By type of job)

Item	Daily wage rate			Daily wage rate			Daily wage rate		
	Men	Women	Youth	Men	Women	Youth	Men	Women	Youth
	Area 1			Area 2			Area 3		
Type of job									
General farm work.....	\$6.29	.....	\$2.17	\$4.80	.....	\$3.92	\$5.17	.....	\$3.77
Hay and straw harvest... 6.37	.....	.....	4.17	5.57	.....	4.38	4.82	.....	.....
Harvest other than hay and fruit..... 6.17	.....	.....	3.75	5.67	.....	.....	5.75	.....	3.00
Soil preparation, cultiva- tion and planting... 6.23	.....	.....	6.00	5.18	.....	2.50	4.97	.....	4.00
Land improvement and building repair..... 6.44	.....	.....	.....	7.80	.....	.....	7.41	.....	.....
Work on fruit enterprise... 9.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous..... 6.00	\$5.85	5.00	4.83	.....	.....	.....	6.07	\$6.75	6.75
Labor input									
Days worked per farm.... 48	21	21	34	.....	34	37	28	28	28
Days worked per worker.. 17	3	11	13	.....	25	14	14	19	19
Percent of work done.....	93.8	.5	5.7	93.8	.....	6.2	91.1	.8	8.1
				Area 4			State		
Type of job									
General farm work.....				\$4.16	.....	\$4.60	\$4.94	.....	\$3.91
Hay and straw harvest... 5.43				5.43	.....	3.33	5.66	.....	4.09
Harvest other than hay and fruit... 5.43				5.43	.....	6.00	5.76	.....	3.72
Soil preparation, cultivation and planting... 5.00				5.00	.....	2.75	5.22	.....	3.91
Land improvement and building repair... 5.32				5.32	.....	.....	6.82	.....	.....
Work on fruit enterprise... 5.99				5.99	\$5.85	.....	6.21	\$5.85	5.85
Miscellaneous..... 8.16				8.16	.....	.....	5.93	6.30	5.87
Labor input									
Days worked per farm..... 92	278	25	49	206	27	16	16	16	16
Days worked per worker... 18	29	13	15	25	16	16	16	16	16
Percent of work done.....	84.5	12.0	3.5	89.7	5.1	5.2	89.7	5.1	5.2

Piecework Done by Seasonal Labor

In the harvesting of some crops, such as fruits and tomatoes, payment on a piecework basis is possible because the labor is performed in units which are easily counted or measured. Piecework rates offer an incentive to workers to work rapidly and thereby increase their earnings. Workers on a piecework basis contributed less than 10 percent of the seasonal labor used in Illinois during 1946 (Table 7).

YEAR-ROUND HIRED LABOR

Year-round workers did more of the labor on farms in Illinois in 1946 than all other classes of hired labor together, contributing 11.3 percent of the total labor and 58.6 percent of the hired labor (Tables 4 and 7).

On about 17 percent of the farms in Illinois the operations are large enough to require, in addition to family labor, the full time of one or more workers for five months or more. The farm operator hires either single or married workers, his choice depending to a large extent on the accommodations he has for workers and their families, period of service desired, and type of workers available.

Amount and Cost

Amount. The average input of year-round hired labor per farm is used as a measure for determining differences in year-round labor requirements among areas; this measure, however, must be qualified in reference to Area 3, as explained below.

The average input of year-round hired labor is highest in Area 1: 2.2 months for married workers and 1.8 months for single workers (Table 2). (Year-round workers were employed on 17 percent of the farms in this area.) Since dairy farms are common in this area and dairying requires a large amount of labor at all times of the year, quite a few year-round workers are needed. Cows must be milked and fed regardless of the season.

Next to Area 1, Area 3 has the highest input of year-round hired labor per farm: 2.2 months for married workers and 1.2 months for single workers. Input per farm, however, is not a good basis for comparing labor needs here with those in other areas, for Area 3 has the largest farms in the state and a larger share of the land is in tillable crops than in any other area in the state. If the average input per 100 acres, or per 100 acres of tillable land, were used as a measure, Area 3 would show a figure considerably lower than Area 1 and about equal to Area 2. It must be remembered that input per acre measures intensity of farm operations; whereas input per farm may be large because the farms are large, because of high input of labor per acre, or for both reasons.

Areas 2 and 4 have about the same average input of year-round hired labor per farm: 1.2 and 1.5 months respectively. A large amount of land in Area 2 is in pasture and nontillable. This situation accounts for the low amount of hired labor per farm, seasonal and year-round, in this area. In Area 4, where there are very few dairy and livestock farms, not much year-round labor need be hired.

Cost. The average monthly payments made to single and married workers are shown in Tables 11 and 12. Table 13 gives the distribution of wage rates within farm-labor areas.

The average monthly payment made to married workers was \$168;

Table 11.—Year-Round Single Workers: Labor Input and Cost on Sample Farms Using Such Workers, in Four Labor Areas in Illinois, 1946
(By size of* farm)

Item	Size of farm				Size of farm			
	30- 99 A	100- 179 A	180- 742 A	All sizes	30- 99 A	100- 179 A	180- 742 A	All sizes
	Area 1				Area 2			
Total number of farms.....	7	17	24	....	9	22	31	
Total number of workers.....	7	20	27	....	9	23	32	
Months worked per farm.....	10.3	11.1	10.9	....	7.7	9.1	8.8	
Months worked per worker per farm..	10.3	9.5	9.7	....	7.7	8.7	8.5	
Monthly cost per worker per farm								
Cash.....	\$98	\$117	\$112	....	\$63	\$89	\$82	
Perquisites*.....	53	71	66	....	53	47	48	
Total.....	151	188	178	....	116	136	130	
	Area 3				Area 4			
Total number of farms.....	3	14	17	2	3	5	10	
Total number of workers.....	3	14	17	3	3	7	13	
Months worked per farm.....	12.0	8.9	9.4	13.8	7.7	14.1	12.1	
Months worked per worker per farm..	12.0	8.9	9.4	9.2	7.2	10.1	9.3	
Monthly cost per worker per farm								
Cash.....	\$78	\$97	\$93	\$82	\$39	\$82	\$74	
Perquisites*.....	25	47	42	12	49	24	26	
Total.....	103	144	135	94	88	106	100	

All four areas: On a total of 82 farms 89 workers worked 9.9 months per farm and 9.1 months per worker per farm. Monthly cost per worker per farm was \$92 cash plus \$50 in items furnished, or \$142.

* For purposes of this study the use of a room was valued at \$10 a month, board at 45 cents a meal, and laundry at 50 cents a week.

that to single workers was \$142. In all areas in the state married workers received more per month than single workers, the difference being in cash, as products furnished each of these types of workers had about the same value.

Wage rates for year-round labor followed the same pattern as those for seasonal labor. In Areas 1 and 3, where the labor supply is limited and competition for labor is keen, wages are high. In Areas 2 and 4, where for the most part there is a surplus of labor, wages are lower (Tables 11 and 12).

Single Workers

Single workers did approximately 45 percent of the year-round hired labor on Illinois farms in 1946; they worked an average of 10 months per farm and received an average of \$142 a month for their efforts (Tables 7 and 11).

A single worker usually rooms with the family or in a bunk house. His remuneration usually consists of room, board, and laundry in ad-

dition to his cash wage. He may be assigned to work in the field and may help with the chores in the morning and evening. He stays on the farm a shorter time than the married worker, is younger or has less experience, is given more free time, works under closer supervision, and is charged with less responsibility. These are the chief reasons why his wages average \$26 a month lower than those of the married worker.

Married Workers

During 1946, 55.4 percent of the year-round hired labor in Illinois was furnished by married workers at an average cost of \$168 a month (Tables 7 and 12).

Table 12.—Year-Round Married Workers: Labor Input and Cost on Sample Farms Using Such Workers, in Four Labor Areas in Illinois, 1946
(By size of farm)

Item	Size of farm				Size of farm			
	30-99 A	100-179 A	180-742 A	All sizes	30-99 A	100-179 A	180-742 A	All sizes
	Area 1				Area 2			
Total number of farms.....	1	1	20	22	....	2	24	26
Total number of workers.....	1	2	28	31	....	2	24	26
Months worked per farm.....	12.0	16.0	14.3	14.2	....	10.5	8.9	9.0
Months worked per worker per farm..	12.0	8.0	10.2	10.1	....	10.5	8.9	9.0
Monthly cost per worker per farm								
Cash.....	\$129	\$125	\$143	\$142	....	\$91	\$101	\$101
Perquisites.....	59	24	58	56	....	52	54	55
Total.....	188	149	201	198	....	143	155	156
	Area 3				Area 4			
Total number of farms.....	1	3	23	27	1	4	6	11
Total number of workers.....	1	3	27	31	2	9	7	18
Months worked per farm.....	8.0	10.9	11.1	10.9	24.0	19.5	11.7	15.7
Months worked per worker per farm..	8.0	10.9	9.5	9.8	12.0	8.7	10.1	9.6
Monthly cost per worker per farm								
Cash.....	\$80	\$130	\$126	\$125	\$132	\$113	\$90	\$107
Perquisites.....	....	61	47	47	12	22	19	19
Total.....	80	191	173	172	144	135	109	126

All four areas: On a total of 86 farms, 106 workers worked 11.8 months per farm and 9.6 months per worker per farm. Monthly cost per worker per farm was \$121 in cash plus \$47 in items furnished, or \$168.

Usually the year-round married worker is a dependable and responsible man who has been on the farm a long time and who may be in charge of a specific section of the farm program. He may, for example, do or supervise all tasks pertaining to the hog project. It is not uncommon for the operator and his family to go on a vacation during

Table 13.— Wage Rates Paid Year-Round Workers on Sample Farms in Four Farm Labor Areas in Illinois, 1946

Monthly wage	Area 1	Area 2	Area 3	Area 4	State
	Number of workers	Number of workers	Number of workers	Number of workers	Number of workers
Single workers					
\$16 - \$25.....	..	1	..	..	1
26 - 35.....	..	1	..	2	3
36 - 45.....	..	4	2	1	7
46 - 55.....	2	4	..	2	8
56 - 65.....	3	2	..	2	7
66 - 75.....	2	5	..	1	8
76 - 85.....	1	5	6	..	12
86 - 95.....	3	2	1	..	6
96 - 105.....	6	7	2	3	18
106 - 115.....	..	..	2	2	4
116 - 125.....	6	1	2	..	9
126 - 135.....	..	..	..	..	..
136 - 145.....	..	..	..	..	..
146 - 155.....	..	..	..	..	..
156 and over.....	4	..	2	..	6
Married workers					
\$46 - \$55.....	..	..	..	1	1
56 - 65.....	..	1	..	2	3
66 - 75.....	..	2	1	3	6
76 - 85.....	..	3	6	2	11
86 - 95.....	1	7	4	1	13
96 - 105.....	4	8	12	4	28
106 - 115.....	2	2	3	2	9
116 - 125.....	9	1	2	3	15
126 - 135.....	3	..	1	..	4
136 - 145.....	..	1	..	..	1
146 - 155.....	5	1	..	..	6
156 and over.....	6	..	2	..	8

the slack season of the year and leave a year-round married worker in charge.

Besides a cash payment he usually receives housing for his family, products that can be used in the household, and occasionally other goods and services.

Housing facilities furnished. Of the houses provided year-round married workers in the state, 63 percent had electricity, 31.5 percent had running water, 18.5 percent had furnace heat, and 21.7 percent had a sanitary toilet and bath with running water (Table 14). The houses having the highest percentage of these facilities were in Area 1, where over half had electricity, running water, and a sanitary toilet. In Area 2 the houses had a slightly higher percentage of these facilities than in Area 3. In Area 4, of the 13 houses sampled only 3 had electricity, that being the only available facility. In areas where high wage rates are paid, the married worker is usually furnished a house well equipped with modern facilities to provide for the comfort and convenience of his family.

Table 14. — Facilities for Year-Round Married Workers on Sample Farms Furnishing Housing in Four Labor Areas in Illinois, 1946

Facilities furnished and description of housing	Area 1		Area 2		Area 3		Area 4		State	
	Num-ber	Per-cent ^a	Num-ber	Per-cent ^a	Num-ber	Per-cent ^a	Num-ber	Per-cent ^a	Num-ber	Per-cent ^a
Houses furnished.....	29	....	25	....	25	....	13	....	92	....
Facilities furnished										
Electricity.....	28	96.6	17	68.0	10	40.0	3	23	58	63.0
Running water.....	20	70.0	4	16.0	5	20.0	0	0	29	31.5
Sanitary toilet.....	16	55.2	3	10.3	1	4.0	0	0	20	21.7
Bath with running water..	15	51.7	3	10.3	2	8.0	0	0	20	21.7
Type of heat										
Stove.....	18	62.1	21	84.0	23	92.0	13	100	75	81.5
Furnace.....	11	37.9	4	16.0	2	8.0	0	0	17	18.5
Average number of rooms furnished.....	6	....	5	....	6	....	4	....	5	....
Reported condition of house										
Good.....	19	65.5	13	52.0	14	56.0	8	61.5	54	58.9
Fair.....	10	34.5	12	48.0	9	36.0	3	23.0	34	37.0
Poor.....	0	0	0	0	2	8.0	2	15.4	4	4.3
Location of house										
On farm.....	26	89.7	20	80.0	21	84.0	13	100	80	87.0
Off farm.....	3	10.3	5	20.0	4	16.0	0	0	12	13.0

^a Thruout this table percentages show relation of item to total houses furnished.

Value of items furnished. The value of products and other items furnished year-round married workers varied considerably from area to area (Table 15). In Area 1 they averaged \$334; in Area 2, \$331; in Area 3, \$299; and in Area 4, only \$78. Milk, pork, beef and veal, feeds, and wood and coal, were the five most important items furnished, these making up more than 75 percent of the total. Other items furnished were poultry, eggs, garden space, vegetables, electricity, gas and oil, and miscellaneous.

Milk accounted for about the same share of the total in Areas 1, 2, and 3; but in Area 4, where there are few dairy cows, very little milk was furnished. Beef and veal made up a larger part of the total in Area 1 than in other areas; which indicates that farmers in this area may use hired labor as an outlet for disposing of some of their veal calves.

Workers in Areas 3 and 4 often have their own hogs, chickens, and cows; and this explains why feed made up about 28 and 18 percent respectively of the products and items furnished workers in these two areas.

Table 15.—Value of Products and Items Furnished on Sample Farms Hiring Year-Round Married Men in Four Labor Areas in Illinois, 1946^a

Items furnished	Average quantity per worker	Average value ^b per worker	Percent of total	Area 1			Area 2		
				Average quantity per worker	Average value ^b per worker	Percent of total	Average quantity per worker	Average value ^b per worker	Percent of total
Pork, pounds.....	281	\$ 48	14.3	287	\$ 49	14.8			
Beef and veal, pounds.....	247	42	12.6	70	12	3.5			
Poultry, pounds.....	41	11	3.3	30	8	2.5			
Milk, gallons.....	338	118	35.3	320	112	33.9			
Eggs, dozens.....	68	23	7.0	17	6	1.7			
Feeds.....	..	22	6.5	..	30	9.3			
Garden space.....	..	6	1.8	..	3	.8			
Vegetables.....	..	2	.5	..	4	1.3			
Electricity.....	..	23	6.9	..	5	1.6			
Gas and oil.....	..	4	1.3	..	2	.6			
Wood and coal.....	..	14	4.2	..	13	4.0			
Other.....	..	21	6.3	..	87	26.0			
Total.....	..	\$334	100.0	..	\$331	100.0			
				Area 3			Area 4		
Pork, pounds.....	337	\$ 57	19.1	93	\$ 16	20.3			
Beef and veal, pounds.....	25	4	1.4	9	1	.2			
Poultry, pounds.....	28	7	2.5	0	0	0			
Milk, gallons.....	355	124	41.7	21	8	9.7			
Eggs, dozens.....	5	2	.6	0	0	0			
Feeds.....	..	85	28.3	..	14	18.5			
Garden space.....	..	4	1.4	..	4	4.6			
Vegetables.....	..	0	..	..	10	13.6		
Electricity.....	..	0	.1	..	0	0			
Gas and oil.....	..	2	.5	..	0	0			
Wood and coal.....	..	7	2.0	..	4	5.7			
Other.....	..	7	2.4	..	21	27.4			
Total.....	..	\$299	100.0	..	\$ 78	100.0			
				State					
Pork, pounds.....	..	..	..	267	\$ 45	16.1		
Beef and veal, pounds.....	..	..	..	98	17	6.0		
Poultry, pounds.....	..	..	..	27	7	2.6		
Milk, gallons.....	..	..	..	284	100	35.7		
Eggs, dozens.....	..	..	..	26	9	3.2		
Feeds.....	..	..	..	..	41	14.7		
Garden space.....	..	..	..	..	4	1.5		
Vegetables.....	..	..	..	..	3	1.2		
Electricity.....	..	..	..	..	8	2.9		
Gas and oil.....	..	..	..	..	2	.8		
Wood and coal.....	..	..	..	..	16	5.7		
Other.....	..	..	..	..	27	9.6		
Total.....	..	..	..	..	\$279	100.0		

^a Number of farms sampled: Area 1, 31; Area 2, 26; Area 3, 31; Area 4, 18; all four areas, 106.

^b In this study milk was valued at 35 cents a gallon, eggs at 34 cents a dozen, poultry at 27 cents a pound, pork at 17 cents a pound, and beef and veal at 17 cents a pound; the value of the other products and items furnished was estimated by the farmer.

CUSTOM LABOR AND MACHINES FOR HIRE

Several operations on Illinois farms, especially those concerned with the harvesting of crops, require several men and one or more relatively expensive farm machines, such as a tractor, combine, corn picker, or hay baler. Obviously it is not practical for the average operator to purchase machinery for all such operations. Some farmers therefore buy machines in partnership with their neighbors, but a greater part of them hire some of this work done by a commercial custom operator or by a farmer who has equipped with enough machines to do work for others in addition to his own work.

When the regular farm workers (family, year-round hired workers, or seasonal workers) on these sample farms helped with custom operations,¹ their hours of labor were still accounted for in their respective classes. This was done because when one farmer performs custom work for another, the labor and costs are merely transferred from one farm to another and there is no difference in the total input on the farms as a whole. But in the present study, as would be true of almost any group of farms in Illinois, the total custom work hired was greater than the amount done for others. The difference is assumed to have been done by nonfarmers on a commercial basis. The amount of commercial custom labor shown to have been used on the farms in this study has therefore been ascertained merely by subtracting the total volume of custom work done for others from the total volume of such work hired.²

Amount of Custom Work Done

Approximately half the custom work done in 1946 was done by commercial custom labor, the other half by farmers (Tables 16 and 17).

There was considerable difference in the amount and kind of custom labor used in the various labor areas. As would be expected, Area 3 used the most: 79.1 hours per farm, 44.0 hours being done by farmers, the rest by commercial custom workers.

Area 1 used an average of 43.9 hours per farm, but only 15.6 hours of this was done by farmers. Farming operations in this area are generally not on extensive enough scale to merit the purchase of

¹ It should be remembered that custom work as used here refers only to operations for which a cash settlement was made. It does not include work traded and for which, therefore, no cash settlement was made.

² Much of the commercial custom work done for the operators of the survey farms was probably done by farmers operating less than 30 acres.

Table 16. — Total Hours and Costs of Custom Work on Illinois Farms in 1946

Item	Hours ^a	Costs ^a
Custom work hired.....	8 156 848	\$30 743 463
Custom work done for others.....	4 036 078	17 794 328
Commercial custom work ^b	4 120 770	12 944 135

^a These state totals were derived by the use of an expansion factor, as explained on page 560.

^b The difference between custom work hired and that done for others is assumed to have been commercial custom work; that is, custom work done by nonfarmers.

expensive harvesting machinery; farmers must therefore depend on commercial outfits for most of their custom work.

Altho, on the average, farmers and commercial workers did about equal amounts of custom work in Area 2, this was not true in all parts of the area. In some sections many of the machines used for custom work are owned by farmers, and in other sections practically none are so owned. Very few farmers do custom work in the mixed livestock sections and in the wheat, dairy, and poultry sections.

In Area 4 farming, for the most part, is not extensive, and most of the work is done with rather simple machines. Custom operations are therefore few, and about two-thirds of the custom work is done by farm workers.

Cost of Custom Work

Farmers in Illinois paid out almost 13 million dollars for about 4 million hours of commercial custom work in 1946 (Table 16). This remuneration covered both labor and machines. Farmers who did custom work received approximately 18 million dollars for about the same amount of work. The owners of commercial machines perform the more conventional operations, and having developed special skill and

Table 17. — Hours and Costs of Custom Work on Sample Farms in Four Labor Areas, Illinois, 1946

Item	Area 1	Area 2	Area 3	Area 4	State
Number of farms.....	140	422	136	198	896
Work per farm	<i>hr.</i>	<i>hr.</i>	<i>hr.</i>	<i>hr.</i>	<i>hr.</i>
Hired.....	43.9	45.3	79.1	30.6	47.0
Done for others.....	15.6	21.1	44.0	19.0	23.3
Commercial work.....	28.3	24.2	35.1	11.6	23.7
Cost per farm					
Work hired.....	\$184	\$188	\$281	\$ 78	\$177
Work done for others.....	61	105	190	65	102
Commercial work.....	123	83	91	13	75

efficiency, they can charge lower rates, as a rule, than farmers and still make a reasonable profit.

The over-all rates paid per unit for custom operations performed with selected machines are shown in Table 18, together with data on who furnished the fuel. The number of farms from which the samples were taken varied so greatly that the averages are by no means equally representative of actual conditions in the different areas. Table 19 gives a somewhat better idea of rates charged.

Combines, balers, corn pickers, and threshers were used with tractors to do a large part of the custom work in Illinois during 1946. These machines were hired on enough sample farms to make the average rates shown for the different areas reasonably representative except the bushel rates paid for the corn picker and tractor and for the combine and tractor. These rates are not necessarily representative since out of 299 farmers hiring a combine and tractor only 14 made payment on this basis, and out of 161 farmers hiring a corn picker and tractor only 28 made payments on this basis (Table 18).

The average rate for the state as a whole for the use of the combine and tractor was \$3.69 an acre when the machine owner furnished the fuel and \$3.49 when the farmer furnished the fuel (Table 18). The variations from one area to another are not particularly significant.

Table 18.—Average Custom Rates Paid for Operations Performed Frequently on Sample Farms in Four Labor Areas in Illinois, 1946
(By type of equipment)

Fuel furnished by—	Unit	Area 1		Area 2		Area 3		Area 4		State	
		Number of farms	Rate per unit	Number of farms	Rate per unit	Number of farms	Rate per unit	Number of farms	Rate per unit	Number of farms	Rate per unit
Combine and tractor											
Machine owner	Acre	2	\$3.00	112	\$3.70	37	\$3.63	33	\$3.82	184	\$3.69
Farmer	Acre	37	3.27	57	3.58	7	4.00	..	..	101	3.49
Machine owner	Bushel . . . . .	..	..	5	.15	..	..	9	.23	14	.21
Baler and tractor											
Machine owner	Bale	24	.12	98	.14	65	.15	22	.14	209	.14
Farmer	Bale	41	.12	37	.14	10	.16	..	..	88	.13
Corn picker and tractor											
Machine owner	Acre	9	3.44	52	4.02	16	4.25	3	4.66	80	4.02
Farmer	Acre	22	3.51	27	3.86	4	3.12	..	..	53	3.66
Machine owner	Bushel . . . . .	..	..	9	.10	15	.10	..	..	24	.10
Farmer	Bushel . . . . .	..	..	4	.09	..	..	..	..	4	.09

Table 19. — Variations in Custom Rates Reported by Operators Surveyed in Four Labor Areas in Illinois, 1946¹

Unit	Rate per unit		Area 1: fuel furnished by—		Area 2: fuel furnished by—		Area 3: fuel furnished by—		Area 4: fuel furnished by—		State: fuel furnished by—	
			Ma- chine owner	Farm- er	Ma- chine owner	Farm- er	Ma- chine owner	Farm- er	Ma- chine owner	Farm- er	Ma- chine owner	Farm- er
Combine and tractor: number of cases												
Acre.....	\$1.50 - \$2.49....	..	2	7	4	2	..	1	..	10	6	
	2.50 - 3.49....	12	28	56	21	25	3	5	..	98	52	
	3.50 - 4.49....	4	19	102	34	32	4	36	..	174	57	
	4.50 - 5.49....	..	2	22	8	6	3	7	..	35	13	
Baler and tractor: number of cases												
Bale.....	.085- .104....	5	11	8	5	3	..	2	..	18	16	
	.105- .124....	13	12	34	17	4	1	3	..	54	30	
	.125- .144....	8	12	25	14	17	4	5	..	55	30	
	.145- .164....	3	6	40	7	24	3	12	..	79	16	
	.165- .184....	..	..	3	1	18	3	2	..	23	4
	.185- .204....	..	..	1	6	3	2	1	..	5	8
Corn picker and tractor: number of cases												
Acre.....	2.50 - 3.49....	7	13	13	4	2	3	..	..	22	20
	3.50 - 4.49....	7	18	34	20	15	..	2	..	58	38	
	4.50 - 5.49....	..	1	14	6	8	1	2	..	24	8	
Bushel....	.075- .084....	..	..	3	1	5	1	..	..	8	2
	.085- .094....	..	..	1	..	2	..	..	..	3	..
	.095- .104....	..	..	8	3	8	..	1	..	17	3
	.105 and over..	..	..	2	..	2	..	7	..	11	..
Thresher and tractor: number of cases²												
Bushel....	.005- .024....	..	2	6	2	1	1	..	..	7	5
	.025- .044....	6	18	19	17	3	..	2	..	30	35	
	.045- .064....	..	1	7	..	..	..	12	..	19	1
	.065- .084....	..	..	4	..	..	..	5	..	9	..
	.085- .104....	..	..	1	..	..	..	1	..	2	..
	.105- .124....	..	..	1	..	..	..	6	..	7	..
	.125- .144....	..	..	..	..	..	..	1	..	1	..
	.145 and over..	..	..	..	..	..	..	12	..	12	..

¹ Includes custom work done by and for operators of sample farms.² Part of the variation in thresher rates is due to differences in crops threshed (see Table 21).

Those cases in Area 1 in which the machine owner furnished the fuel and those in Area 3 in which the farmer furnished the fuel are not numerous enough to give representative averages for these two areas.

The rate for the use of the baler and tractor when the machine owner furnished the fuel was 14 cents a bale as an average for the state; when the farmer furnished the fuel it was 13 cents a bale. Rates in Area 1 were slightly below the state average, 12 cents being paid regardless of who furnished the fuel. In Area 3 rates were slightly above average, 15 cents being paid per bale when the machine owner

Table 20.— Variations in Rates Paid for Custom Work With Combine and Tractor on Crops Reported, Illinois, 1946

Crop and unit	Rate paid	Number of cases when fuel was furnished by—	
		Machine owner	Farmer
Oats, per acre.....	\$1.50 - \$2.49.....	6	1
	2.50 - 3.49.....	44	6
	3.50 - 4.49.....	29	6
Soybeans, per acre.....	2.50 - 3.49.....	14	7
	3.50 - 4.49.....	59	4
	4.50 - 5.49.....	10	2
Wheat, per acre.....	2.50 - 3.49.....	8	..
	3.50 - 4.49.....	15	1
Clover, per acre.....	1.50 - 2.49.....	1	..
	2.50 - 3.49.....	6	3
	3.50 - 4.49.....	4	1
	4.50 - 5.49.....	2	..

furnished the fuel; there were not enough cases where the farmer furnished the fuel to give a significant average.

The average state rate for the use of the corn picker and tractor was \$4.02 an acre when the machine owner furnished the fuel and \$3.66 an acre when the farmer furnished it.

Besides the machines already discussed, there were more than twenty other machines or combinations of machines used less frequently for custom work during 1946. Among these machines the ones used most often were tractor and sheller, tractor and silo filler, tractor and plow, lime spreader, and trucks hauling corn. These five were the only ones used on more than fifteen farms in the sample.

Table 21.— Variations in Rates Paid for Custom Work With Thresher and Tractor on Crops Reported, Illinois, 1946

Crop and unit	Rate paid	Number of cases when fuel was furnished by—	
		Machine owner	Farmer
Oats, per bushel.....	\$.015 - \$.024.....	6	3
	.025 - .034.....	4	3
	.035 - .044.....	4	..
	.045 - .054.....	9	1
	.055 - .064.....	7	..
	.065 - .074.....	1	..
	.075 and over.....	2	..
Wheat, per bushel.....	.045 - .064.....	1	..
	.065 - .084.....	7	..
	.085 - .104.....	2	..
	.105 and over.....	9	..
Cowpeas, per bushel.....	.30 - .34.....	1	..
	.35 - .39.....	2	..
	.40 - .44.....	2	..
	.45 and over.....	2	..

Some enumerators reported rates paid for harvesting various crops even tho this information was not specifically called for on the survey forms. The rates reported for the harvesting of several crops by combine and tractor are shown in Table 20 and those for thresher and tractor in Table 21. Only for the combining of soybeans and oats (Table 20) were enough sample rates obtained to give unbiased state averages. The rest of the rates are merely illustrative of the great variations that occur in the cost of the same operation.¹

EXCHANGE OF LABOR AND MACHINES

A great many farm operators exchange labor and the use of machines.² One farmer may own a combine and another a corn picker, so one harvests all the small grain on both farms and the other picks all the corn. Another rather common exchange is between a farmer with land that drains well and another with land that drains poorly. As soon as the well-drained land is ready to work, both farmers prepare it for planting; and later, when the poorly drained land is in workable condition, both farmers prepare it. Some exchanges are made simply on the basis of labor: one farmer may furnish workers to help another farmer build fence and in return be furnished with labor for baling hay.

Quite often labor is exchanged for the use of machines; or one kind of machine or labor is exchanged for another that is different in quality and value and therefore deserves a different number of hours. Usually there is a rough balance between the value of work done by neighbors and the value of work done for neighbors in one year; farmers seldom have the necessary information to make exact settlements.³

Labor Exchanged

Data gathered in this study indicated that Illinois farmers exchanged the equivalent of more than 60,000 months of man labor in 1946. About 40,000 months of this labor was with machines and 20,000 without machines. The number of farms exchanging labor varied from 58.6 percent in Area 4 to 86.4 percent in Area 1 (Table 22).

¹ Current custom rates for various crops are collected annually for various areas of the state by the Department of Agricultural Economics, College of Agriculture, University of Illinois, and are available upon request.

² No financial transactions are involved in exchange work, as defined in this study (see page 561).

³ An Illinois study made some years ago attempted to formulate plans for making fair settlements when labor and machines are exchanged for common operations. See RAUCHENSTEIN, E., and BONNEN, C. A., Successful threshing ring management. Ill. Agr. Exp. Sta. Bul. 267. 1925.

While farming in Area 1 is on a large enough scale to call for the use of several machines, it is not extensive enough for the farmers to own all the machines they need for their various farming operations. It is an advantage for some farmers, for example, to own silo fillers and fill their neighbors' silos in return for getting all their feed ground. The importance of the exchange of machine work in this area is indicated by the fact that over three-fourths of the labor exchanged was done with machines, and the average hours of work done with machines was higher per farm in this area than in any other (Table 22).

Table 22. — Hours of Exchange Labor Used on Sample Farms in Four Labor Areas in Illinois, 1946^a

	Without machinery		With machinery		Percent of farms exchanging labor
	By neighbors	For neighbors	By neighbors	For neighbors	
Average per farm					
	<i>hr.</i>	<i>hr.</i>	<i>hr.</i>	<i>hr.</i>	
Area 1.....	92	86	116	120	86.4
Area 2.....	67	72	94	95	69.7
Area 3.....	50	51	86	86	69.6
Area 4.....	87	104	107	100	58.6
State average.....	74	80	99	100	69.6
Total per area					
Area 1.....	4 713	4 398	12 920	13 341	....
Area 2.....	10 201	10 873	20 854	21 226	....
Area 3.....	1 938	2 001	7 295	7 339	....
Area 4.....	7 536	9 055	6 501	6 092	....
Sample totals.....	24 388	26 327	47 570	47 998	....

^a To convert hours to days, divide by 9. To convert days to months, divide by 25.

About the same percentage of farms exchanged labor in Area 2 as in Area 3 (about 70 percent), but there was a decided difference in its nature. About two-thirds of the labor traded in Area 2 was with machines, whereas about four-fifths of that in Area 3 was with machines. These differences result from differences in the types of farming in these two areas. Since most of the farms in Area 3 grow cash grain, the greater part of the exchange labor is used in connection with harvesting machines. In most parts of Area 2 there is a predominance of livestock, and a higher percentage of the exchange labor is without machines.

As already pointed out, farming is not of an extensive character in most parts of Area 4, a fact that accounts for a smaller percentage of farms exchanging labor in that area than in any other and for only 43

percent of the labor exchanged being with machines. It is noticeable, however, that the farms exchanging labor in this area traded more hours per farm than those in Area 2 and 3. Since on most farms that exchanged labor the operator had no family help, he probably depended to a large extent on exchange labor for all jobs that required two men.

Kinds of Machines Used

Information about seventy types of machines or combinations of machines used for exchange purposes was obtained from the farms sampled.

Twenty of the seventy machines were used often enough so that valid information could be obtained concerning their importance in exchange work in the state as a whole and their relative importance in the different farm labor areas. The number of farms exchanging these machines and the average number of machine hours traded are shown on both a state and an area basis in Table 23 (page 588).

The machines used most frequently and that did the most hours of exchange work per farm were tractors, wagons with tractors, wagons without tractors, teams, and corn pickers. In the state as a whole approximately 355 operators of the 896 farms covered in the survey traded tractor work, each of the operators furnishing an average of 100 tractor hours per farm. The averages were not uniform, however, for the various labor areas: those for Areas 1 and 4 were slightly above the state average, that in Area 2 was about equal to the state average, and that in Area 3 was considerably below the state average. The averages in Areas 1, 2, and 3 are more likely than the Area 4 average to be unbiased, as the Area 4 average was based on only 38 farms whereas the other area averages are based on 50 or more farms each. In all areas the averages for the tractor give a much more accurate picture than do the averages for the machines used less frequently, such as the plow or manure spreader.

Table 23.—Machines Used Frequently for Exchange Work on Sample Farms in Illinois, 1946

(Number of farms and machine hours exchanged per farm)

Machine	By neighbors		For neighbors		By neighbors		For neighbors	
	Farms	Hours	Farms	Hours	Farms	Hours	Farms	Hours
	Area 1				Area 2			
Manure loader.....	1	30	1	18	1	27	2	40
Manure spreader.....	2	40	2	40	5	39	6	30
Team.....	22	78	21	84	42	65	42	61
Tractor.....	80	114	88	108	176	93	170	103
Truck.....	13	51	9	59	5	45	10	32
Wagon with tractor.....	60	100	59	94	91	91	94	93
Wagon without tractor.....	23	77	21	82	34	69	33	68
Binder.....	..	..	1	70	2	15	4	14
Combine.....	14	67	14	67	27	33	26	37
Corn picker.....	10	98	8	111	41	59	33	70
Hay baler.....	4	102	3	120	3	22	8	41
Hay loader.....	6	40	3	55	1	18	2	39
Mower.....	2	24	3	22	3	36	5	30
Rake.....	4	43	8	34	1	90	3	30
Silo filler.....	1	27	4	23	4	64	1	108
Thresher.....	1	36	1	36	2	54	1	54
Corn planter.....	..	..	..	..	10	27	5	30
Cultivator.....	1	75	2	64	4	23	1	40
Disk.....	2	36	2	36	9	76	8	48
Plow.....	1	15	4	20	9	36	8	28
	Area 3				Area 4			
Manure loader.....	..	..	..	..	..	..	..	..
Manure spreader.....	..	..	..	..	..	..	..	..
Team.....	7	20	4	23	30	80	34	73
Tractor.....	68	79	65	87	38	117	29	127
Truck.....	7	35	11	30	..	..	..	..
Wagon with tractor.....	26	40	27	51	7	110	6	108
Wagon without tractor.....	4	25	2	28	20	91	20	86
Binder.....	..	..	..	..	3	99	3	24
Combine.....	20	41	21	35	5	38	5	39
Corn picker.....	26	80	23	78	1	60	3	43
Hay baler.....	6	49	5	53	1	20	1	20
Hay loader.....	2	35	..	..	2	70	1	40
Mower.....	1	3	1	2	..	..	1	30
Rake.....	2	45	3	38	1	20	1	20
Silo filler.....	1	28	1	28	1	30	..	..
Thresher.....	1	81	1	81	2	45	2	45
Corn planter.....	5	41	5	42	4	75	1	50
Cultivator.....	2	70	1	40	4	46	1	15
Disk.....	2	93	2	16	5	20	3	17
Plow.....	1	60	1	70	11	205	8	280
	State							
Manure loader.....	..	..	..	..	2	28	3	33
Manure spreader.....	..	..	..	..	7	40	8	32
Team.....	..	..	..	..	101	69	101	68
Tractor.....	..	..	..	..	362	98	352	103
Truck.....	..	..	..	..	25	45	30	39
Wagon with tractor.....	..	..	..	..	184	88	186	88
Wagon without tractor.....	..	..	..	..	81	75	76	75
Binder.....	..	..	..	..	5	66	8	25
Combine.....	..	..	..	..	66	43	66	43
Corn picker.....	..	..	..	..	78	71	67	76
Hay baler.....	..	..	..	..	14	56	17	57
Hay loader.....	..	..	..	..	11	42	6	47
Mower.....	..	..	..	..	6	26	10	25
Rake.....	..	..	..	..	8	46	15	33
Silo filler.....	..	..	..	..	7	48	6	38
Thresher.....	..	..	..	..	6	52	5	52
Corn planter.....	..	..	..	..	16	34	11	37
Cultivator.....	..	..	..	..	11	45	5	45
Disk.....	..	..	..	..	18	58	15	36
Plow.....	..	..	..	..	22	121	21	124

SUMMARY

This bulletin reports the results of a survey of the kind, amount, and cost of labor used on Illinois farms in 1946. Farms were selected by means of the Master Sample procedure. An expansion factor was used to calculate state totals from many of the averages obtained from the 896 sample farms. An expansion factor was not applied to area figures.

In order to ascertain sectional variations in the use and cost of labor, the state was divided into four areas. **Area 1** is located largely in northeastern Illinois. **Area 2** includes what remained after the boundaries of the other areas were determined. **Area 3** is in the east-central cash-grain region of the state. **Area 4** is in southern Illinois. The farms were divided into three groups according to size: 30-99, 100-179, and 180-742 acres.

The labor pattern. Family labor was used on 97 percent of Illinois farms in 1946, seasonal labor on 63 percent, and year-round workers on 17 percent. Commercial custom work was done on 56 percent of the farms.

About one-fifth of the total labor used was hired. Year-round workers supplied 11.3 percent of the total, seasonal workers 7.7 percent, and commercial custom workers .6 percent.

Some hired labor was used on 67 percent of the farms, but only a few farms used large amounts. Less than a month of labor was hired on 39.3 percent of the farms using hired labor. Only about one farm in six (15.8 percent) hired a full-time year-round worker or his equivalent.

Approximately 95 million dollars was paid for hired labor in Illinois in 1946. Year-round workers received 58.6 percent of this amount, seasonal workers 38.3 percent, and commercial custom workers 3.1 percent.

Family labor. Of the total labor shown to have been used on Illinois farms in 1946 (3,154,793 months), four-fifths was unpaid family labor, 64.0 percent having been contributed by the operator and 16.4 percent by other members of the family. Farm operators in Areas 1 and 4 spent less time on their farms than operators in the other two areas. Less youth labor was used in Areas 2 and 3 than in the other areas. The proportion of family labor provided by women was least in Area 4.

Seasonal labor. Seasonal workers were used mainly to supplement family and year-round hired labor during busy seasons. The average farm hiring seasonal labor used 2.2 months in 1946, and the

average input of labor per worker per farm was .6 month. Area 4 used the most seasonal labor per farm and per worker per farm. The large number of fruit farms in Area 4, most of which are of small acreage, explains the large number of seasonal workers there and the large input of labor per farm.

More than 90 percent of the seasonal workers were paid by the day; the rest were paid on a piecework basis. Of the total day labor used in the state, men contributed 90 percent, women 5 percent, and youth 5 percent. The lowest average day rate was paid for general farm work; the highest was paid for land improvement and building repair. Wages paid on the sample farms on a day basis were generally representative of those paid in the area as a whole and were a good index to wages over the state. Because of the limited data obtained concerning rates paid for piecework, the figures can only be said to be indicative, not conclusive.

Year-round hired labor. Year-round hired workers contributed 58.6 percent of the hired labor used in Illinois in 1946. Area 1 had the highest input per farm (2.2 months for married workers and 1.8 for single workers) because of the large number of dairy farms in that area.

Married men contributed 55.4 per cent of the year-round hired labor, single men 44.6 percent. The average monthly wage paid married workers was \$168, single workers \$142. Wages were higher in Areas 1 and 3 than in the other two areas.

The extra pay to married workers was usually compensation for heavier responsibility and extra hours. Single workers were furnished room, board, and laundry as part of their wages; married workers received housing and various items for use in the household. The houses furnished married workers in Areas 1 and 2 were better equipped for modern living than those in the other areas; also the average value of the other items furnished married workers was higher. In Area 1 the average value of such items was \$334; in Area 2, \$331; in Area 3, \$299; and in Area 4, \$78.

Custom labor and machines for hire. About an equal amount of farm work in Illinois in 1946 was done by farmers and by commercial workers. The amount of custom work done per farm was highest in Area 3, 79.1 hours; in Area 2, 45.3 hours was used; in Area 1, 43.9 hours; and in Area 4, 30.6 hours. In commercial custom work done the positions of Areas 1 and 2 were reversed, Area 1 using slightly more custom labor than Area 2 (28.3 hours compared with 24.2 hours). Area 3 used 35.1 hours and Area 4, 11.6 hours.

Farmers received approximately 18 million dollars for 4 million hours of custom work done in 1946. Commercial workers charged approximately 13 million dollars for the same amount of custom work.

The machines used most often in custom operations were combines, corn pickers, hay balers, and threshers, all of which were used with a tractor for power. Other machines such as bulldozers, trucks, feed grinders, and lime spreaders were also used.

Exchange of labor and machines. Illinois farmers in 1946 exchanged an estimated 40,000 months of labor with machines and 20,000 months without machines. In Area 1, 86.4 percent of the farm operators exchanged labor; in Area 2, 69.7 percent; in Area 3, 69.6 percent; and in Area 4, 58.6 percent. In Area 1 more than three-fourths of the exchange labor was done with machines; in Area 2 about two-thirds; in Area 3 about four-fifths; and in Area 4 about two-fifths.

Of the 70 machines or combinations of machines found on the sample farms, 20 were used enough to give averages that would indicate how much of such labor is exchanged in the various areas of the state and in the state as a whole. The other 50 machines were used only frequently enough to give a dim picture of the part they played in exchange labor in the state.

Are data typical? Variations in labor conditions from year to year may be caused by several factors, including rate of industrial employment, availability of foreign and migratory workers for farm work, prices received for farm products, various government regulations, and the seasonal effects on yields and time of harvesting. With due regard for the effect of these factors, the information gained from this study can be thought of as typical of current farm labor conditions in Illinois.

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