

# **--Scope and Method--**

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Prepared under the direction of  
**The Advisory Committee on Social  
and Economic Research in  
Agriculture**

**JOHN D. BLACK, Editor**

**SOCIAL SCIENCE RESEARCH COUNCIL**

**230 Park Avenue**

**New York City**

**June, 1933**



## USES OF THIS REPORT

This report is No. 16 in a series on "Scope and Method" of research in the various sub-fields of agricultural economics and rural sociology. This series of reports is part of a program of assistance to research in these fields, upon which the Advisory Committee on Social and Economic Research in Agriculture set forth in 1925 under instruction from the Social Science Research Council. Each report will undertake to outline the research of some sub-field of agricultural economics or rural sociology and then discuss the problems in methodology that are peculiar to it. The outline of any sub-field will be in large part in terms of a listing and discussion of specific research projects that have been undertaken or might be undertaken. Hence the discussion of methodology will be largely in terms of specific projects.

It is expected that these reports will be useful in the following ways: First, directors of experiment stations and chiefs of divisions of agricultural economics and of rural sociology in land-grant institutions in the United States, and persons similarly responsible for direction of the research in agricultural economics and rural sociology of other types of institutions, will find the outlines of the various sub-fields of much help in laying out continuing programs of research for their institutions. Second, individual research workers, graduate students looking for thesis subjects, and teachers conducting research seminars, as well as the agencies above named, will find the listing and discussions of projects helpful in choosing suitable research projects. Third, the descriptions of research already done will save research workers from duplicating other work and help them to find a way of building upon it successfully. Fourth, the discussion of the nature of a project and the qualitative background will reveal the body of the subject-matter which needs to be mastered for its intelligent prosecution, and the difficulties involved, and thus save many research workers from launching forth upon projects for which they have not yet qualified themselves, or which may be too difficult for all but the chosen few. Fifth, the analysis of methodology will furnish a basis for a more intelligent decision as to the procedures and methods which will lead to valid and usable results. Sixth, the discussion of methodology will also suggest helpful devices in technique and details of procedure that might not otherwise be brought to the attention of the research workers. Seventh, the discussions of both scope and methods will make clear to those organizing research in any field the contributions which workers on different subjects have to offer to it, and point the way to the form of collaboration needed.

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# Research Relating to Farm Labor --Scope and Method--

## INTRODUCTION

(J. D. Black and J. C. Folsom)

The federal census of 1930, taken as of April 1, 1930, reported that of 10,471,998 persons engaged in agriculture, 4,392,764 were farm laborers, and that of these 2,732,972 were wage workers. Of each 1000 persons gainfully employed in agriculture, 261 were wage workers, 158 were unpaid family workers, and 581 were operators. Labor had been hired in the year previous upon 41.8 per cent of the farms to the extent of 410,984,722 days of farm labor, for which \$955,420,313 was paid.

The changes in the farm labor supply since 1900 as indicated by the census data are presented in Table 1. But these data need much interpretation, and are not very revealing after they are interpreted. Almost the only figures that can be taken at their face value are those for percentage of farms hiring labor. The cash expenditure figures must be adjusted for changes in the price level. Furthermore, they are based upon one of the inquiries in the Census schedule which is not well answered. If the adjustment is made on the basis of the index of the general wholesale price level of the Bureau of Labor Statistics, in dollars of 1910-14, the results will be as in the upper set of figures in Table 2 below. If it is made on the basis of the Department of Agriculture index of average United States wages of farm labor in wage dollars of 1910-14 the results will be as in the lower set of figures.

If we may assume that the enumerators were equally negligent in collecting data upon wages in all four of these Census years, these data indicate more labor hired for wages in 1930 than in the two preceding Census years, and perhaps as much as in 1900. In view of the fact that the 1900 Census was more complete than that of 1910, and probably than any Census since, we may be safe in saying that more labor was paid wages in 1930 than in any preceding Census years—certainly more per farm hiring labor. This is contrary to popular impressions, but seems to be supported by other evidence.

However, some important qualifying statements are needed. As the years have gone by, probably more farmers' sons have received wages for work done at home. The decline in size of farm families should also have reduced the amount of unpaid family labor available; likewise the increase in time spent in school.

The Census count of the persons reported as farm laborers should serve as a check upon the foregoing probable changes. But unfortunately the data are not comparable. The change in date of taking the Census is of



TABLE 1. FARM LABORERS AND EXPENDITURES FOR FARM WAGES IN THE UNITED STATES, 1900-1930<sup>a</sup>

Census year and date.....	1900, June 1	1910, April 15	1920, January 1	1930, April 1
Number of farms.....	5,737,372	6,361,502	6,448,343	6,288,648
Persons engaged in agriculture.....	10,248,935	12,388,430	10,665,812	10,471,998
—Percentage as farm laborers.....	43.6	50.1	39.2	41.9
Farm laborers—Total.....	4,469,446	6,205,434	4,186,130	4,392,764
—Average per farm <sup>b</sup> .....	0.78	0.97	0.65	0.70
—Wage workers—Total.....	2,103,297	2,894,900	2,336,009	2,732,972
—Average per farm <sup>b</sup> .....	0.37	0.45	0.36	0.44
—Unpaid family workers—Total.....	2,366,149	3,310,534	1,850,121	1,659,792
—Average per farm <sup>b</sup> .....	0.41	0.52	0.29	0.26
—Males.....	3,804,480	4,679,727	3,382,901	3,746,433
—Females.....	664,966	1,525,707 <sup>c</sup>	803,229	646,331
—Under 16 years of age—Total.....	—	1,427,534 <sup>d</sup>	644,174	469,497
—16-19 years of age.....	—	1,708,641 <sup>d</sup>	943,022	1,052,874
—20-44 years of age.....	—	2,410,322 <sup>e</sup>	1,995,030	2,132,361
—Above 44 years of age.....	—	658,937	603,904	738,032
Percentage of farms hiring labor <sup>f</sup> .....	—	45.9	44.8	41.8
Cash expenditure for farm labor <sup>f</sup> .....	\$357,391,930 <sup>g</sup>	\$521,729,941	\$1,098,712,517	\$955,420,313
—Average per farm <sup>b,f</sup> .....	\$62 <sup>g</sup>	\$82	\$170	\$152
—Average per farm hiring <sup>f</sup> .....	—	\$179	\$380	\$363

<sup>a</sup> Omitted data not available.

<sup>b</sup> All farms.

<sup>c</sup> Increase due largely to instructions to Census enumerators; consisted mostly of home farm workers.

<sup>d</sup> 16 to 20 years of age.

<sup>e</sup> 21 to 44 years of age.

<sup>f</sup> Data for the year previous to that of the Census.

<sup>g</sup> Including value of board furnished. Data for cash wages are not available separately; their value is estimated at about \$285,000,000.

course a disturbing element. In January, agricultural hiring is at about the year's minimum, being confined largely to non-casuals; in April, seasonal hiring has begun, and in June is decidedly larger, but still below the summer peak.

TABLE 2. EXPENDITURES FOR FARM LABOR IN THE UNITED STATES, 1900-1930, IN DOLLARS OF 1910-1914

	1900	1910	1920	1930
<i>B. L. Statistics index whole-sale prices*</i>				
Cash expenditure.....	\$470,252,539	\$526,999,940	\$523,196,436	\$632,728,684
Average per farm.....	81.58	82.83	80.95	100.66
Average per farm hiring.	—	180.81	180.95	240.40
<i>U. S. D. A. index of wages hired labor*</i>				
Total cash expenditure..	525,576,367	543,468,688	533,355,590	562,011,948
Average per farm.....	91.18	85.42	82.52	89.41
Average per farm hiring.	—	186.46	184.47	213.53

\* Index numbers of 1899, 1909 and 1929 were used, base 1910-14, as published in the Yearbooks of the Department of Agriculture.

Both the 1910 and 1930 Censuses were taken in April, and should be comparable on this score. However, they are not, except possibly for two figures, average wage workers per farm, and farm laborers above 20 years of age, because of changes in the enumeration methods. Probably a million boys and girls, mostly under 16 years of age, and women, were counted as gainfully employed in 1910 who would not have been so counted in April 1920 or April 1930. A decrease in the number of children per family is doubtless also a factor. Even the two figures mentioned may be too high in 1910. A comparison in terms of *males* 20 years and over, the safest basis of comparison, can be estimated by interpolating between or within age-groups in 1900 and 1910. It runs as in Table 3.

TABLE 3. MALE FARM LABORERS 20 YEARS OF AGE AND OVER, 1910 TO 1930

	1900	1910	1920	1930
Farm laborers.....	2,025,000 <sup>a</sup>	2,541,000 <sup>b</sup>	2,151,000	2,491,000
Average per farms (all farms).....	.35	.40	.33	.40
Wage workers.....	— <sup>c</sup>	1,865,000 <sup>b</sup>	1,716,000	2,111,000
Average per farms (all farms).....	— <sup>c</sup>	.29	.27	.34
Family workers.....	— <sup>c</sup>	676,000 <sup>b</sup>	435,000	380,000
Average per farms (all farms).....	— <sup>c</sup>	.11	.07	.06

<sup>a</sup> Estimated by straight-line interpolation within the age-group 16 to 24.

<sup>b</sup> The number of workers 20 years old were estimated by straight-line interpolation between the 16-20 and 21-44 age-groups.

<sup>c</sup> Not available.

The number of agricultural workers under 20 years of age, and under 16 years of age has without doubt decreased, but no figures from the Census can be used to indicate the amount. The same is true for female labor in agriculture. The comparison between the 1900 and 1930 figures

shows no decrease; but the females 10 years of age and over in 1910 were in a ratio of 33 to 100 males, and in 1930 in a ratio of 17 to 100 males.

## OBJECTIVES

The purposes of this report are: To outline farm labor as a field of research in agricultural economics; to indicate its relationship to other parts of the field; to describe briefly the present status of research concerning farm labor and the trends that have recently developed; to outline a considerable number of projects representative of those now in progress or needed to round out the program of research in this field; and to indicate methods and procedures which are being used and to suggest others which may be used to advantage in different types of project.

It is hoped that this report, representing as it does the viewpoints and judgments of workers from several related fields, will be of assistance to those engaged in research on farm labor problems and to those responsible for its conduct, in choosing projects to be undertaken and in deciding upon methods to be employed and procedures to be followed.

## SCOPE AND CONTENT OF THE FIELD

(J. D. Black)

The field of farm labor research could be defined to include everything relating to farm labor; but in practice much research relating to important aspects of it is advisedly handled by persons who consider themselves specialists in other fields of research, such as farm management, land tenure, farm family living, agricultural income, rural population, and rural social psychology, since it depends for its successful execution more upon command of the facts, principles and methods of analysis of these other fields of research than upon the facts, principles or methods of analysis that are especially applicable to farm labor; or it pertains more closely to the central interests of these fields than to the interests of farm labor as such. Nevertheless, such research is commonly improved if it has the help of workers who make labor problems their focus of interest, in its planning or its execution or both. Accordingly, several projects are listed in this report which are indicated as "joint" with one or more of these other fields.

The conventional organization of elementary general treatises in economics is under the following heads: production, price, money and exchange, and value and distribution. Labor receives a limited amount of analysis under each of these heads, and sometimes in a special chapter or two in the "problems" section of the treatises. Another plan of organization could be according to the so-called factors of production: land, labor, entrepreneur, and capital goods. Treatises are now being written on land economics and labor economics. These in effect set out to treat land or labor under the heads of production, exchange, and value and valuation. These heads roughly classify the central interests of the field

of farm labor research, and indicate the major problems within it. One could make a similar presentation so far as the sociological aspects of labor are concerned.

The projects which are outlined below are grouped for the most part under the following heads:

- A. The supply of farm labor—amounts, classes, characteristics, sources, factors affecting supply
- B. The use of farm labor in production
- C. The labor market and wages—the current measurement of demand, the organization and functioning of the market, wages and perquisites
- D. Working and living conditions, including employer-employee relations
- E. The foregoing by special classes of labor—child, woman, migratory, immigrant, etc.
- F. Organization, legislation and administration.

## DEVELOPMENT OF RESEARCH IN FARM LABOR IN THE UNITED STATES

(By Josiah C. Folsom)

Various economic and sociological factors have long operated in this country against the formation of a class of permanent agricultural laborers. Easy acquisition of land made it possible for men to pass quickly from the status of laborer to that of operator. The increasing industrialization and urbanization of the country has provided opportunities for farm boys in the cities. Hence, from the point of view of the laborers themselves there has scarcely been any problem. If the farmer has had a problem, it has been an apparent shortage of labor, which he has met by using more machinery, or more productive plants and animals. In the last hundred years these have largely made possible the tripling of production per worker, and have enabled agriculture to release to other industries much of the normal increase of the farm population.

Under the foregoing circumstances, there have been few pressing research problems. In this country investigation in this field has been a development of practically the last thirty years. There was little public interest in farm labor matters before the beginning of this century. From then to the opening of the World War it grew slowly, and was concerned as much with child and woman labor as with any other phase. The World War temporarily awakened a widespread interest in farm labor, from the point of view of utilization of our potential labor resources; but this interest soon subsided.

Interest in farm labor matters has been unequal over the country. More studies have been made in representative parts of the North and West than in the South. In inquiries covering the entire country, the replies from the South have seldom been as satisfactory as those obtained elsewhere. This may be due to the fact that wage labor is used to a relatively small extent in cotton production.

Farm labor research in the United States has been carried on principally by three groups—federal and state agencies, and non-official social or economic groups.

Congressional committees or commissions have made several investigations of matters including farm labor. These have principally been surveys of existing situations and public attitudes. Some have been extensive studies, others only hearings upon specified topics.

As early as 1845, the Patent Office, with which agriculture was first connected in the federal government, made inquiries concerning farm wage rates. With the creation of the Department of Agriculture in 1862 this interest developed further, and in 1866 the first comprehensive collection and report on farm wages was made. Farm wage reporting has since been developed until now we have quarterly collection and publication of wage data. Other data now collected periodically include those of farm labor demand and supply, and of persons working on the farms of crop correspondents. Since the World War the Department of Agriculture has published field studies of wheat harvest labor in the Middle West, and of the characteristics of farm labor supply in two states; and a nation-wide survey of the perquisites of hired farm laborers. Seasonal distribution of farm labor has been studied as an incident to farm management projects in various parts of the country. A number of other aspects have been treated less intensively, often in their relations to other subjects.

The United States Children's Bureau has surveyed child labor conditions with particular reference to regions of industrialized or specialized agriculture. Some of the studies have included the work of mothers of child laborers. The United States Women's Bureau has made one study of berry and orchard workers in the State of Washington. The Bureau of Labor Statistics included agricultural wages in an exhaustive study of wages in industries from colonial times to 1928.

Information affording much data for labor research workers has been gathered by the United States Bureaus of Immigration and of the Census. Since 1909 the former has obtained occupational data of immigrants and emigrants. In 1850, and every 10 years since, the latter Bureau has obtained and published, usually in increasing detail, social data concerning farm laborers.

Studies into farm labor problems by state agencies have been conducted mostly by state agricultural colleges and experiment stations. The topics investigated have included wages, working conditions, seasonal labor distribution, harvest labor demands, child labor, and relations between employer and employee. Some of these have been parts of farm management studies.

Several state departments of labor or industry or health have made investigations concerning farm laborers. Occasionally special state commissions have made similar studies.

Certain non-official bodies interested in economic and social welfare problems, notably the National Child Labor Committee, the National Bureau of Economic Research, and the Social Science Research Council,

have made or outlined studies dealing with such topics as child, immigrant and migratory labor, volume of employment, earnings, and hours of labor.

Although considerable work has been done concerning the social and economic problems of farm laborers, particularly children, migrants and immigrants, and the economic and social consequence of their employment, the field has scarcely been scratched. The non-casual laborers have in some ways received less attention because problems relating to them have popularly been considered less acute.

Among the phases of research in farm labor upon which little or no work has been done may be suggested the following: characteristics of farm laborers (social, environmental, inherited), earnings, working and living conditions, causes and extent of unemployment, activities supplemental to agricultural work, standards of living, occupational hazards and diseases and their economic and social effects, and reduction of effort in task performance.

Agricultural labor problems in outlying American possessions have also attracted some study or statistical reporting. Hawaiian sugar and pineapple industries have long had to import much labor. Surveys of workers' welfare have been made by United States officials in the Hawaiian and Philippine Islands. Puerto Rico is characterized by a dense population that grows faster than its occupational opportunities. Labor and under-employment matters there have been reported upon by federal and insular authorities, and by an unofficial agency.

Farm labor research has never figured largely in the research of the state experiment stations. In 1931 four projects were listed under this head, one relating to efficiency in the use of labor, two to seasonal distribution, and one to housing of laborers.<sup>1</sup> In 1931 one of these had been dropped, but the interesting project at the Massachusetts Experiment Station, discussed in Project 22 in the report on Farm Management, had been started.

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(By Josiah C. Folsom)

The literature concerning hired farm labor in the United States is small in volume and limited in scope and much of it must be sought under the headings of related subjects. Thus, bits of information on farm labor are to be found in the literature of research in farm management, rural sociology and economics, immigrant aliens, migratory laborers, non-white races, employment offices, and occupational relations.

Information concerning the nature of research projects in progress but upon which no reports have been issued should be secured before undertaking a new research problem. Information concerning those of any specified type being carried on in the agricultural experiment stations of the United States may be obtained through the Office of Experiment

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(1) Published recently under the title, "Housing Conditions in Relation to Farm Labor Turnover," by Margaret Coffin. Maryland Bulletin 341.

Stations, United States Department of Agriculture, Washington, D.C. Information concerning those in progress within the Department of Agriculture may be secured through its Director of Scientific Work.

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## ANALYSIS BY RESEARCH PROJECTS

We now come to the main purpose of the report, which is to outline the field under discussion in terms of a suggested list of possible research projects, and to discuss methodology for each. It is intended to be representative of topics and methodology rather than a complete list of all possible projects. The projects were selected with the thought constantly in mind of an agricultural experiment station, or of the United States Department of Agriculture, or of certain other agencies that would be likely to engage in research on problems relating to farm labor. The choice of a project by such agencies depends upon what projects have preceded it, the resources of men and funds available, and a host of other considerations. Accordingly, the projects are not mutually exclusive. Some are comprehensive, calling for microscopic analysis of a large subject; others are confined to narrow subjects or limited areas. Under such circumstances, the broad projects may cover the same field as several narrow ones, but in far less detail. A research agency may combine several of the narrow projects into a detailed study of a rather large subject. This is most likely to be done when a limited area is to be covered. In some instances projects overlap, but approach the subject from different directions. In the discussion, an effort has been made to avoid duplication by cross-referencing to other projects, but a certain amount is inevitable.

Moreover, some projects have been listed that are not likely to yield tangible results, at least for the present, since neither adequate data nor satisfactory methods of attack are available. It still seems likely, however, that progress will be assisted by calling attention to these problems, and by stimulating deductive and qualitative analyses which may lead to the collection of more adequate data and the development of more

effective methods of attack. The limitations to present attack on such problems are, however, indicated in the discussion of them.

## GROUP A

### Projects Relating to the Supply of Farm Labor

What little research has been devoted to the supply of farm labor has mostly dealt with the superficial facts concerning the amount and character of the supply. In the projects in Group A, emphasis is placed upon factors affecting the amount and character of the supply. Project 1 treats all aspects of the problem in telescopic fashion, the three succeeding projects consider specific factors affecting supply, and the remainder deal with changes in supply and their measurement.

The principal value of these projects is the understanding they should afford of one important element in the farm economy and one important group in the rural population, which is needed as a basis for any intelligent guidance or assistance to agriculture. We shall not always be as indifferent to the well-being of our farm laborers as we are at present. The passage of the Wagner Act indicates an intention of the federal government to resume in earnest the program of farm labor placement that was well begun before 1920. We may soon have agencies concerned with finding suitable employment for workers upon farms, or trying to ensure an adequate labor supply for crop operations, who will need to know what activities require men, how much labor is at work on farms, how much more is available, and how much must be brought into the area at the peak of the season. The same agencies, to make contacts with prospective laborers, must know from whence workers come to the area regularly, and their activities elsewhere. Changes in trends of labor supply and demand may be cause or effect of changes in farming practices in an area. To what are they due? How do they, or will they, affect farming, or how will the laborers' employment be affected?

#### PROJECT 1. The Supply of Farm Labor in an Area (Joint with Land Tenure)

**Objective:** To determine, by classes, the amount of labor employed in an area such as a state or type-of-farming area, the characteristics of each class of labor, the sources, recent changes and trends, and the factors affecting supply (in terms of time sequence and geographical variations).

(By Josiah C. Folsom and John D. Black)

This project is planned as a comprehensive study of the major aspects of the problem of farm labor supply.<sup>1</sup> Secondary projects will develop

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(1) Supply is here defined in terms of the available farm labor force. In later projects it is defined in the more precise terms of the supply and demand equation.

particular aspects more intensively. The project will include all classes of labor except proprietor, and both the employed and the unemployed portions of the supply. The part of the project that deals with how the farm labor supply is recruited will include "agricultural ladder" information to show how the labor supply is depleted by tenancy and land-ownership, sufficient information on population to indicate the additions to supply by births and migration, and the losses by deaths and migration, and sufficient analysis of individual differences to indicate how these changes in the population affect the problem.

The importance of such a project is revealed by asking the following simple questions: Who are our farm laborers now? Where did they come from? What is the farm labor force of the area or region under study? What changes are taking place? We do not know the answers except in a general way, and we need to know them for several important reasons.

The area covered will ordinarily be a state or a section of a state which is fairly homogeneous with respect to type of farming and population characteristics. If the area studied can be said to be typical of a larger area or region, the results will have more significance.

The farm labor supply, actual and potential, of a region may be considered as consisting at any given time of (a) those actually working under the direction of farm operators, (b) unemployed persons able to work and looking for farm work, (c) persons who can leave non-agricultural activities in the area to do farm work, and (d) persons who can migrate to the area to engage in farm work. It will consist of both casual and regular workers, of members or relatives of the farm operators' families, working either on the home farm or on another farm; hired strangers from nearby or distant localities; people ordinarily engaged part of their time in other activities; people of nationality or race foreign to the region; inexperienced as well as experienced; persons working with or without wages. In some parts of the country persons statistically classed as tenant farmers are often practically farm laborers who receive as their payment a share of the crops they produce. The croppers of the Cotton Belt are an outstanding example, and similar classes are sometimes found in other types of farming.

The research upon this project will be outlined in two parts, the first based upon Census and other related data, and the second upon first-hand information collected by questionnaire or survey.

### *Part I. Analysis of Census and related data*

The first step in any analysis of farm labor supply is to analyze and present the data available in the Census and other related reports. Part of the information is available for no units smaller than states. In case the area studied is smaller than a state, it will still be worth while to analyze the data for the state to serve as a general background, and even to make comparisons with adjoining states.

Such analysis may include to advantage certain topics for which data are available by states for the last four censuses as indicated:

A. *From the Census of Occupations:*

The data and ratios presented in the introduction to this report, for 1930 and the Census periods back to 1900 or 1910.<sup>2</sup> Age-groups, nativity and parentage, all four Censuses.

Conjugal status by states in the Censuses of 1900, 1920 and 1930. Number of gainful workers by sex and color for the southern states, all four Censuses.

Numbers of operators, wage workers and unpaid family laborers in each 1000 gainfully employed in agriculture, over 10 years of age, and over other age limits for various Census periods. (See Tables 1 and 3 above).

Considerably more detail than the foregoing is available for the United States as a whole. Much of this detail is probably available on tabulation sheets by states and can be obtained for the cost of transcription.

B. *From the Census of Agriculture:*

Division of farm operators between owners and tenants, to be combined with laborers in each 1000 gainfully employed. See Project 3.

C. *From the Census of Population:*

The data upon farm population will show the composition of the part of the labor supply that is working upon the home farm and is worth presenting also from the point of view of the wage workers, since a considerable portion of the hired labor is from farms in the same localities. The 1920 Census was the first to separate farm population from rural population, but considerable additional data have been assembled from earlier Censuses in Census Monograph No. VI *Farm Population of the United States*. The 1930 Census presents data on the rural-farm and rural non-farm population in considerable detail by counties, and in somewhat less detail by townships, as to age-groups, sex, color, nativity and parentage, illiteracy and marital condition.

The data upon families, found in Volume VI in the 1930 Census, will also prove of use, particularly the classification published in 1930 for the first time according to number of gainful workers in the family.

The most significant use of these data will take the form of showing changes between Census periods in number of children in different age-groups, in families classified by number of persons and number of children under 10 years of age; also in nativity and parentage and the like. Such comparisons will reveal important changes in the amount of family labor available and its character. They may indicate an increasing need for hiring labor outside the family and outside the locality. These data can be compared with those upon the number reported as wage-earners and unpaid family

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(2) Pp. 1-4.

labor in the Census of Occupations. Unfortunately, such comparisons will be rendered difficult by the elements of non-comparability pointed out in the introduction to this report.

Comparisons of the foregoing with neighboring states will also be significant. For such data as are available by counties, inter-county comparisons will be worth carrying to the point of correlation with several factors, including type of farming.

The data upon school attendance given by states in considerable detail by age-groups, up to 20 years, can also be used to show changes in supply of family labor by Census periods.

#### D. *Birth statistics:*

Changing supply on farms may also be indicated by the birth statistics by selecting strictly rural counties, no separate classification of births for rural or farm population being made. The details of parentage and nativity, number of children ever born to the mother, number of children living, and occupation of father (available in some states) can be related to some of the foregoing occupation and population statistics for Census years and by counties.

Further details as to useful population and birth rate data available are given in the report in this series on Rural Population, under "Summary of Present Sources of Data" by Leon E. Truesdell. Also see Project 1 in that report, and Project 3 below.

### *Part II. Analysis based upon special surveys and questionnaires*

If it were possible to obtain full use of the Census schedules, and the Census schedule included secondary as well as principal occupations, few occasions would in the future arise for special surveys in order to obtain data upon the regular farm labor supply. The Census could hardly be taken in such a way as to cover the casual farm labor supply. The information now obtained in the enumeration concerning those persons reported as regular farm laborers would be sufficiently complete for many purposes, if it were possible to isolate the schedules by farms and tabulate them separately and then relate them to data in the agricultural Census. Obviously the Census will never be able to make detailed classifications of this sort for all the subjects upon which it collects information; but considerable headway in this direction should be possible in succeeding Censuses. For the present, anyone working upon this problem should first of all assure himself that part or all of the data desired cannot be obtained by transcription from tabulation sheets, or by having special runs made from punch cards.

Mailed questionnaires may be used to collect certain types of information concerning farm labor. In the studies reported in Wisconsin Bulletin 316, *Farm Labor in Wisconsin*, 750 returned questionnaires were used, and in Minnesota Technical Bulletin 4, *Wages of Farm Labor*, 1500. The form of the blank was much more acceptable in the latter. Further details concerning these two mailed inquiries are given in Project 20 below. If selectivity is likely to affect the validity of the results, how-

ever, information from such sources cannot be used. Checks with Census data can usually be included in the questionnaire. In the Wisconsin study above cited, the questionnaire results were checked by a reconnaissance field survey in which county agents, bankers, postmasters, merchants and leading farmers and landlords were interviewed in selected localities in twenty counties.

Probably the most important use of mailed questionnaires in such a project as this will be to obtain general background information for the state or other area, which can be used as a basis of selecting areas for surveys, and to fill in the territory between the surveys. The surveys will indicate to what extent and in what ways the questionnaire returns need adjustment for selectivity and bias.<sup>3</sup>

This project should not be limited to the labor actually employed upon farms at the time. It should if possible include also the potential labor supply for agriculture among the population classes not engaged in agriculture, whether occupied otherwise, and whether living in the vicinity in whose interest the survey may be made.

The problem, as it pertains to any section or type of farming, may be approached from two main directions, that of the local situation, and that of non-local sources of labor supply. The first may be subdivided as follows:

- (a) employed farm laborers;
- (b) unemployed farm laborers who spend most or all of their working time in agriculture;
- (c) unemployed laborers who spend most or all of their working time in non-agricultural occupations;
- (d) those engaged in other activities, paid or unpaid, but who can leave them for farm work upon demand.

The second line of attack may be similarly subdivided, but subdivisions (a) and (c) will probably prove relatively unimportant compared with (b) and (d).

The first line of attack, namely, from the local situation, will form the first and larger part of the discussion following.

To obtain detailed data on the foregoing, a field survey, even a canvass, in a selected area, of employed farm laborers and others willing to do farm work is requisite. Information can thereby be obtained as to present labor supply available and at work, and concerning the occupational experiences of the laborers for several previous years.

The purposes of the survey will dictate the types of farm and classes of farm employers and laborers and other sources of information to tap. Within the representative areas chosen, effort should be made to visit every farm conforming to the requirements of the survey within it, or some arbitrary selection of these, such as those in every fifth township, or every fifth farmer. Usually it will be wise to call upon every farm operator and obtain information upon a few main points. Brief questioning may show that the conditions of the study do not apply to some farms.

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(3) See the discussion of the use of mailed questionnaires in *Research Method and Procedure*.

These negative facts, however, are important in many surveys. When laborers on farms are being interviewed, a sufficient number should be reached to make a group representative of conditions of the study. On small farms this may mean every laborer, but on large ones only a few.

A survey at other than harvest time may be justified by a desire to study a situation at a particular period, or to reach a class of informants accessible then. Because most of the elements of the farm labor force of an area are concentrated at that time, further consideration is confined to harvest time, unless otherwise noted.

In many parts of the United States there are rather well recognized periods when year hands, tenant farmers, and croppers move from one farm to another. These are late in the calendar year and at its beginning. This must be taken into account in timing a survey among these people, especially if information is to be obtained concerning a large part of the year for the farms on which these classes worked. While a large percentage of croppers and tenant farmers move every year, some are practically tied to the same farms by their agreements, and move infrequently.

In addition to croppers there are in some areas classes of farm workers who are practically laborers, but who sometimes operate as tenant farmers comparable to croppers. They shift from laborer to tenant status more or less according to whether they believe they will make a better living in the one or the other. If they anticipate a season of high crop returns, they prefer to operate as tenants for a share of the crop; if they fear a poor season, they prefer the greater assurance of wage labor to low crop returns. Such shifts in status are much influenced by the experience of the previous crop year.<sup>4</sup>

Careful consideration must be given to the kind of information desired, to the sources from which it will probably be requested, to the framing of questions designed to bring it out, to the probable character of the answers received. Questions should be worded so that they will be readily understood, the answers concise, definite, and readily tabularized directly or in code. If a schedule is to be used over a wide area, it may be necessary to have different editions for different areas, modifying the wording or questions to make each edition more fully applicable to or better understood in the area in which it is distributed.

Usually different schedules must be prepared for different kinds of sources of information. Data obtained from farm operators will naturally concern numbers of laborers employed, periods of employment, work done, remuneration, manner and sources of obtaining labor.

Farm operators may be questioned concerning the farming and economic situation in their localities, and farmer's ability to hire labor; farmers' methods and experiences in obtaining labor, their opinions of labor supply, and their demands for help; also concerning sources of labor supply for their localities, the activities and localities from which laborers usually come; and of laborers' fitness for their farm jobs.

The information obtained from farm operators may be supplemented by the county agricultural agent in a general way. His education and

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(4) See Project 33.

training have given him a better general knowledge of economic conditions in his county and their relationship to those of his state and of the rest of the country. The agents of some counties having a large seasonal labor demand are active in placing farm help, especially at rush periods.

The data to be obtained from the laborer will include personal and family information, education, vocational training, vocational experience in and out of agriculture, methods of securing work, employment and unemployment, earnings, savings, attitude towards agriculture as an occupation.

Employment office operators are often fruitful sources of general information concerning the activities of farm laborers when unemployed in agriculture. Their offices may serve as gathering points for interviewing prospective farm laborers. Public employment officials (federal, state, or municipal) can give general information concerning the farm labor situation, the means taken to recruit farm labor, the population classes and the localities from which it comes, and their placements of farm labor. They also have economic conditions affecting employment clearly in mind.

Private employment and labor agents placing farm labor can frequently give helpful information.

School children move from some cities and towns to seasonal agricultural work in sufficiently large numbers to attract the attention of educational authorities. Rural school sessions in some states are adjusted to allow vacations at rush seasons. School authorities consequently may be sources of information.

The data from the sources indicated should be supplemented by some from state and federal agricultural and statistical authorities which will serve to explain and tie together data obtained in the field canvass. These will deal with production and economic conditions in agriculture and other industries, and their interrelationships; with prices of farm products, and farmers' incomes; with industrial employment, wage payments, and production; with net movements of population between farming and urban districts.

Other sources of information may be suggested as such a survey progresses.

The second direction of attack on the problem in hand is from non-local sources of farm labor of the area under consideration. This is necessarily somewhat different from the first, and is much easier if it is supplemental to it. Sources of information will be largely labor department officials, employment office operators, labor agents, transportation officials, school officials in some instances, county agricultural agents, and laborers themselves to some extent at certain times of the year. Some of the information needed from these agencies can be obtained by correspondence, but personal contacts and visits will be necessary for observation and best understanding of labor situations and movements, and laborers' attitudes. In addition, it may prove possible to interview many prospective farm laborers. They will be found at gathering places



in towns and cities, and en route from previous jobs and localities to the locality in whose interest the survey is made, and sometimes on jobs forming part of their series of jobs before they reach that locality. But there is usually not so much to be expected of such contacts with laborers as might be thought, because itinerants come from so many working places and localities to a given center of employment.

The data gathered in this second line of attack will be much less specific than those of the first with respect to laborers' actual experiences. They will contain facts of general and significant nature. They may be used by themselves to reach conclusions, but will be rather more easily interpreted and effectively used if in connection with a knowledge of the results of the first type of survey outlined.

The analysis of the data from field surveys will be simplified if tentative tabulations and correlations are outlined when planning the study. Correlations between remuneration or earnings of farm laborers may, for example, be made with one or more of the following factors: type of farm, locality, type of labor (casual, non-casual, seasons of employment), task, method of reckoning payment, sex, age, nationality, race, education, phases of occupational experience, marital status. In the case of croppers and similar tenant classes, some of the above factors may be used in correlations, and also area of crop worked, number in the croppers' families working on the family undertaking, grade and amount of product.

Interpretation and methods of reporting the results of a study such as outlined above will depend upon its objectives, the findings, public interest in the subjects involved, and the class of the public to be reached. Such a study may be published as a whole or in parts treating of particular subjects. From various motives the public is almost always interested in the discussion of wages and earnings; but it is concerned about other topics only when something unusual has aroused its interest.

## **PROJECT 2. The Relation of Population Movements to Labor Supply—Births, Deaths, Immigration, Migration, etc. (Joint with Rural Population)**

The supply of family labor working upon the home farms is of course directly related to the size of farm families, and this in turn to marriage rates, birth rates, and death rates. Attendance at school, however, and migration to cities are other factors of importance.

The Census and other data upon the foregoing are so incomplete or so confused by changes in enumeration practice that only general relationships can be discerned. Such data as there are, however, are worth analyzing from this point of view. The report in this series on Rural Population points out most of the difficulties and suggests methods to be employed. The 1930 Census classifies families under several useful new headings, for example, according to number gainfully employed, that will be useful. Wisconsin Bulletin 316 on *Farm Labor in Wisconsin* estimated that 70 per cent of the male farm laborers of Wisconsin in

1910 were farmer's sons. Thus a large proportion of the hired farm laborers were sons from other farm families. The decline in the size of farm families should affect this proportion also. The Census data, however, will aid very little in such analysis. For this, an enumeration is needed of the source of the farm laborers at different periods. The Wisconsin estimates were based upon questionnaire returns for 700 farm laborers. The requisite data can be obtained as a part of Project 1 as above outlined.

### PROJECT 3. The Relation of Land Tenure to Farm Labor Supply (Joint with Land Tenure)

(By J. D. Black)

Next to birth rate, the most important factor affecting the supply of farm laborers is the competition between labor, tenancy and ownership as forms of utilization of labor. The most effective method of showing this relationship is to compare the number in each 1000 of gainfully employed in agriculture who are laborers, tenants and owner-operators at different Census periods and in different states or areas. The writer made such comparisons at one time for Wisconsin and for Minnesota, as reproduced in the accompanying table and chart.

NUMBER OF EACH CLASS OF AGRICULTURAL WORKERS IN EACH 1,000  
IN WISCONSIN, 1880 TO 1910<sup>1</sup>

Census year	Laborers	Tenants	Owners
1880	292	65	643
1890	332	88	580
1900	332	94	574
1910	386	90	524
Total gain or loss	+94	+25	-119

<sup>1</sup> H. C. Taylor and J. D. Black, *Farm Labor in Wisconsin*, Wisconsin Bulletin 316, 1920, Table XI, p. 46.

Reference has already been made in the introduction to this report to several complications involved in the construction of such tables and charts, particularly the changes in enumeration practice with respect to the counting of women and children as gainfully employed, and the shifting of the date of enumeration between January, April and June. As a means of circumventing this difficulty in part, the Wisconsin and Minnesota data exclude all women, and children 15 years of age and under. A better comparison would have been in terms of gainfully employed males under 21 years of age, but this offers even greater complications in the actual handling of the published data because of changes in the age-grouping used by the Census.

Similar tables prepared for states in different sections of the country—the cotton states, the Corn Belt states, the wheat regions—would show very great differences both in the importance of the farm laborer stage and in the changes that have occurred.

The foregoing must not be interpreted to mean that tenancy and ownership act only as drains upon the supply of farm laborers. On the contrary the prospect of becoming a tenant and then an owner has been a major factor in securing such a supply and preserving it. When these

#### INCREASE IN LABORERS AND TENANTS, 1880 TO 1910

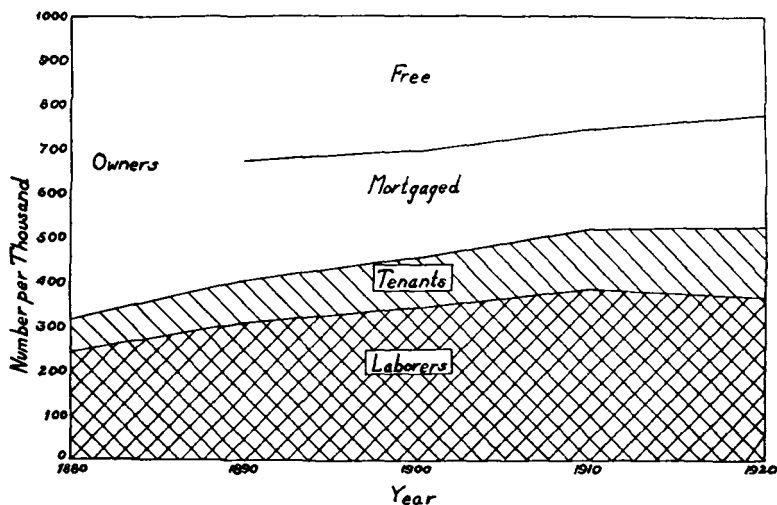


FIG. 6. Laborers as well as tenants increased faster than owners in Minnesota from 1880 to 1910. Between 1910 and 1920 both owners and tenants increased in relative numbers. This may reflect the decrease in size of farm families and the growing tendency of farm boys to leave the farms early in life.<sup>2</sup>

prospects have diminished, owing to a more rapid rise in land values or scale of spending than in wages of farm labor, the proportion of laborers has tended to decline.<sup>3</sup>

The foregoing makes clear that the relations of tenure to farm labor supply cannot be explained in a few simple statements or tables of figures. The so-called agricultural ladder needs to be studied in its entirety, and all the factors affecting it.

Following are several types of research projects which will be valuable for analysis of this problem:

- A. Comparative analysis of the Census data by states or smaller units if arrangements can be made for securing the data, along the lines of the foregoing discussion. The most significant part of the analysis will relate the differences and changes in proportions of laborers to such factors as nativity and nationality origin of the farming population, size of farm families, land values, size of farms, type of farming, wages of farm labor, proximity to industrial centers, and mortgage indebtedness.

(2) B. M. Gile and J. D. Black, *The Agricultural Credit Situation in Minnesota*, Minnesota Technical Bulletin 55, 1928, p. 29.

(3) H. C. Taylor and J. D. Black, *Farm Labor in Wisconsin*, Wisconsin Bulletin 316, 1920.

- B. Field studies of the agricultural ladder type, as outlined in Project 10 of the report on Agricultural Land Tenure. Probably more details than are outlined in Project 10, will need to be collected as to the farm laborer stage, including jobs held, types of work, on what types of farm, wages received, unemployment, savings, etc.
- C. Field studies of present farm laborers, in which data will be obtained concerning their experience as farm laborers, wages, expenditures, savings, plans for the future, etc. These can be combined with A if desired. In that event, a special schedule for farm laborers should be used, and the sampling must be planned so as to include proper representation of laborers as well as of tenants and owners. Such an inquiry could well be combined with those outlined in Projects 1 and 5.

#### **PROJECT 4. Quality Differences between Individuals and Social Inheritance as Factors Determining Farm Labor Supply (Joint with Land Tenure)**

**Objectives: To determine the quality differences between farm laborers, tenants, small and large owners, and groups in other occupations which draw upon farm labor supply, and how the supply of farm labor is affected by quality differences in the farm population; also how it is affected by differences in inheritance of wealth, education, skill and other attainments, and by other factors similar to or closely related to the foregoing.**

(By W. W. Wilcox and C. Arnold Anderson)

It is ordinarily assumed that persons born in farming territory have a better chance to become owners of farms if their parents assist them financially, or provide them with a useful education, or with training in good farm management and the like on the home farm; also that natural ability contributes to the same end. By the same token, a lesser degree of the foregoing may assist a country-born person in becoming at least a tenant or small farmer in due course; and those having these advantages in the least degree tend to remain farm laborers indefinitely or until well advanced in age, unless they drift into other occupations. In sections of the country where there is a small permanent farm laborer class, few are in such a disadvantageous position that they cannot pass out of the laborer class, and the prevailing age in the laborer group is low. Also in such situations migration to other occupations always plays a large role and most of the laborers making little headway as farm laborers give up trying to get a foothold on the agricultural ladder before the age of 30 or 35 and seek their fortunes elsewhere. In sections with a considerable permanent laboring class, as in the South, the opposites of the foregoing conditions tend to prevail.

The social process which is here involved is commonly called social stratification. Varying degrees of such stratification exist in different societies. The United States is commonly supposed to exhibit about as

little of it as any country; yet doubtless has a significant amount in some sections. Racial differences figure in social stratification in an important way, and nationality differences contribute to it. In our southern states, the tenant classes tend to remain the same from generation to generation, sons and daughters of tenants tending to marry within their own class, and owners likewise. Social inheritance is a factor in the sense that the tenant families accumulate little wealth during a generation, so that the sons of each generation must start almost from scratch. But doubtless biological inheritance also plays a strong role in it.

The same process looked at from the opposite angle yields the concept of *social mobility*. The whole process of movement from one social level to another is discussed in its broad fundamental aspects in treatises on sociology. Professor P. A. Sorokin's *Social Mobility*, and various readings in Sorokin, Zimmerman and Galipin's *Source Book in Rural Sociology* cover the ground rather thoroughly, the latter particularly from the standpoint of rural society. The economists have discussed the same general problem from the standpoint of the theory of wages in terms of the concept of "non-competing groups."

With the coming of the combine-harvester and the accompanying decline in the demand for migratory harvest labor in harvesting wheat and other small grains, the problem of geographical mobility of farm labor has become of less importance. For the present and near future the problem of the supply of farm labor will be more largely one of social mobility than formerly, involving mostly such movement from place to place as is represented by changes from farming to village or city occupations or the reverse.<sup>1</sup>

This mobility with which we are particularly concerned in this project is of three forms as follows:

1. From poor to better positions and opportunities as farm laborers
2. From farm laborer to higher tenure status
3. From farm laborer to other occupations, usually but not always accompanied by migration.

The different levels or strata are commonly supposed to represent different levels of ability. Doubtless, however, scarcity value is a better explanation in many instances. Those persons who possess capacities that are in great demand are well rewarded; it would be hazardous to say that this always means a high order of "ability." The lower strata probably represent low orders of ability for the most part; but they also represent in part the abilities that are too common to be appreciated or that do not happen to be in much demand. The higher levels also

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(1) "The Farm Labor Division of the U. S. Employment Service in 1932 made total placements of 783,000 workers, of whom 90,000 were for the wheat and small grain harvests and 371,000 for cotton picking. The majority of these placements were migratory workers. A member of the U. S. Employment Service stated to me recently that economic conditions in 1932 made available a larger than usual local labor supply, which diminished the demands for and movement of migratory labor and that when more nearly normal conditions of employment return, there will be again larger demand for migratory labor. There are still important movements of migratory labor to cotton picking in the Southwest, to truck, fruit, and cotton districts on the Pacific Coast, and smaller ones on the Atlantic Coast."—J. C. Folsom.

commonly represent a considerable measure of achievement as a result of effort and self-denial.

For all the foregoing reasons, prestige-value becomes attached to the better positions or occupations, and thus becomes one element in the problem:

- A project of this sort would seem to call for the following analyses:
- A. Of the personnel requirements of different forms of farm labor, tenure status and occupations competing for farm labor
  - B. Of the financial and other resources required by the foregoing
  - C. Of differences between individuals in the qualities or abilities associated with the foregoing
  - D. Of the structures of the community from the standpoint of the facilities or encouragement which it offers to the three forms of mobility listed above
  - E. Of the actual process of moving from one level to the other.

Considered from the standpoint of the individual, the factors which determine the relative status which he will occupy in the agricultural structure of a given locality, excluding chance and luck, may be classified into three categories: (1) His actual skill, his biological inheritance, his training, together with his ability to adapt himself by learning new procedures and to exercise consistently sound judgment; (2) the individual's ambitions, beliefs, aspirations, and views concerning the possibility of success in the occupation and in that particular community, his temperament, personality and character—mainly non-material factors; (3) the external cultural, economic and social conditions which operate beyond the control of any individual which set the limits to his progress and success. The family of which he is a member is here considered as external to him, and as conditioning his status in a matter of social inheritance.

These factors are of course eventually interdependent. The social conditions determine the general structure of the occupational structure, the relative importance of tenants and owners and the relative position of one condition to the other and the chances of moving from one level at a particular time. The first two conditions determine the success which one individual achieves in similar farming activity at the time of his intelligence, personality and attitude tests. Unfortunately, been prepared for use

in agriculture indicate that information tests based upon the varied tasks and decisions involved in farming give about the same results as intelligence tests and can be more widely used.<sup>3</sup>

Not less important than ability in determining the specific position which an individual holds in the economic and social structure are attributes of personality. It has been often suggested that agriculture in general and the specific strata of the occupation in particular both select and develop certain types of persons. No scientific data exist on this point, although it is important. No less important is the determination of the attitude of the laborers themselves toward their work, their station in life, their plans, etc. The attitudes of the other members of the community toward these same laborers completes the picture. The methods of ascertaining these attitudes are discussed in the report on Rural Social Psychology; but the possibilities of ordinary careful observation and interviewing deserve emphasis.

In addition to these data concerning the characteristics of the individual laborers, information concerning factors of a more definitely sociological or cultural nature are essential to an understanding of the changes that have occurred in the labor supply of the community and particularly the changes likely to occur. It will be an aid to farm management to know something about the probable future supply of laborment in production.

Although not so striking to observe as the phenomena of urban success in cities, the process commonly known as "climbing the cultural ladder" has characterized American farm life. The social structures or "pyramids" rural and urban, have existed on this side for more than a century. Movement between strata in these is common, and numberless persons have chosen to shift from one side of occupation to the other. For many decades the opportunities on the frontier of American agriculture attracted many persons. Since 1900, until very recently, the net attraction has been in the other direction. Increasing economic stress has made the life of the farmer in agriculture, and this has reflected itself in the attitudes of farm laborers. It has become increasingly difficult to attract laborers to cities for work on farms, even when it could be shown that wages and perquisites were greater than

#### *Procedure*

The procedure here outlined assumes

The project should be restricted to an area not too large to be sampled satisfactorily, and the results will be more significant if it is roughly homogeneous in respect of population type, systems of farming, and competing occupations; also if these conditions are characteristic of much other agricultural area.

Basic to any research upon the problem in this project are the facts and analyses called for in Projects 1, 2 and 3 above. If such research has not been done, a considerable part of it will need to be included in this project.

The major difficulty with the execution of this project is the circumstance that a large proportion of those who should be included for comparative purposes are no longer to be found upon farms, and it is impossible even by locating many of them in the villages and cities to reconstruct a sample of the persons out of which the now existing labor class was selected. This difficulty is, however, present in all studies in select. (8-7) of migration, and is discussed in Projects 7 and 8 in the report on Rural Population. The problem will be simplified if there is one major urban center within the area which is furnishing most of the competing farm labor; thus Dane county, Wisconsin, with Madison in its center with a population of fifty thousand and growing rapidly industrial would make a good unit for study from this latter standpoint.

Consequently, the study will fall into three parts, the environment, the occupations or statuses, and the individuals. The first should be a case analysis of the area in which all the external factors above listed as affecting stratification and mobility within and outside of the farm-laborer group are analyzed. The prevailing practices in regard to education of children, transfer of farm property and wealth from father to son, transfer of wealth from the farm to the city by the retirement of farmers to the city, and the inheritance of wealth by heirs who have migrated to the city, need especially to be examined.

The second part of the study will consist of an analysis of the work and functions performed by farm laborers of various grades on the farms in the area, of various classes of tenants as compared with laborers, and of various classes of owners as compared with the two foregoing. The actual field work will need the assistance of specialists in farm management, and the plans should be worked out in collaboration with them. The requirements of capital as well as of ability, training and experience should be included.

The third part of the project will consist of field study of a representative sample of individuals in all of the grades and ranks above mentioned, probably with a larger representation of the lower ranks than of the higher. A rather detailed personal history will be obtained for each person interviewed, the facts being ascertained so far as possible concerning biological and social inheritance and conditions of rearing and experiences that may have affected present status. Information should be obtained concerning the present occupation and status of all brothers and sisters, and probably uncles and aunts also. The records in school of these individuals, if still available, and of their children, should also be



analyzed.<sup>4</sup> Finally, the study should include if possible some sort of combined intelligence and attitude test or analysis. Obviously this must be developed very carefully, with assistance at every turn from psychologists, and with much preliminary testing before it is used in actual field work.

The study can if desired be extended to include occupational analysis and individual testing among the nearby urban groups which are competing with farm labor, as revealed by the information in regard to brothers and sisters of present farm laborers. This will prove difficult in many ways, and the results are not likely to be very satisfactory.

Even as outlined above, the project is probably more elaborate than many experimental stations will feel inclined to undertake. It can, however, be simplified considerably without losing too much of its value.

The final results will take the form of indicating the extent to which deficiencies in social and biological inheritance are keeping individuals in the group of farm laborers, and at various levels within this group, and thus maintaining a group of farm laborers of a given size at the time of the study. It should also furnish some basis for forecasting trends in the foregoing.

The data collected will also have value in explaining transitions within the higher tenure stages; hence the project can well be planned as a combined land tenure and farm labor study.

The recent Minnesota study (Wilcox, Boss and Pond, *Relation of Variations in the Human Factor to Financial Returns in Farming*, contains much that will be suggestive of procedures to follow in such an investigation.

### **PROJECT 5. Unemployment among Farm Laborers Considered in Relation to Supply**

**Objective:** To determine the extent of unemployment by classes among the farm laborers of a region, such as a state or type-of-farming area, its nature and causes, variations by years and seasons and differences by sections, the reasons, and the relation of the foregoing to the supply of farm labor.

(By Josiah C. Folsom and Lois Bacon)

Project 1 undertakes to determine the extent and character of the agricultural labor force of the area or region, both that actually employed at the time and that unemployed and in reserve; also the potential farm labor force. The purpose of this project is to determine how large a part of what may be called the actual labor force of an area or region is commonly unemployed or out of work during the various seasons of the year, the variations from year to year, the reasons, and the relation of these circumstances to the supply of farm labor.

<sup>(4)</sup> See Project 11 in the report on Rural Population for suggestions as to the use of school records.

Basic to such analysis is a careful determination of the agricultural farm labor force of the area or region. Some reference to this was made in Project 1, but no very definitive analysis was needed for that project. In this project, however, it is absolutely essential.

In an occupation which employs much more labor in summer than in winter, the determination of the labor force is difficult.

Agricultural hiring is highly seasonal. Much labor is used at the peak of the season, as at crop harvesting, cattle round-up or sheep-shearing. In winter a greatly reduced amount of non-casual labor is hired, and very little casual labor. Persons finishing farm jobs often can and do turn to other localities or activities, paid or unpaid. These vary widely from one district or type of farming to another. Conversely, laborers come to agriculture from many places and activities, as well as from the ranks of the unemployed. The visible labor supply of today is an agricultural hiring center may have been largely invisible yesterday, or will be so tomorrow.

The farm laborers discharged between the high and low points of farm activity may be divided into groups according to later work or locality:

1. By subsequent occupation or activity
  - a. Unemployed until engaged on other farm work
    - Hunting work at once
    - Not hunting for work until after a period of idleness
  - b. Engaged in non-agricultural occupations, usually for wages
    - Hunting work at once
    - Not hunting for work until after a period of idleness
  - c. Engaged in non-wage-paid activities
    - At home
    - At school
2. By subsequent locality of work or residence
  - a. Remaining in the locality in which quitting farm work
  - b. Leaving the locality in which quitting farm work

Either group, occupation or locality, includes subdivisions of the other. Furthermore, it may often be subdivided into sex, age, nationality, and racial subgroups.

Those who remain unemployed until they take other farm work may include those who look for such work at once, and those who voluntarily remain idle for a while. The latter are frequently laborers who prefer to loaf until they have spent their earnings, or over the winter.

Many laborers leaving farm jobs enter other wage-paying occupations as soon as possible. Some do this as part of a regular annual cycle of work comprising a series of two or more occupations; others take different kinds of jobs each time.

Some of those quitting work as farm laborers enter activities from which they receive no wage payments. Among these may be farm operators who had been working out temporarily, women returning to housekeeping in their own homes, and children or youths resuming their education.

Usually only some of those leaving farm jobs remain in or near the

locality in which they have been working. In some parts of the country most of them remain nearby, but in others the movement away is large, and often to considerable distances, for example, in the Wheat Belt of the Middle West, and in many trucking and fruit regions.

In some parts of the country, women and children constitute a portion of the farm labor supply, especially of casual labor. This is notable in the Cotton Belt, and in intensified fruit and truck-crop regions.

Foreign-born workers and their children are important sources of agricultural labor supply in some places. For instance, certain truck-crop sections along the Atlantic coast depend upon Italian and other workers of foreign birth or extraction, and large parts of the Southwest consider Mexican help vital to their agricultural operations.

In the South the negro presents a racial grouping, as do Orientals on the Pacific Coast.

From the foregoing it will be apparent that at one extreme, all the laborers needed to keep the farm work going at any time during the summer could be designated as the agricultural labor force, and any lack of employment of these at any time during the year could be called unemployment in agriculture. This is the basis upon which unemployment would normally be reckoned in the building trades or in coal mining. At the other extreme, only those employed upon the year-round basis might be called the agricultural labor force. An intermediate definition of some kind will obviously be more serviceable. One such classification might include those who depend largely upon farm work for their summer occupation, filling in the winter months as best they can. If these are unable to obtain work on farms during any summer, they may be called unemployed in agriculture at the time. Since, however, summer employment is irregular in most sections, a line has to be drawn somewhere between those who are employed for a month or so and those employed more or less continuously during the crop season. It will have to be a rather arbitrary line. Further difficulties in practice arise in handling those laborers who migrate from one region to another for harvest and other labor. How is it possible by surveys in one area to tell whether they may not be unemployed elsewhere? Those who habitually work at a given farm job each season—such as fruit harvesting—although only for a few weeks, may with justice be termed unemployed in agriculture, at least at the time, if their usual job fails them.

The definition probably depends largely upon the use to be made of the data. In the 1930 Census of unemployment, the purpose was to obtain an actual count of unemployed persons in the first year of the present depression.<sup>1</sup> Except for emergency purposes, a count in normal times would be much more useful. Probably agriculture, however, was less affected by the abnormal condition of 1930 than was urban industry. On April 1, the date of enumeration, there was certainly less unemployment in agriculture than in winter; but more than in mid-summer. In the enumeration each person was asked whether he or she was at work

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(1) See Charles M. Persons, "Unemployment as a Census Problem," *Journal of the American Statistical Association*, Vol. 25, 1930, p. 117.

upon the preceding day. If the answer was in the negative, a special unemployment schedule was used, on which a distinction was made between persons having jobs and persons having no jobs of any kind. Each person having a job, though not at work the previous day, was asked:

How many weeks since he had worked on that job?

Why was he not at work yesterday?

Did he lose a day's pay by not being at work?

How many days did he work last week?

How many days in a full-time week?

Each person having no job of any kind was asked:

Was he able to work?

Was he looking for a job?

For how many weeks had he been without a job?

The reason for his being out of a job (or for losing his last job)?

These returns were classified into seven divisions as follows:

- A. Persons out of a job, able to work and looking for a job. These are the strictly unemployed.
- B. Persons having jobs, but on layoff on the previous day, not including those sick or voluntarily idle. Obviously it would be difficult to draw the line between this class and Class A. To be included in this class, a person would have to hold a job or position, but be laid off for the time being, or at least on the day of the enumeration.
- C. Persons out of a job because unable to work.
- D. Persons having a job, but idle because of sickness or disability.
- E. Persons out of a job and not looking for work.
- F. Persons having a job, but voluntarily idle, without pay.
- G. Persons having a job and drawing pay, but on leave or vacation.

The last three of these classes include the voluntarily idle. The third and fourth classes are not unemployed in the strict sense. However, the fact remains that if those in Classes C to G were to go to work, many more would be forced into Classes A and B—not an equal number, but a large part of such a number.

What, however, is the significance of this classification for agriculture? With one exception (Class E, by sex), the Census gives agricultural data for Classes A and B only. Figures for gainfully employed are also shown for comparison. For the United States as a whole, Volume I gives number of farmers (owners and tenants), agricultural wage-earners, "other occupations in agriculture," and unpaid family labor. Volume II gives data for farmers (owners and tenants), farm managers and foremen, agricultural wage-earners, and unpaid family labor. The reason for the difference in the figures (aside from that caused by differences in classifications included) is that corrections were made in occupation statistics after Volume I had been published.

The data on agricultural unemployment are given by sex (and in the South, by color) for the United States, States and cities in both volumes, and also for geographical divisions in Volume I. In Volume II, however,

## UNEMPLOYED IN CLASSES A AND B BY SEX IN AGRICULTURE IN THE UNITED STATES

Agriculture	Gainful workers			Class A			Class B		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Farmers—owners and tenants . . . .	6,017,792	5,760,050	257,672	6,880	6,799	81	2,523	2,452	71
Farm laborers—wage-earners . . . .	2,727,035	2,555,935	171,100	103,301	97,817	5,484	29,285	23,805	5,480
Unpaid family labor . . . . .	1,645,223	1,171,687	473,536	—	—	—	—	—	—
Other occupations in agriculture . .	92,343	80,675	11,668	987	920	67	341	298	43
To. al. . . . .	10,482,323	9,568,347	913,976	111,168	105,536	5,632	32,149	26,555	5,594

Fifteenth Census of the United States: 1930, Unemployment, Vol. I, pp. 53, Table 21, and p. 54, Table 22.

the data by States and cities are for "selected" occupations. The omission of certain occupational data has little significance for agriculture. Detailed information is available for the United States, however, by color and nativity, age and period of idleness. Unpaid family labor was considered as employed. Instructions to enumerators were that farmers and farm laborers, including the members of the farmer's family who usually work on the farm, were to be considered at work if they had done anything whatsoever in connection with the farm or with any farming activity or supplementary occupation, on the day preceding the taking of the Census. Workers whose occupation was very irregular and uncertain, such as common laborers, were to be considered as working at a gainful occupation even though they had been idle a long time and had no immediate prospects of getting a job. No entries were made for young men and women who were looking for work for the first time—i.e., who had not already been employed as gainful workers. Thus a Class A unemployed agricultural laborer was one who considered his occupation (or industry) agriculture, who at some time had earned money at it, but who was not at work the day preceding the Census, though able to work and looking for a job. The Class B agricultural laborers were like those in Class A except that they had a job but were not working on it—i.e., were laid off without pay for some reason other than sickness or their own desire. The table following presents Class A and Class B for agriculture by sex.

The data indicate that unemployment as above defined is not of great significance in agriculture. On the day in April 1930 before the enumerator called, only 103,301 of the wage workers in agriculture, or 3.8 per cent reported themselves as not having a job, and 1.1 per cent as having a job, but laid off for the day or some longer period (Class B). Table 23 from the same Census report indicates that whereas the gainful workers in agriculture were 21.5 per cent of all gainful workers in the United States in 1930, those having no job but able to work and looking for a job (Class A) in agriculture were only 4.6 per cent of those without a job in the United States; and those in Class B in agriculture were only 4.2 per cent of all in Class B in the United States.

These data suggest that the extra peak load work of the harvest month is largely done by persons who do not report farm labor as their occupation, and that the "labor force" of agriculture is mostly at work on farms by April. However, the determination of the actual labor force for agriculture requires a more careful Census enumeration than the occupation and unemployment enumeration of 1930. Apparently the Census will need to collect more complete information as to different employments of workers during the year, leaving the classification to be made after the facts as to employment are available. The Swiss census accomplishes this in effect by requiring each person to report in detail his supplementary as well as his principal occupations.<sup>2</sup> The census needed should call

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(2) *Switzerland, A Guide to Official Statistics on Agriculture, Population and Food Supply*, Agricultural Economics Bibliography No. 35, published by the U. S. Department of Agriculture, (1932), pp. 85-105.

for information as to the employment and unemployment of each person enumerated during the preceding year, not on a single day. It might even attempt to ascertain whether employment in the preceding year was different from that usual in recent years. This census will have to be repeated only at intervals. Project 6 outlines procedures for collecting data annually that can be used to indicate changes in the labor force and employment.

Such a project might include as an important objective the determination of the facts as to the seasonal employment of labor in agriculture in an area or region, these facts to be used as a basis for planning for other employment at slack seasons either on farms or in other industries, or in connection with the analysis of earnings of farm labor and other farm labor problems. With such an objective the census would probably need to be supplemented by a survey of sufficient sample farms in the region to obtain representative data as to the number of persons employed at different periods throughout the year. From such data, the labor force needed in the agriculture of the area could be determined. The ratio of this to the actual labor force would be a figure of considerable significance, especially for comparisons between years and areas. It would constitute a measure of the relation of demand to supply based upon actual determination.

The foregoing information will reveal directly the effects upon the farm labor force of unemployment; but it would be more significant if supplemented by data applying directly to the laborer's occupational experience during a stated period, and certain data of a personal or social nature with which to correlate the former. Such correlations are needed to show how various economic and social factors affect the worker's availability for farm work. The schedule items relating to the laborer's occupational experience during a stated period may include questions concerning the nature, locality, wage rates, time of beginning, time of quitting, and the reason for quitting each job. The items relating to each period of unemployment may include inquiries concerning the way the time was spent (whether idle voluntarily or not, or at some named unpaid activity), the locality, jobs refused during the period, and the reasons for refusal. The personal-social data to correlate with the foregoing may include type of farm on which working when interviewed, working place, home, sex, age, race, birthplace, father's birthplace, marital status, number of dependents, education and vocational training, and individual and family earnings.

The survey outlined above can probably be most easily and effectively carried out at about the peak of seasonal hiring by canvassing from farm to farm in a selected representative area. Laborers of most classes will be found on the farms in greater numbers than at any other time of the year. A survey made at another time will miss some groups of casual workers partly or wholly. One made in the dull season will find comparatively few laborers on farms, mostly non-casuals hired by the year.

A survey such as this is designed to bring out, from its data on occupational experience and correlated personal-social data, the causes,

periods and variations in periods of the laborer's unemployment. It will shed some light on the relationship of sex, age, nationality, race, and fitness to occupational experience and wages and earnings received. It will also show interrelationships and interchanges of personnel between agriculture and other occupations and activities. All these pertain to unemployment and activities of laborers in relation to farm labor supply.

The foregoing will be from the laborer's standpoint only. It may well be biased by his experiences, lack of full information as to causes, and by his personality. It may, for instance, be unduly favorable to him, as in reporting causes of quitting jobs, or in giving reasons for idleness. The information could well be supplemented by information from other sources such as those outlined in Project 1.

This project obviously can be combined with Project 1 to excellent advantage in most instances, especially if any data are collected by surveys.

### **PROJECT 6. Current Changes in the Supply and Employment of Farm Labor in an Area**

**Objective: To develop effective machinery for reporting current changes in the supply and employment of farm labor in an area, and suitable measures and indexes for representing these, and to account for the variations from month to month and year to year.**

(By Walter J. Roth and John D. Black)

The intent of this project is to keep current the information of Projects 1 and 5 in so far as the number of laborers is concerned. *Supply* is to be defined in terms of the number of laborers offering or ready to offer their services to farmers, *employment* in terms of the number actually employed, and *unemployment* in terms of the number of persons belonging to the *agricultural labor force*, as defined in Project 5, who are out of work at the time of the report. A few items of supplementary information concerning the character of the supply may be added to the foregoing, but ordinarily the fewer the items included in a reporter's schedule, the better will be the response.

In practice, changes in demand will probably need to be considered at the same time as changes in supply. Hence the project relates closely to No. 18.

The United States Department of Agriculture is now obtaining quarterly reports from its crop and livestock reporters on the number of laborers employed upon their farms, and the condition of demand and supply in terms of percentage of "normal." The first item is definite and unmistakable in its meaning, and probably gives authentic results so far as the farms of the reporters are concerned. The difficulty is of course that these farms are far from representative as to size, character of the operator, and doubtless in other important respects. Probably few of the reporting farmers are tenants, and tenants probably do not



adjust their labor forces to changing prices and wages in quite the same manner as owner-operators.

For this part of the project, the principal needs are better sampling and classification of the results according to type of farming and tenure. The federal government may be able some day to supplement its present work along these lines. Meanwhile, any state may undertake the job, and probably could secure the cooperation of the Division of Crop and Livestock Estimates of the Department of Agriculture. The type-of-farming areas outlined in the forthcoming Census monograph will provide the territorial basis for the project, and the sampling will best be handled at the outset by taking the names of every tenth farmer upon the assessors' list or some other complete roll of farmers. Unless the small farms can be sorted out from these lists, the returns will include some farmers who employ no labor, but these can be dropped from the list in future years. The schedule should include the tenure of the farmer reporting so that the distribution of returns can be checked against the Census data. There will probably be reports from landlords as well as tenants. Many landlords will make better reports than their tenants since they will change farms less often. In the event that they do not know the labor force on their tenant's farms, they probably will not report.

The schedule should include also the number of acres in the farm, and possibly the number of cows or some similar item in order to check the distribution with the Census on the score of size of farms.

A second inquiry may have to be sent out in some parts of the state before a sufficiently representative list of reporters is obtained. Once this list is made, it will probably serve several years before it needs to be revised. Such reporting may be limited to hired labor only, but the better plan is to ask for the full labor force classified as proprietor labor, members of family working for regular wages, members of family not working for regular wages, and hired labor by the year, by the season, or month, and by the day.

The reports to Washington upon supply of and demand for farm labor assume that a farmer is able to distinguish between changes in the amount of labor that farmers stand ready to take at a given price and the changes in the amount that is available for hiring at the same price. If in a given year, business is less active, unemployment more pronounced in cities and prices of farm products are lower, then more persons are likely to be wanting jobs upon farms, and farmers are likely to be wanting to hire less labor; hence supply will be greater and demand less. But it will be hard to calculate whether the resultant situation is more determined by an increase in supply or a decrease in demand. Suppose, on the one hand, that farmers are hiring as much labor as previously merely because it is cheaper; it may be reasoned that demand is unchanged, but supply greater, whereas in fact they would surely hire less at the same price as before. If, on the other hand, farmers are actually hiring less, there will be more men looking for jobs even though the total labor supply available is no greater. The report upon demand for farm labor

probably should, however, be interpreted as an "intention to hire" report, somewhat analogous to the "intention to plant" report. It probably reflects the attitude of farmers towards hiring labor as influenced by the existing price and economic situation, rather more than actual hiring at the schedule of wage rates that develops. At least, one could reason to the foregoing effect for reports made before the actual hiring is done. The supply report may in significant measure reflect actual changes in the amount of the labor that has come into the area offering its services. Giving to these reports of supply and demand, however, the most liberal possible interpretation, it is clear that they make no definitive separation of changes in supply and changes in demand. In practice, one will always tend to be high when the other is low, and somewhere nearly the same amount high and low. They are probably better interpreted as two measures of the same factor rather than as measures of two different factors. An average of them, without regard to plus and minus signs, is therefore probably a better measure of the farm labor market than is the ratio of one to the other.

A further difficulty with these reports is that the crop reporters' concepts of normal may be subject to change over a relatively short period. The volume of farming in an area may shift, bringing changes in the opportunity to use farm labor, hence a change in its employment and presently a change in its supply absolutely considered. This index, related to this shifting base, takes no account of such increases or decreases in demand or supply. Department of Agriculture officials believe that the farmer probably understands normal as the "average" situation when conditions are somewhat better than "usual." That is, normal to him is probably a super-average. In favor of these two indexes used, it may be said that they are very easily obtained, and are readily computed. Analysis of the reports obtained, as outlined in Projects 18 to 21, is needed before their real significance can be determined. The correlation with business conditions there discussed suggests that they reflect changes in supply reasonably well. But this would still be true if changes in demand as well as in supply were measured by the reports for supply, since demand for farm products and hence for farm labor also reflects business conditions.

An alternative procedure would be an enumeration of all individuals available for farm work at the prevailing wage rate in specified sample areas, to be used in conjunction with reports of actual employment and wage rates paid, as outlined above. Repeating the enumeration at stated intervals would give an opportunity to develop relatives which would function as indexes of supply when used in connection with the wage-rate offered and the labor hired at the going rate, and interpreted in terms of the price level prevailing. Such an enumeration might be made by a local cooperator, e.g., a township official familiar with his area, a local postmaster, or a rural mail carrier. The areas should be the same for each enumeration in order to maintain a uniform base for comparisons.

## **PROJECT 7. History of the Farm Labor Supply of an Area**

A study of the history of the farm labor supply of an area would require as a foundation an analysis of such data as are available in the Census reports back to 1880 of the number of farm laborers, their age distribution and sex, the ratio of laborers to farmers, proportion of farm laborers working on the home farm, and their nativity, parentage and conjugal condition. All of this information is available in the 1910 Census volume on *Occupations* and much of it in the 1900 Census volume on *Occupations*. In 1890, less complete data are published in Part II of the volume on *Population*, and in 1880 in Volume I of the Census. The Census information concerning the farm population generally would supplement the foregoing in an important way, since a large proportion of the farm laborers during this period were farmers' sons. Changes in tenure, as outlined in Project 3, would also be significant. To give such an historical analysis reality, however, concrete details would need to be gathered from primary sources such as farm journals, local newspapers, local histories. Cross-section studies made so recently as that reported in Wisconsin Bulletin 316, *Farm Labor in Wisconsin*, now have important historical value. The years 1916 and 1917, when the material for this analysis was being assembled, were times of farm labor scarcity very different from the present.<sup>1</sup>

### **GROUP B**

#### **Projects Relating to the Use of Farm Labor in Production**

Most of the research outlined in this group of projects will be conducted in connection with farm management and production economics research. However, the emphasis is considerably different, and the subjects here indicated are not likely to receive adequate attention unless a special interest develops in farm labor as such.

#### **PROJECT 8. Variations in Labor Intensity by Areas**

**Objective: To determine the variations in the ratio of labor to land and to other factors of production as between different areas and to find the conditions associated with these variations.**

(By J. A. Hodges)

This project can be started best where a thorough study of the type of farming has led to the outline and description of type-of-farming areas. This work has been fully described in Projects 1 to 4 in the report upon research in Farm Management. If such a type-of-farming study

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(1) G. K. Holmes' early study of the *Supply of Farm Labor*, Bulletin 94, U. S. D. A., Bureau of Statistics, should be consulted by anyone working upon this project.

has not been made the completion of this project may necessitate doing some of the work ordinarily done in those projects. In either case a more thorough knowledge of the variations in labor intensity from area to area should differentiate type-of-farming areas more sharply than could otherwise be done.

It would seem best to conduct this project on rather general lines, not analyzing the supply of labor so thoroughly as does Project 1, or the qualitative differences as related to supply as in detailed a fashion as does Project 4. Some of the information in these projects, however, will undoubtedly throw considerable light on the problem of labor intensity.

Practically all the data necessary for such a general study can be obtained from Census material, supplemented in some instances by state statistics which are often given in more detail by local agencies.

While the approach might be made through the total supply of labor, a more definite figure can be obtained by using the quantity of hired labor, or the expense for hired labor. If expense is used, it must be adjusted for differences in wage rates in different areas, which may be considerable even within one state. Expense for hired labor, fertilizer, machinery and equipment, and feed can be expressed both per acre and per crop acre. The most convenient figure for machinery and equipment is investment per acre, but annual costs can be estimated from this if desired.

Hired labor per acre and these other cash items will vary with the predominant type of farming, the type of crop—for example, small-grain or row crops—the kind and type of livestock, the type of equipment or degree of mechanization, and no doubt the quality of the labor. Most of the other factors needing explanation will come in directly or indirectly through the explanation of those mentioned.

The total labor supply can be measured in terms of number of persons gainfully employed, or in terms of rural farm population. Numbers of persons gainfully employed are classified under farmers (owners and tenants), farm managers and foremen, and farm laborers, subdivided into wage workers and unpaid family workers. The proportion of the groups varies from area to area, helping to explain the variations in hired labor and in turn needing to be explained by other factors. Further study of characteristics of the population such as nationality, illiteracy and proportion of the sexes in the different groups, will be of value. If practice varies between different areas as to the amount of work done by children of different ages, as may well be the case if different systems of farming offer different opportunities for labor of children and youth, the age distribution should be carefully considered. The Census practice in this matter has been extremely variable from Census to Census, and needs to be examined thoroughly. It may vary from area to area in any one Census year.

Probably the most important factor causing variation in labor intensity is the predominant type of farming within the area. A more clear-cut explanation can be made if an area overwhelmingly of one type is clearly predominant. For example, it would be much easier to

explain the differences in labor intensity between Areas I and X in Kansas, as described in the accompanying table, than between Areas I and II, or Areas X and XI.<sup>1</sup>

DISTRIBUTION OF TYPES OF FARMING WITHIN FOUR TYPE-OF-FARMING AREAS IN KANSAS, 1930

Area	Percentage of Farms				Percentage of Farm Land			
	General	Cash grain	Animal specialty	Dairy	General	Cash grain	Animal specialty	Dairy
I	37	12	13	8	39	16	19	7
II	31	7	34	6	28	7	43	5
X	8	72	7	1	5	66	7	0 <sup>a</sup>
XI	9	74	10	1	7	78	11	0 <sup>a</sup>

<sup>a</sup> Less than  $\frac{1}{2}$  of 1 per cent.

Important other factors are the character and proportion of the different crops grown, and the proportion of crops and pasture. Cash-grain farms may be dominated by row crops, as Area IV in Kansas, or by small grain (especially wheat) as in Area X, or by a balance between row crops and small grain as in Area XI, as indicated in the accompanying table. Certainly labor intensity is greatly affected by these differences.

PERCENTAGE OF LAND IN FARM DEVOTED TO DIFFERENT GRAINS IN THREE CASH-GRAIN TYPE-OF-FARMING AREAS IN KANSAS IN 1930

	Area IV	Area X	Area XI
Corn.....	29	5	15
Grain sorghums.....	— <sup>a</sup>	2	— <sup>a</sup>
Wheat.....	9	34	28
Oats.....	5	— <sup>a</sup>	— <sup>a</sup>
Barley.....	— <sup>a</sup>	2	7

<sup>a</sup> Less than  $\frac{1}{2}$  of 1 per cent.

In Areas IV and XI, spring crops are more important than in Area X; this affects the distribution of labor somewhat and hence the amount used.

The number, kind and type of livestock will help to explain the variations between areas similar in many other respects. The proportion of labor to feeds and fertilizer is variable not only for type of farming which differs with respect to proportions of grain and livestock but also between different types of grain and different kinds and types of livestock. The number of horses and mules other than colts will aid in the description of the kind of power used.

While investment in machinery and equipment will give a considerable indication of the degree of mechanization, further explanation is really needed. The investment in machinery on a group of farms in Area

(1) These are the 1930 Census classifications of types of farm. These type-of-farming areas are described in Kansas Bulletin 251, *Types of Farming in Kansas*, by J. A. Hodges, F. F. Elliott and W. E. Grimes.

X (Kansas) was distributed in 1931 as follows:<sup>2</sup> 12 per cent in automobiles, 28 per cent in combines, 25 per cent in tractors, 9 per cent in trucks, and 26 per cent in other machines and tools. Similar data for all areas would be very useful in explaining differences in labor intensity. The number of the most important items of equipment—combines, tractors, etc.—will furnish a useful basis of comparison for areas practicing the same general system of farming.

The number of areas will ordinarily be too small and the number of independent factors too great for presentation by formal statistical methods. The graphic method of description should serve admirably to bring out the more important relationships and variations. Charts and graphs should be used to replace or supplement tables wherever possible.

Various other ratios may also be significant, such as between labor and equipment, equipment and land, labor input and gross value of product.

### **PROJECT 9. Variations in Labor Inputs by Individual Farms as Units (Joint with Farm Management)**

**Objective: To determine the variations between farms in an area in respect of the ratios of labor to land and other factors of production, and to find what conditions are associated with this variation.**

This project is discussed as Project 22 in the report in the series on Farm Management. If conducted as a project in farm labor, the objective would be somewhat different and also methods and procedures.

### **PROJECT 10. Variations in Labor Inputs by Operations as Units (Joint with Farm Management)**

This project is discussed as No. 22A in the report on Farm Management.

### **PROJECT 11. Standards of Labor Performance (Joint with Farm Management)**

Research relating to standards of performance and operating ratios in general is discussed in Project 26 in the report in this series on Farm Management.

### **PROJECT 12. Variations in the Efficiency of Labor Use by Areas (Joint with Farm Management)**

**Objective: To determine physical outputs per unit of labor input by areas or types of farming, and to compare these ratios and account for the difference in them.**

(By J. A. Hodges)

Efficiency of labor use may be expressed in terms of physical output per hour of labor or hours input of labor per bushel or hundred-weight or

<sup>(2)</sup> R. D. Nichols, R. S. Kifer and J. A. Hodges, *Farm Machinery in Southwestern Kansas* (unpublished manuscript of the Kansas Agricultural Experiment Station).

ton of output. Or it may be expressed in terms of values of labor input or output. Since by itself labor is not able to produce, the foregoing ratios depend upon the other production elements that are used with labor—land, machinery and power, fertilizer, livestock, feed, etc. A popular sense of the term efficiency of labor use, and the sense in which it is used in this project, assumes it to measure the combined output of labor and all these other elements per unit of labor. The amount of these other elements therefore becomes the principal factor in variations in efficiency of labor use.

Another possibility is of course to deduct from the total product that part of it which is contributed by the other production elements, leaving a net contribution for labor. This, however, is a measure of the efficiency of the labor itself rather than of the efficiency of its use. Moreover, such a net contribution can be calculated only in value terms, and several serious difficulties arise. This problem is analyzed in Ch. VII of Black and Black's *Production Organization*.<sup>1</sup>

The efficiency of labor use depends in part upon the quantities of the other production elements used with it. Certain of these ratios may be designated as giving output at "least cost" or at "highest profit." This project does not concern itself with the determination of these ratios; its problem is that of ascertaining the ratios of labor input and output that exist, regardless of the economy of these combinations.<sup>2</sup>

Statements are commonly made concerning the efficiency with which labor is used in the production of wheat or some other crop. They seem simple enough on their face. Actually, such computations may be difficult to make and may contain a large element of estimate, because commonly more than one product is produced on one farm and labor is distributed between the various products in complex ways.<sup>3</sup> The problem may be attacked on several bases, outlined as follows:

- A. *Comparisons between type-of-farming areas*—in terms of ratios of value of all products to physical inputs of labor, best expressed in some form of adult man-labor equivalents. The product must be expressed in value terms since this is the only basis upon which the different products can be combined. The same prices should be used for the different areas compared, the prices being interpreted essentially as weights. The results will also be affected if adjustments are made for changes in price from year to year. Comparisons upon the foregoing basis can be worked out from census data and will be useful in comparisons of type-of-farming areas.
- B. *Comparisons between systems of farming as wholes*—like the foregoing except that they are worked out for groups of selected farms practicing particular systems of farming. If there is one principal product it will be useful to express the results in physical terms for comparisons between individual farms, as in Project 13.

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(1) Henry Holt and Company, New York, 1929.

(2) *Op. cit.*, Chapter VI.

(3) See Project 14 for discussion of the concept of efficiency.

C. *Comparisons between individual products* (or "farm enterprises")—obtained by recording labor inputs separately for each product. The results will be in terms of physical outputs and inputs. A single product may be considered by itself, or all the products on the farms may be studied at one time. The discussion following assumes one product or enterprise at a time. If the comparisons for this enterprise are by type-of-farming area, the combination of enterprises most usual in one area will differ in varying degrees from the combination found in other areas. The type of production may be more intensive in one area than in the other depending upon whether the crop in question is grown as the chief source of income or to fill a place in the rotation or upon other factors. In other words, all the complementary, supplementary, or conflicting relationships existing between the crop considered and other enterprises will affect the quantity of labor used. The degree of mechanization and the quality of labor must also be considered. It is assumed that the general differences in soil, climate and other physical factors will be included as background material for the differentiation of the type-of-farming areas.

It will be necessary to select in each area sufficient records to obtain a representative figure per hour of labor where the combination of enterprises and the methods of operation are typical of the area. The problem of sampling will require a careful definition of the universe in terms of types of farm to be included. The data may be obtained from surveys or from supervised records. While records of the whole farm should be included, especial care should be made to include all data for the particular enterprise being analyzed. Data on the other products will be needed to explain the variations in the one in question.

The objective of the analysis will be to select from the group of records the most representative figure for the area. Even within a well defined type-of-farming area, variations in combination of enterprises, size of farm, and other factors may make several figures for each area desirable, each to be representative of specified conditions. The selection of the particular figure might well conform in general to Marshall's idea of the selection of the representative firm.

The results may be presented in tabular form, supplemented by charts. A few farm set-ups representing the several areas and minor differences within the areas to which the ratios of output to labor input apply would help to explain the variations in a more concrete form.

Analysis upon the latter basis will ordinarily not be worth the expense involved except as it may be worked out from records collected to serve as a basis for analysis by individual farms, as in Project 13, and in various forms of farm management analysis as outlined in the report on that subject.



## **PROJECT 13. Variations in Efficiency of Labor Use between Individual Farms (Joint with Farm Management)**

(By J. A. Hodges)

The procedure suited to such a project is that outlined in B and C in Project 12 except that the emphasis will be upon differences between individual farms.

If a statistical approach is to be followed, the number of cases must be increased sufficiently to make analysis of individual variations by correlation methods possible. A considerable number of variables will be involved, and most of the relationships will be curvilinear, which will further increase the number of farms required. There are three outstanding problems in such an attack: that of sampling, the statement of the variables, and the proper selection of the units in which the variables are to be expressed. All three problems have been discussed in general in *Research Method and Procedure*. The statement of hours of labor illustrates one type of these difficulties. The type of labor force will vary from farm to farm, including in some instances only the farm operator; in others, operator and hired labor, but in varying proportions; in others, operator, hired and family labor in varying proportions. The last mentioned is always difficult to measure as a physical quantity or in any value relationship.

The foregoing analysis will be more successful if the farms are all practicing about the same system of farming than if there is wide variation in crops grown and livestock produced. The differences in efficiency of labor use obtained will be more definitely assignable to known factors.

## **PROJECT 14. An Historical Study of the Efficiency and Intensity of the Use of Labor**

**Objectives: To determine the changes that have taken place, as far back as data are available, in the intensity and efficiency with which labor is used.**

(By John A. Hopkins, Jr.)

A clear historical example of a variation in *efficiency* of labor would require a change in the rate of output per unit of labor *without* change in technique of production or in the proportions in which the other elements are used. In the strict sense, labor efficiency may be increased by training laborers to attain greater proficiency by elimination of waste motions, or more rapid performance of necessary operations.<sup>1</sup> It is also promoted by specialization, either between farms or when routine operations are moved from the farm into factories. In such cases it would be an error to attempt to measure the increasing efficiency of labor on the farm

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(1) W. Seedorf, *Landarbeitslehre* (Friedrichswerth, 1926).  
L. Bismarck, *Methodik und Technik der Arbeits-beobachtungen in der Landwirtschaft* (Berlin).

W. Lüders, *Die Erhöhung der landwirtschaftlichen Arbeitsleistungen durch Anwendung des Taylor-Systems* (Berlin).

without correcting the farm input of labor for the change in number of operations performed. This project, however, also deals with the *efficiency with which labor is used*, as this concept is defined in Project 12, namely, in terms of output per unit of input of labor, regardless of the amount and kind of the other elements used with it.

Most of the historical increase in output per unit of farm labor may be attributed to the increase in amount of power applied per worker. Another part is due to the development of more efficient implements. In neither part does the cause for the increase in product result from labor directly applied; it arises rather from changes in form or amount of one of the other elements in production. It is a change in efficiency of labor use, and not of labor itself. Similarly another portion of the historical increase in output is properly attributable to improvements in the technique of farming, such as higher yielding strains of crops, or livestock rations which give greater gains per pound of feed consumed. This is more of an influence of management than of labor.

*Intensity* is ordinarily thought of as the ratio between the amount of labor and of land used in the production process. Probably the simplest means of labor intensification is by the repetition of the same operation, as by additional discing or harrowing in preparation of the seed bed, or by additional cultivations while the crop is growing. A second method is by the more thorough performance of the same operations simply by the use of *more* labor. Intensification accomplished by the application of more capital rather than by more labor per unit of land may take the form of fixed capital in buildings or machinery, or circulating capital as exemplified by the use of more feed per cow or more fertilizer per acre of crops. Greater applications of labor are likely to be required, incidentally, in order to handle the greater quantity of feed or fertilizer, but the variations in output should not be attributed to labor alone.

#### *Analysis by enterprises*

It may be possible to obtain some clear indications of changes in intensity on a specific crop in a limited area and during a limited period of time. Thus a more sparing use of labor on the corn crop in central Iowa, due to a sharp decline in the price of corn, might be revealed by a study of labor records and crop histories on a group of farms in years preceding and following this change, in the form of a reduction in the yield of corn, a reduction in labor used on the entire farm, or a shifting of effort by concurrent intensification on other crops. Records of feed consumption and livestock production might show the effects of the less intensive methods with corn on livestock enterprises and help appraise the degree of success with which the farm organization had been adjusted to the new value situation. At the same time, careful examination should be made of the technique used before and after the change in value. If changes appeared in any important techniques, allowance must be made for this before attempting to evaluate the results of reduced intensity.

In similar fashion a study of changing efficiency of labor and of labor

use is likely to be more satisfactory if it is confined to such efficiency in a specific enterprise rather than extended over the total agriculture of an area. Thus a study of the changing efficiency of labor use in wheat growing in western Kansas from 1920 to 1930 would be very interesting and valuable in explaining trends of production in that area. A similar study of wheat production in Pennsylvania during the same period might help to explain the divergence in many of the agricultural trends in the two areas. On the other hand, a study which attempted to combine all Pennsylvania enterprises, wheat, corn, tobacco, market milk, etc., into a single study of farm labor efficiency would probably have relatively little meaning.

#### *Analysis by operations*

The labor on an enterprise is applied in a series of specific operations. When an improvement in efficiency occurs it is on one of these operations. The improvement that saves labor in plowing for potatoes will do the same for corn or any other crop for which the land is plowed. To a study of labor efficiency on a specific operation, labor records of the time actually required and a careful description of the technique used are essential. Such information is likely to be difficult to obtain for previous periods. Occasionally old records may be found which give exactly the data required, but more often it will be necessary to interview a number of men who were farming on the dates in question. Careful questioning may be expected to bring out some or all of the information desired on the type of implement, size of team, time required per acre or other unit, number of times the operation was repeated, etc.

On the more common operations it may also be possible to obtain information on efficiency in previous periods from early bulletins, publications of the Department of Agriculture, Census publications, periodicals, etc.<sup>2</sup> Most studies of this type will involve the use of fragmentary information from widely different sources. Judgment must be exercised in discounting such information and in discovering causes of discrepancies.

Care should be taken in such studies that the figures on labor input represent the typical degree of efficiency at each time interval and not typical efficiency at one period and a high or low degree of efficiency at another. Similar caution should be observed in studies of intensity. If the study is concerned with the labor used on an entire enterprise or on whole farms, one should observe whether precisely the same operations are performed at each time period. Some enterprises have come to be of a more restricted type in recent decades because various operations have been transferred from the farm to the factory. Other operations, such as the thinning or replanting of corn by hand, have been discontinued entirely.

(2) For valuable sources of information of this type see:

H. W. Quaintance, "The Influence of Farm Machinery on Production and Labor," *Publications of American Economic Association*, Third Series, Vol. V, 1904, pp. 791-904.  
"Hand and Machine Labor," *United States Commissioner of Labor, 13th Annual Report, 1898*, Vol. I, pp. 80-94.

*12th United States Census*, Volume V, pp. xxix.

*8th United States Census*, Volume on Agriculture, pp. xi-xxix.

*Efficiency of labor use on the farm as a whole*

This may lead to the construction of indexes of the size of plant per worker (intensity), or of the output per worker (more nearly related to efficiency). In the first case the index may be constructed by combining relatives indicating the size of each crop and each livestock enterprise. Relatives for different enterprises may be combined by the use of weights based on the average amounts of labor required, probably at the present time, in handling, for instance, an acre of corn, an acre of potatoes, a dairy cow, or a brood sow, etc.<sup>3</sup> Even these (constant) weights will involve some difficulty because of the effect of the uneven progress of invention upon different operations. Such an index may be useful in the preliminary exposition, but can hardly be depended upon as an accurate and significant measure.<sup>4</sup>

If it is desired to measure the general efficiency of production, or efficiency of labor use, as the phrase is above defined, an index of total output per worker may be developed as a preliminary step. This too will involve some difficulties. First it will be necessary to correct the number of workers for variations in the length of the working day as between decades. Next, it must be decided whether the index is to be in physical terms or in terms of value. Each type will have characteristic defects. If the measurement is in physical terms the quantities of different products might, perhaps, be weighted on the basis of their values at some base period. If it is in value terms, corrections will need to be applied

(3) For a good example of this method see A. W. Ashby and J. Llefelys Davies, "The Work Efficiency of Farm Organization in Wales, 1871-1921," *The Welsh Journal of Agriculture*, Vol. V, 1929.

(4) The following table from C. L. Holmes' study of *Wages of Farm Labor*, Minnesota Technical Bulletin 4, 1922, p. 43, is also suggestive as a measure of changing intensity of labor use:

AMOUNT OF LAND, MACHINERY,\* AND HORSES USED PER MAN ENGAGED IN AGRICULTURE IN MINNESOTA, 1880-1910

Date	Actual number of units				Percentage of change			
	Land (acres)		Ma- chinery (value)	Horses (num- ber)	Land (acres)		Ma- chinery (value)	Horses (num- ber)
	Total	Im- proved			Total	Im- proved		
1880	109.2	59.1	\$106.69	1.7	100.0	100.0	\$100.0	100.0
1890	110.7	66.0	100.68	2.3	101.3	111.7	118.2	130.5
1900	111.9	78.6	128.27	2.3	102.5	133.0	177.8	134.5
1910	108.5	77.0	205.19	2.4	99.1	130.3	190.4	137.9

\* The figures in the first machinery column were found simply by dividing the total farm investment in implements and machinery as reported by the Census, by the number representing the men engaged in agriculture. The figures do not show the actual increase in the use of machinery because the money investment depends not only on the amount of machinery used but also on its price. It was necessary, therefore, to derive the percentage of change for machinery by a different method from that used for the items in which we have non-money units. This was done by first getting percentage-of-change figures on machinery prices as given in Table XII. This gave the percentage-of-change figures used in this table. They are only an approximation to the actual rate of increase in the use of farm machinery in Minnesota agriculture, but it is believed to be a fairly close one.

for changes in the price level. Even this will not prove entirely satisfactory because values of product per worker depend on the choice of enterprises as well as upon the amount of each product. This choice depends upon prices of labor as compared with prices of various farm products. That is, it will vary with the optimum degree of intensity.

It should be stated again that in these latter types of study, we are measuring not "efficiency" or intensity of labor itself, but rather the efficiency and intensity with which labor is used. Even so, these measures rather strain our logic, because we know that production does not result from the joint operation of labor and land alone. Even the increase in output which comes from more thorough and scientific training of laborers presupposes effective planning and effort on the part of the entrepreneur perhaps more than of the laborer. Indeed an increase in "efficiency" may occur without conscious action even of the farm entrepreneur, as when he buys a new grain binder or tractor without being aware of just what improvement it contains. In our study of intensity, only by courtesy to labor can we attribute a change in output to a change in its ratio to land when the amount of management, the capacity and efficiency of machines, the formulae for fertilizers, the varieties of crops and perhaps some of the basic techniques of handling them have all been changing simultaneously with the number of farm workers per square mile of land. The research worker who is studying historical changes in agricultural production together with simultaneous changes in the number of farm workers has not completed his job until he has uncovered the specific changes in technique and in available mechanical aids and has definitely related these to the consequent changes in output per worker.

**PROJECT 15. Layout and Planning of the Work of the Labor Force as Affecting Efficiency of Labor Use (Joint with Farm Management)**

**PROJECT 16. The Economical Use of Family Labor (Joint with Farm Management)**

This subject is discussed briefly in Project 23 in the report on Farm Management.

**GROUP C**

**Projects Relating to the Farm Labor Market and Wages of Farm Labor**

The projects in this group deal only with some of the more obvious and concrete aspects of the problems of wages of farm labor and the farm labor market. A student wishing to delve into this problem more deeply will need to familiarize himself with the general body of theory concerning wages.

## **PROJECT 17. The Structure, Organization and Functioning of the Farm Labor Market in a Region or Area**

**Objective: To segregate and describe all the agencies, institutions and parties involved in the farm labor market, including their localization and space relationships, and their behavior in the wage-making process.**

(By R. L. Mighell)

This project deals with the market area for farm labor along somewhat the same line that the projects on the structure of markets and market areas in Bulletin No. 7 of this series on research in Marketing of Farm Products deal with the market area for farm commodities. The discussion in Project 3 in Bulletin No. 7 is especially pertinent. The same general type of analysis can be applied here, although certain important distinctions between the characteristics of farm labor and farm commodities should be noted. First, the services of labor in a free society change ownership but once in the marketing process. Hence, unlike many of the commodity marketing institutions, none of the agencies operating in the labor market, except the original buyers and sellers themselves, has possession of the services of labor. The functions performed by the marketing agencies have entirely to do with facilitating this single exchange between the laborer and the employer. Second, the fact that wage contracts, either actual or implied, extend over a period of time and are frequently renewed without direct reference to parties other than those immediately concerned means that formal market institutions directly influence a far smaller proportion of the total transactions than is the case with similar agencies in commodity fields. Furthermore, a large proportion of the initial hiring of regular labor in most farm communities is done at first hand between the farm proprietor and neighboring acquaintances or at the most as the result of a contact through such informal agencies as local grain elevators, stores, pool rooms and similar gathering places.

A first step in this study would be to list all the agencies and institutions in the area having anything at all to do with the wage-making process, with their locations, number of different kinds at different places, and their relative importance individually and collectively. The list should include both formal institutions such as public and private employment agencies, welfare agencies, county agents, railroad and immigration agencies concerned with farm labor; and such informal sources of information as were mentioned in the preceding paragraph. Large-scale or corporation farms, if occupying an important place in the area, should also be considered. In a highly industrialized area it is conceivable that some attention should be devoted to the structure of the industrial labor market and its interrelationships with the farm labor market.

Background information with respect to the relative importance of formal and informal agencies of all types, and methods by which contacts between employer and employee are established, might be obtained by a brief schedule mailed to a large list of farmers in the area. The

sample should be sufficiently complete and representative to yield a reliable measure of the relative number of wage contracts for different classes of labor negotiated by various means. A few questions covering type and location of farm, type of labor, wages paid, and similar points could probably be obtained at the same time; or this project could be combined with another calling for information of similar or related types—some of the projects in Group 1, for example.

The next part of the investigation would proceed to treat the individual institutions as separate units and include detailed case studies of each of the important agencies. These studies would include a complete picture of exactly how each agency is set up, how it is related to other institutions, what types of labor and farmers it serves, and what functions it performs. For example, a study of a private employment service would show the internal organization and operation of the agency, including a description of all the functions performed, such as listing and classifying current and prospective labor demand and supply, advertising, advancing credit, and rendering aid in reaching satisfactory wage agreements. The records of such agencies will upon analysis yield significant information as to types of labor and farmers served by such agencies, the proportion of successful placements, etc., as outlined in Project 34.

A more difficult part of the investigation would have to do with the treatment of informal agencies such as local stores and other places which serve as clearing houses of information, and with such methods as advertising in local newspapers in areas of surplus farm labor. Personal interviews covering a representative sample of both laborers and farmers who have used these and similar methods would throw light on their economy as compared with the more formal institutions.

A further stage of the analysis would attempt to explain why the various agencies are spatially related as they are, why they are performing the functions they are and why they are following their present methods. The final step would be to compare alternative locations, agencies and structural set-ups with the existing arrangements. For example, a portion of the area not at present served by a public employment office might be benefited if one were established. Or an existing agency might by more careful classification of available farm labor supplies and demands make possible a more economical distribution of labor. This sort of procedure would involve a comparison of present costs and results with the probable costs and results under the proposed arrangement. Doubtless this would include a large element of conjecture, but the careful investigator would nevertheless be able to offer useful estimates of the benefit derivable from the proposed change.

Some discussion bearing upon the subject of this project is found in Wisconsin Bulletin 316, *Farm Labor in Wisconsin*, and in Don. D. Lescoghier's *The Labor Market*.

## **PROJECT 18. Measurement of the Demand for Farm Labor**

**Objective: To develop measures for changes in the demand for farm labor and methods of obtaining the data and information needed.**

(By R. L. Mighell)

The analytical basis for this project is developed in Project 6 in connection with the discussion of the measurement of the farm labor supply. One line of research is to test out the estimates of change in demand now published by the Bureau of Crop and Livestock Estimates; another is to set up other methods and test the results. One method of testing is to relate the changes in demand indicated by these measures to the factors that in theory should be associated with them to see how consistent is the correlation. It was suggested in Project 6 that the reports made upon demand for labor may perhaps really be "intentions to hire" statements and hence truly reflect changes in conditions determining the amount of labor farmers will want. Perhaps reports could be arranged which will more nearly reflect such intentions.

Another possible method of testing measures of changing demand for farm labor is to use the results in an attempt to derive demand and supply curves for farm labor as outlined in Project 19. Any curves obtained from such analysis must surely be related to conditions likely to influence demand. In the end, therefore, the measures developed may prove to have been constructed largely from those factors which have been shown to be most highly associated with apparent shifts in the demand curve for labor in the past, modified in the light of current trends and developments. In any case, Project 19 will furnish the basis for most of the analysis needed in this project; and much of the work of this study will consist in bringing the results of that project up to date and in developing methods of assembling the data and information needed to keep them up to date. The latter problem should be attacked along the lines suggested in Project 6.

## **PROJECT 19. The Factors Associated with Changes in the Demand for Farm Labor in an Area, and with Changes in Wages of Farm Labor from Year to Year**

(By R. L. Mighell)

The objective of this study is to furnish an explanation of changes in demand for farm labor and in wages. What we are most interested in, of course, are the current and prospective changes. Estimates and forecasts concerning these must be based on past relationships and trends as well as on anticipated changes.

Such a study should have available the results of several of the preceding projects, in particular Projects 6 and 14. Likewise information from farm management studies in the area is highly desirable. In this way, the relative number of different classes of labor employed in the



area, the historical changes in supplies and intensity of use, and something of the prevailing farming systems would be known. Time series of wages as collected by the United States Bureau of Agricultural Economics supplemented by the Census and local information will furnish basic wage data for the study. If these wage data are not sufficiently representative for the area included in the study, or are deemed not accurate enough, a more appropriate series should be developed from historical records.

Three procedures may be followed. The first and simplest, and the one usually employed, is to compare the appropriate wage series with time series of supply and demand factors known to be related to wages,<sup>1</sup> such as rents, prices of farm products, farm incomes, prices of machinery, and business activity. Commonly this has been done simply by plotting the several series on line charts and then comparing trends and other changes in wages with the movements in the various related factors. There is little purpose in reducing such analysis to definite quantitative terms. This general method, when carefully followed, may yield very valuable results. In many instances it will be the only method possible either because of lack of data for carrying on more refined analysis or because the available research personnel does not have adequate training to carry out the procedure outlined below.

An alternative procedure is of course to attempt to construct supply and demand curves for labor, measure the shifts in their shape and position over time and then relate these shifts to the factors associated with them. Like the usual supply-price curves, a curve of amounts of labor hired at various wages will probably show neither a demand nor a supply curve, but some confusion of the two, and hence procedures based upon it will have doubtful value. This, however, can be tested in various ways. In particular, the reports of the Bureau of Crop and Livestock Estimates upon labor employed and demand and supply can be tested for their consistency, not only taking the country as a whole, but also comparing state with state. If demand is shown as declining more than supply, wages should decline, but the amount of labor employed might or might not decline, depending upon the slope and change in slope of the curves. If these relationships, and relationships to conditions affecting demand and supply, are studied carefully and in detail from year to year, and state to state, some conclusions should be reached as to the relationships of demand, supply and wages, unless the reports prove to be worthless.

Given such a measure of the shifting of the demand curve over time for labor in the area in question, the next step would be to relate these changes in demand to the various factors associated with them. Simple line chart comparisons between the shifting of demand for labor and such factors as price changes of the principal farm products in the area, changes in the amounts per unit of labor, and prices of other agents of production (land, machinery and materials), changes in the number of farms and similar factors will reveal significant relationships. Graphic

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(1) For example of this type of approach, see C. L. Holmes, *Wages of Farm Labor*, Minnesota Technical Bulletin 4, 1922.

methods of correlation may also be used to advantage in sifting out these relationships in the case of factors for which numerical measures can be obtained. Abrupt shifts in demand due to unusual weather conditions, adoption of new machinery and similar reasons must be explained. The analysis developed in Project 14 will be helpful in accounting for these movements.

On the basis of such a splitting-up analysis, more accurate forecasts of future trend in farm labor demand will be possible than can be made from past trends in the shifting of the demand schedule as a whole, because the trend of each of the more important factors affecting demand for labor can be appraised separately and the results combined. Of course, these predictions cannot be carried too far into the future, but if forecasts of demand for labor are to be made, as they assuredly will be, it is wiser to forecast on the basis of carefully measured trends than to assume that current conditions will continue.<sup>2</sup>

Theoretically, if a similar analysis can be carried out for the supply curve for farm labor, all of the factors associated with farm wages will have been considered, and a series of demand curves for farm labor, when projected into the future and related to a similar series of supply curves, will result in a series of intersecting equilibrium points which will constitute a forecast of wages. Doubtless, however, we shall wait a long time for such a set of curves.

#### *Synthetic demand curves*

An alternative approach to the problem of labor demand curves is to adopt the method of using typical farm set-ups to construct synthetic curves. (This is carefully discussed with respect to supply curves of farm products in the report on Farm Management, Project 6.) In the present instance this would consist in building up for any system of farming a schedule of amounts of labor which would be hired with highest profit at different wage levels. To obtain the synthetic demand curve for the area as a whole, a series of budgets would have to be set up for each of a considerable number of variants of the more important systems of farming, the labor demand schedules worked out separately for each variant, and all combined.

The most serious objection to the synthetic method of approach lies in the assumption that farmers' demand for labor will shift when this is to their economic advantage. This objection may be somewhat less serious than in the case of synthetic supply curves for farm products, because farmers may be more sensitive to price changes in a cost factor such as wages than to price changes in farm products. Another objection arises from the circumstance that labor comes in rather large units, which may make it necessary to work with a very large number of bud-

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(2) The following references present suggestive relationships between the indexes of demand and supply and business conditions:

L. H. Bean, "Supply and Wages of Farm and Industrial Labor," *Crops and Markets*, Vol. 3, supp. 4, April 1926, p. 132.

G. C. Haas, "Farm Labor Supply and Business," *Journal of Farm Economics*, July 1923, p. 163.

ets of border-line systems of farming in order to reflect the correct proportion of shifts in the composite demand schedule for the whole area.

Although the synthetic method should never be used alone, it may serve as a valuable check. If the procedure indicates that present farm set-ups are actually using more or less labor than the analysis shows would be to their highest economic advantage, because of lag in adjustment or other factors, this would be of great value in forecasting future developments.

The synthetic curve of labor demand can likewise be projected into the past by going through the above procedure for each year in the past, modifying the farm budgets to take account of the principal factors affecting demand for labor in each year, such as prices of products, prices of competing cost factors and changes in technique. Changes from year to year in the position of the resulting synthetic demand curves for labor would reveal the shifting of demand that would have taken place if farmers had reacted in the way that would have been to their greatest economic advantage, as nearly as it can be measured. Such a picture of shifting synthetic demand could then be compared with actual historical shifts in demand as determined previously and would furnish a valuable measure of farmers' lag in adjustment.

#### **PROJECT 20. Measurement of Wages and Annual Earnings of Farm Labor, Including Perquisites (Joint with Agricultural Income)**

**Objective: To test the various series now available, discover their defects and develop new methods.**

(By Ralph H. Cole and J. D. Black)

The Department of Agriculture farm wage series now available date back to 1866. During some of this time the series collected were monthly wages of farm hands hired by the year, and some of the time for farm hands hired by the season. Also there are many small gaps in the series. The original data to 1910 are published in Bulletin 99 of the Bureau of Statistics of the United States Department of Agriculture, *Wages of Farm Labor*, by George K. Holmes (1912). Since 1910, they have been published in *Crops and Markets*. The rates are all reported both with and without board. The Bureau of Agricultural Economics has combined the monthly wages with the day wages for harvest and other labor, adjusted for differences, filled in the gaps by interpolation and other means, and produced the composite wages published annually in the *Yearbook of the Department of Agriculture* with the accompanying index series on the 1910-14 base. This can be done in a similar manner for any state. Such series for several states are published in C. L. Holmes' *Wages of Farm Labor*.<sup>1</sup> Since 1923, the wage rates have been reported quarterly in *Crops and Markets*.

Another wage series of interest is that published for all classes of labor by the United States Department of Labor in 1929 under the title, *His-*

(1) Minnesota Technical Bulletin 4, 1922, p. 36.

*tory of Wages in the United States from Colonial Times to 1928* (Bulletin 499). Some references to perquisites are included.

The objective of this project is to test these wage series and, if possible, suggest better methods of obtaining and presenting them. So far as the writer knows this has been seriously attempted only in two instances, Dr. C. L. Holmes' study *Wages of Farm Labor* made at Minnesota, and a somewhat similar analysis made by Dr. J. D. Black at Wisconsin in 1916 and 1917 (unpublished). For the Minnesota study, a state census had collected summer and winter wages for 1919. The state statistician made available the original returns of the crop reporters for the same year, which were for monthly wages by the year with and without board, and for day wages for harvest and other-than-harvest labor. These data were supplemented by a questionnaire mailed to 7500 farmers employing labor in the same year. More than 1500 farmers replied, giving data concerning more than 2500 hired farm laborers. The special merit of this last inquiry is that it obtained the period of the contract for each laborer, whether for the year, the summer or winter season, the first or second half of the season, as well as by the day for different types of work. It was possible to calculate wage rates for each of the contract periods, for 6 principal types of harvest labor and for various types of other day labor, and for day labor wages by weeks from \$2.96 for the first week in May to \$4.34 for the first week in August, and back to \$3.70 for the second week in October. The wages could be shown in frequency distribution for each type of contract and labor, and the differences could be related to differences in ages of laborers, types of farming and types of work. The frequency distribution of these returns, when compared with those in the crop reporters' returns, indicated that the crop reporters were, in probably a majority of cases, reporting actual wages paid on some farm, perhaps their own, for some particular farm hand, and not the *prevailing wage* as instructed.

These questionnaire returns were also analyzed for seven type-of-farming areas into which the state was divided, and compared with the state census and crop reporter returns for the same areas. The following table (VII) summarizes several of the more important features of the comparison. The state averages are almost identical, but there are significant differences by sections. The study indicates that these are largely due to differences in the period of the contract which the farmer had in mind when he made his reply to the census enumerator, or the crop reporter had in mind in filling in his blank, or to differences in types of labor which the crop reporters had in mind. Table VIII in the same bulletin combines these three sets of returns by selecting the figures which seem least to be affected by errors of the foregoing kinds.

The questionnaire used in this study was arranged in tabular form with one line for each laborer hired at any time during the year, and space for recording the period of hiring, wage rate, kind of work, perquisites, age of laborer (estimated if necessary), nativity or nationality origin, etc. The data therefore had considerable value for other than wage purposes.

The Wisconsin study compared the results from a questionnaire with

TABLE VII. COMPARISON OF FARM WAGE AVERAGES, WITH BOARD AND LODGING, FOR 1919 AS SECURED BY  
THREE METHODS OF INQUIRY

Area	Average monthly wage for year contracts, as secured by			Average monthly wage for summer as secured by		Average monthly wage for winter as secured by		Average daily wages for harvest work, as secured by		Average daily wages for other- than harvest work, as secured by	
	Sample data	Esti- mates	Census	Sample data	Census	Sample data	Census	Sample data	Esti- mates	Sample data	Esti- mates
State . . . . .	\$55.00	\$54.00	\$54.00	\$58.00	\$60.00	\$36.00	\$42.00	\$4.75	\$4.50	\$3.00	\$3.50
Section I . . . . .	57.00	57.00	52.00	59.00	58.00	28.00	40.00	5.00	5.00	3.00	3.75
Section II . . . . .	54.00	51.00	54.00	58.00	61.00	38.00	40.00	4.25	4.00	3.00	3.25
Section III . . . . .	53.00	52.00	52.00	57.00	59.00	34.00	39.00	4.75	4.75	3.00	3.50
Section IV . . . . .	50.00	55.00	56.00	61.00	63.00	46.00	43.00	5.00	4.75	3.50	4.00
Section V . . . . .	55.00	58.00	52.00	56.00	58.00	38.00	39.00	4.25	4.50	3.00	3.75
Section VI . . . . .	56.00	52.00	56.00	55.00	61.00	38.00	45.00	4.00	3.75	3.25	3.00
Section VII . . . . .	56.00	52.00	62.00	54.00	64.00	42.00	57.00	4.00	3.50	3.00	3.00

individual crop reporter's returns for the same year and several preceding and following years. The analysis showed that in any one year the crop reporters' returns may be erratic for a single county, but if county returns for several years are combined and related to district averages and to changes in farming and business conditions, a map of county averages can be prepared such as was published in Figure 5 of Wisconsin Bulletin 316.

These two studies attempted to cover the subject of perquisites by asking what kinds were furnished and the values as estimated by the farmers. They are reported in brief in Table X and Figure 8 in the Wisconsin bulletin.

The study, published by the Bureau of Agricultural Economics in January 1931, *Perquisites and Wages of Hired Farm Laborers*,<sup>2</sup> presents data showing the value of perquisites received and the total wage, including both the money wage and the value of perquisites, according to data collected by means of questionnaires sent out in 1926. Laborers were divided into classes: (1) non-casual—those employed for relatively long periods of time; (2) casual—those employed by the day or for short periods. The data are published under the following heads:

1. Amount and value of perquisites
2. Wages and perquisites in relation to laborers' marital status
3. Wages and perquisites in relation to laborers' dependents
4. Wages and perquisites in relation to length of laborers' employment
5. Wages and perquisites in comparison with non-agricultural wages
6. Wages and perquisites in comparison with city family wages and expenses

The foregoing discussion is in terms of wages paid plus values of perquisites. From the farm laborer's point of view, total annual earnings is the important consideration. Practically nothing has been done in the way of collecting the income of summer farm hands during the winter months, or of day hands from all the jobs which they are able to find during the year. Urban wage series are now taking unemployment increasingly into account; farm wage series have thus far ignored it. The point of view in collecting these data has been solely that of the employer of labor, in keeping with the general attitude of the American farm public toward farm labor. The only method of securing complete data on farm laborers' earnings is to obtain them from the laborers themselves, by methods such as outlined in Project 28.

The research above outlined probably suggests sufficiently the methods that will be needed for further testing of wage data now being collected. It is believed that both the testing of existing measures and the development of improved ones may be accomplished by the application of logic and reasoning to work previously done in the field, including both the original data and the finished product, and by collecting and analyzing supplementary data for the same areas. New data will also be needed in trying out proposed new measures and determining their practica-

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(2) By J. C. Folsom, Technical Bulletin 213.

bility. One reason for this is that the improved measures may be expected to call for more detail than may be found in most of the data already available. The use of mailed questionnaires may have to be supplemented by survey work on some points. The latter need not be too expensive to consider. In another project dealing more especially with certain farm management aspects of the farm labor problem, Mr. C. M. Purves collected data of the foregoing sorts, but more detailed as to type of work done, and related data on family labor and type of farming, from four hundred farms in a period of two weeks.<sup>3</sup> It is desirable that data for a period of years be secured in order that historical as well as geographical studies of wage rates may be made. After the necessary data have been collected they should be tabulated in order to develop various measures which are to be given consideration. The measures should then be analyzed to determine which are most satisfactory for various purposes.

Once the data are collected, the problem arises as to the method of presenting the results. The following methods are possible:

1. Actual money wages paid, or wages earned
2. Money wages paid or earned plus value of perquisites furnished
3. Index of money wages paid, or earned
4. Index of sum of money wages plus value of perquisites furnished
5. Purchasing power index—based on an index of money wages and an index of living costs
6. Purchasing power index—based on an index of money wages plus value of perquisites, and an index of living costs

For the index of living costs required for the last two, the index of prices of goods used in family maintenance published by the Bureau of Agricultural Economics most nearly fits the situation. Its application, however, makes the perhaps unwarranted assumption that farm hands spend their incomes for the same purposes as farm operators.<sup>4</sup> A different index is of course needed if the value of perquisites is included than if not, since a larger proportion of the total wages than of the money wages of a farm hand is devoted to the goods on which farm families spend their incomes.

It is important to consider the purposes for which the wage measurements are to be used and to recognize their limitations. For example, it is entirely possible to assemble farm labor earnings which, when used with other agricultural income data, will show the share of the total agricultural income which goes to hired labor, and in a somewhat less definite manner, the share to all farm labor. Here the investigator is confronted with the problem which always arises when the share from more than one factor of production is received by the same individual—the problem of allotting to the various factors their respective shares. The problem is further complicated by the varying amounts of actual working time put in by different individuals. This applies both to operators and to members of their families. Whereas a hired man is, with minor exceptions, expected to do a full day's work each day (except on holidays and in

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(3) See pp. 266-7 of the report on Farm Management.

(4) See Project 28 below.

stormy weather) and usually does, operators and their sons are likely to take several days off in the course of a year. This is partly made up for by putting in extremely long days at busy times of the year, but the extent to which this is done is by no means uniform. Still another phase of the problem is revealed when we consider that farmers who have an abundance of family labor are inclined to devote it to less productive uses than they would if a short labor supply made necessary the hiring of labor. These and other problems which arise in connection with evaluating the labor of the farm operator and his sons place definite limitations upon the purposes for which such valuations may be used.

This last statement applies especially if these same measures are to serve in comparisons of the well-being of farm laborers and city workers, as explained in Project 23, or comparisons of well-being of farm laborers in different regions, as explained in Project 21.

For a given locality which is homogeneous in character money wage figures or indexes of them may be used to show changes over a period of time. Such data should be quite comparable from year to year because changes in customs of hiring, amounts of perquisites furnished, and in content of living take place rather slowly. In a cross-section analysis, to develop geographical series, however, some of the measures used for historical purposes will be found unsatisfactory, as explained in Project 21.

## **PROJECT 21. Factors Associated with Variations in Wages of Farm Labor as Between Different Areas**

**Objective: To determine what factors are associated with variations in wages of farm labor as between areas.**

(By Ralph H. Cole and J. D. Black)

It is common knowledge that wage rates for farm labor vary from one region to another and from one area or locality to another. Wages in most parts of the South have been consistently lower than wages in the North. In years past numerous young men from southern Missouri, Arkansas, southern Illinois, Kentucky, southern Indiana have gone north and west to work on farms in the northern part of the Corn Belt and in such Wheat Belt states as the Dakotas, Kansas and Nebraska. Many of them have settled down and become farm operators on the new land.

The objective of this project is to determine what factors are associated with variations between regions or areas in wages of farm labor. It is important to recognize in this connection that association and correlation do not denote causation. Although there may be association between the factors and wage variations, there may not be a cause and effect relationship. Both may be resultants of a third factor. The following quotation from *Research Methods and Procedure in Agricultural Economics* is significant: "The uniformity of nature in which we believe is a uniformity of cause and effect. But what is measured by correlation is co-variation, not cause and effect. Correlation analyzes and describes



co-variation, not the nature of cause and effect upon the variables. If we are to be assured that the relationships of co-variation existing in the past will continue in the future, we must show that the relationships are those of cause and effect as well as of co-variation." After the existence of co-variation between the variables has been established, qualitative analysis will be helpful in determining whether or not a cause-and-effect relationship exists between them, and if not, what is the causal factor responsible for the correlation.

Before attempting to secure the data for analysis, it will be advisable to consider the more important factors which may be expected to be related to wage rates. Below is a suggestive list of factors, each of which may logically be related to the supply of or the demand for labor.

1. Ratio of farm population to land resources; intensity of cultivation and size of farms
2. Farm incomes
3. Land values and rents
4. Interest rates
5. Plane of living
6. Cost of living
7. Type of farming
8. Seasonal aspect of demand for labor
9. Prices of machinery and equipment
10. Variations in efficiency of labor
11. Perquisites furnished
12. Customs relative to hours of work, tasks which the hired laborer is expected to perform, and privileges granted
13. Industrial competition for labor
14. Nationality traits
15. Size of families
16. Mobility of farm population

The most significant of all the factors associated with variations in wages between areas is likely to be the ratio of the farm population—and the number of gainfully employed in agriculture—to the land resources, measured in crop acres or some composite of crop and other acres that combines them according to their productivity, or better still on some basis that recognizes the differences in the productivity of different types of land as affected by soil, rainfall, climate, etc. For comparisons between different regions measurement on the latter basis is absolutely essential. Probably gross value of product per agricultural worker will serve as the best available ready measure.

Ratios of the other factors of production to labor will also be of significance. Wages tend to be lowest where there is the least livestock and poorest equipment of buildings and machinery.

Farm earnings affect both the ability and the willingness of the operator to pay wages. Farm wages and farm incomes have fluctuated together by areas since 1920. Farm wages are now highest in the north-eastern states where farm incomes are relatively highest.

The foregoing will be accompanied by differences in land values and

rents; but these concomitants must be carefully interpreted. As between areas in any one state, there may appear to be no relation between land values and farm wages.

When capital is scarce and interest rates high, fewer capital goods tend to be employed per person; consequently, wages, together with land values will be lower. But labor may be scarce in the same region, offsetting the foregoing effect, as in our Great Plains region.

The plane of living in a community is likely to affect the standard of living which individuals, including laborers, set for themselves. Hence, the plane of living and the wage level of communities are likely to be related to each other.

On the other hand, regions where living costs are low, because of cheap food, clothing, fuel and building materials, and short winters and long growing seasons, tend to have low wages.

Wage rates are affected by the seasonal aspect of the demand for labor, for it is easier to secure laborers where employment is relatively permanent. In order to attract labor for short periods, it is necessary to pay higher wages than for longer periods of employment. A good example of this is the situation which existed in the Wheat Belt from 1910 to 1925. During those years harvesting was done with binders and headers principally. Both methods required considerable amounts of man labor. Annually great numbers of harvest laborers made pilgrimages to Oklahoma, Kansas, Nebraska, the Dakotas, and into Canada. Relatively high wages were paid for harvest labor. In 1919, wage rates of \$1.00 per hour and board for shocking wheat were not uncommon in the Wheat Belt. From 1922 to 1929, wages of \$3.00 to \$5.00 per day and board were common. These rates were considerably higher than day wage rates paid in most parts of the Corn Belt.

The demand for harvest labor in the wheat area was great enough during the harvest period for the federal government to set up labor offices in the Wheat Belt to facilitate the movement of harvest laborers to points where they were most needed. With the coming of the combined harvester the situation has changed greatly. Much less labor is needed for a given acreage where the combine is used and much less labor is imported from other areas for the harvest seasons.

A general rule in production is that the enterpriser tends to use sparingly those factors which are relatively high in price and to use more freely the factors of production which are relatively cheap. If prices of machinery and equipment are low as compared with wages, there is a tendency to substitute machinery for labor wherever practical. The type of farming is important in this connection because machinery may be adapted to some types of farm operations much more readily than to others.

Differences in capacity and efficiency of laborers may be expected to be associated with variations in wage rates both within a given area and as between areas. Since the quality of labor in one area may be higher or lower than that in another, it is probable that the variations in quality may actually account for variations in wage rates. Surely this explains part of the difference between wages in the North and South.

Since perquisites furnished really constitute additional income to the laborer it seems reasonable that he would be willing to work for a lower wage than if the perquisites were not furnished. Furthermore, it appears that, other things being equal, a locality where the hours of labor are relatively short and the tasks required of the laborer are desirable will attract more laborers than a locality where the opposite is true. For example, in some areas it is customary for the hired man to milk cows and do chores which need to be done on Sunday, whereas in other localities the laborer's work for the day is over as soon as he brings his teams from the field and cares for them.

Normally, farm wages are higher near large cities where the competition of industry for labor is felt. Under conditions of depressed business the opposite may be true, because industrial unemployment throws an army of workers into the adjacent farming areas.

In years past especially, farm wages have tended to be low in areas where foreign population groups have had large families, and have taken their children from school at an early age and reared them to be farmers. The population in such areas has tended to be relatively immobile. The influences of these factors are plainly evident in the county wage map for Wisconsin cited in Project 20.

The relation of several of the foregoing factors to farm wages is developed to some extent in George K. Holmes' early studies of the supply and wages of farm labor.<sup>1</sup> Several such relationships are also introduced into Dr. C. L. Holmes' study cited in Project 20. Chapter V of J. D. Black's doctor's thesis (unpublished) upon *Land Tenure in Wisconsin* developed these relationships fully for a single state.

The methods of collecting the data and the measures to be used are developed in Project 20. The analysis should first consider the different factors, one or two at a time. Mapping will be of much help at this stage. In the end, correlation methods may possibly be used to advantage. By means of indexes of prices paid for consumption goods, direct adjustments may possibly be made for differences in prices of goods bought by laborers in different regions.

## **PROJECT 22. Factors Affecting Differences in Wages between Individual Farm Laborers**

**Objective: To determine the various factors, and the relative importance of each, which account for differences in wages between individual farm laborers.**

(By W. W. Wilcox)

This project assumes that the investigator is interested in factors affecting individual wages within an area so small that it is not appreciably affected by differences described in Project 21. It is probable that when a project of the above type is completed, a residual of individual wage differences in the various areas studied will remain. An explanation of such differences is the objective of this project.

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(1) Bulletins 94 and 99 of the Bureau of Statistics of the United States Department of Agriculture, 1912.

If research of the type outlined in Project 21 has not been done in the area, a preliminary reconnaissance survey should be made to ascertain that the general conditions of supply and demand do not vary from one part to the other of the area under study. Also before any analysis of wage differentials can be made, the data must be adjusted or sorted so that they are comparable as to season of the year and length of contract.

In a study of reasons for wage differentials and the relative importance of these reasons several hypotheses suggest themselves as possible explanations. The research should be directed to the collection of information on the following hypotheses and any others that may seem important for the particular area studied.

On a priori grounds, wages should vary with the ability of the laborer and the responsibility and difficulty of his job. The report of the employer and of the laborer's previous employers would give an indication of relative ability of the man in question. Data on the age, weight and height of the man would give an index of his physical capacity. Some classification of duties on the basis of responsibility and difficulty would probably prove feasible and valuable.

In a general or mixed type-of-farming area variations in length of day worked, number of cows milked and other daily chores to be performed in addition to field work should be related to wages received. Agreements concerning responsibility for Sunday chores may also be a factor. Variations in the nature of major work to be performed and the equipment to be used in such work are other factors which must be given due consideration.

The length of time in the service of the present employer is probably positively correlated with wage increases, but the conclusion that length of service of itself is the causal factor does not necessarily follow. The reasons for a long period of service should be investigated. The ability of the laborer to assume responsibility is perhaps the important factor.

It has often been said that farm laborers do not adequately appreciate the perquisites they receive in addition to their cash wages. For this reason an analysis of wages should be made on both bases, cash wages only and cash plus perquisites. Analysis of the percentage that perquisites make of the total wages would indicate whether this was an important factor in total wage differentials.

Farm operators vary in their ability to make a profit from the hiring of men to perform work. Some farmers in a neighborhood consistently pay a wage five or ten dollars per month above the going rate, probably to a certain extent for humanitarian reasons. Oftentimes, however, they require, and by their higher offers obtain, men who will do more and better work than the average. In such cases it would probably be incorrect to distinguish between cause and effect. Both the superior farm operator and the superior farm laborer working in combination are necessary to make the highest wages economically possible.

In conclusion, the importance of certain intangible factors should be stressed. Custom and a blood or marriage relation of the employer to the employee may in many instances be the most important factors. In the

case of married farm laborers quality of the housing accommodation, distance to school and other factors in the family living conditions may be found to have an important bearing on wage differentials.

The data for this type of study will doubtless have to be obtained by the survey method, and can be collected to advantage in connection with such projects as Nos. 1 and 4. The Wisconsin and Minnesota studies previously cited made some effective use of questionnaire material in such analysis.

**PROJECT 23. Comparability of Wages and Earnings of Farm Labor and Wages and Earnings of Several Urban Labor Groups (Joint with Agricultural Income)**

**Objectives:** To determine the elements of non-comparability and devise methods of handling them if possible; to make rough estimates of the relative levels of the wages.

(By J. D. Black)

The accompanying chart from Wisconsin Bulletin 316 is an attempt to compare farm and urban wages in Wisconsin in 1916. The valuation

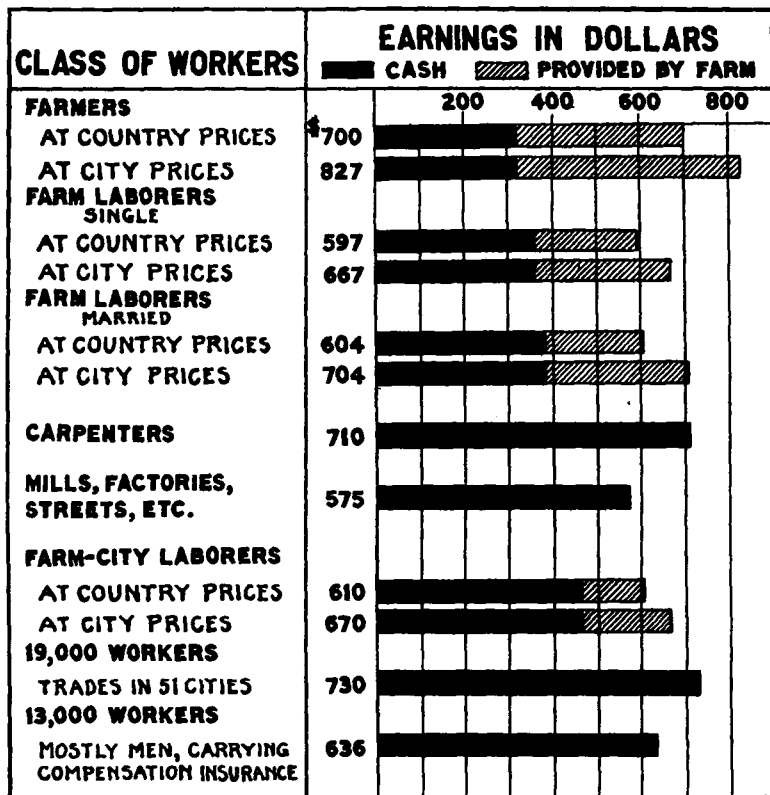


FIG. 8. Annual earnings of farm and city workers in Wisconsin in 1916. In the bars representing farm wages, the cross-hatched parts indicate the value of living furnished by the farm, these being figured at both city and country prices.

of perquisites at the farm are estimates made by employers, except that prices of milk and supplies furnished married laborers were checked against current market quotations. The spread between farm and city prices has probably increased since 1916; if so, the two valuations will

TABLE 85. VALUE IN 1916 IN THE COUNTRY AND IN THE CITY OF THE EXTRAS FURNISHED FARM LABORERS<sup>1</sup>

	Value in the country	Value in the city
<i>Single men</i>		
Board and lodging.....	\$219	\$283
Washing.....	18	24
Total.....	\$237	\$307
<i>Married men</i>		
House rent <sup>a</sup> .....	\$75	\$115
Fuel <sup>b</sup> .....	40	65
Milk <sup>c</sup> .....	36	50
Butter <sup>d</sup> .....	12	14
Garden <sup>e</sup> .....	20	30
Eggs and poultry <sup>f</sup> .....	25	30
Meat <sup>g</sup> .....	12	16
Total.....	\$220	\$320

<sup>1</sup> From an unpublished manuscript of the writer. The estimates were based upon field studies and to some extent upon W. C. Funk, *What the Farm Contributes Directly to the Farmer's Living*, U. S. D. A. Farmer's Bulletin 635; also the 1926 Report of the Secretary of the Wisconsin Federation of Labor.

<sup>a</sup> *Rent*—The average rent of working men's houses in cities of Wisconsin, according to figures collected in May 1917, was \$133. The rental value for 75 farm laborer's cottages in Wisconsin, as reported by their owners in August 1916, was \$75. These cottages average five or six rooms, but many are in poor condition. Working men's homes in cities have been estimated in the table as worth \$18 more per year than "tenant-houses."

<sup>b</sup> *Fuel*—This includes wood for two stoves, or occasionally for only the cook stove if there is little wood left on the farm.

<sup>c</sup> *Milk*—This usually means two quarts a day.

<sup>d</sup> *Butter*—This includes butter for family use or milk from one cow with free feed and pasture. This is furnished in about one-third of the cases; hence one-third of its value is counted in the table.

<sup>e</sup> *Garden*—This usually includes a share of the orchard and small fruits on the farm and the use of a piece of land big enough to grow the family vegetables, usually including potatoes, and the use of the farm horses for fitting and taking care of the garden. The laborer's family furnishes the work of caring for the garden.

<sup>f</sup> *Eggs or poultry*—This means a dozen or so of eggs per week from the farm flock, or eggs from a small flock of hens. This is furnished in about half the cases; hence half of its value is counted in the table.

<sup>g</sup> *Meat*—This includes 100 to 300 pounds of either pork or beef and is furnished in about one-third of the cases; hence one-third of its value is counted in the table.

now be farther apart. Table 85 from Chapter V of *Land Tenure in Wisconsin* (an unpublished thesis study by the writer) is also included for the purpose of showing the nature and complexity of the task of evaluating perquisites.

An inquiry sent out to bankers in May 1917, elicited the information presented in Table 86. This was just at the time when city wages were responding sharply to war influences. According to these data, farm laborers, when their board, lodging and washing were figured at city

TABLE 86. WAGES IN WISCONSIN IN VARIOUS OCCUPATIONS  
COMPETING WITH AGRICULTURE<sup>a</sup>

	1916	1917
Carpentering (hour rates)		
Places under 2000 . . . . .	32.6¢	36.8¢
Places 2000 to 4999 . . . . .	34.0	38.0
Places 5000 to 9999 . . . . .	37.8	41.3
Places 10,000 and over . . . . .	42.8	48.8
All cities and villages . . . . .	36.8	41.2
Common factory work (day rates) . . . . .	\$1.89	\$2.18
Skilled factory work (day rates) . . . . .	2.98	3.40
Saw-mill work (day rates) . . . . .	1.81	2.08
Street work (day rates) . . . . .	2.00	2.26
Teaming (day rates) . . . . .	1.96	2.26
Section work on railway (day rates) . . . . .	1.72	1.95
Shovelers—zinc mining (day rates) . . . . .	2.55	3.00
Average wage . . . . .	2.11	2.40
Average wage omitting carpentering . . . . .	1.98	2.28

<sup>a</sup> Unemployment—Carpentering and similar work—25 per cent of year  
Other than carpentering, etc. — 6 per cent of year  
Average of all work — 8 per cent of year

prices, were earning more wages than all except the skilled workers in some of the trades, such as carpentering or bricklaying. On this basis, the farmers themselves were earning more than any other class listed in the chart. The rapid rise in the cost of living had given unusual value to the extras provided by the farm. There is an inaccuracy in the diagram in that no loss of wages from unemployment on the farm is allowed. Inasmuch as the farm wages used were year wages, it was assumed that no time would be lost. As a matter of fact, even year hands lose some time, and besides, season hands lose more time in the winter than their extra summer wages compensate for. Of course, as the diagram shows, if season farm hands go to the city in the winter, they may make as large an annual income as those who hire out by the year.

It is not reasonable, moreover, to compare earnings without also comparing the work and especially the hours of labor. Accordingly such a comparison was made. Estimates on the farm were obtained in July 1916 from about seven hundred farm laborers in all parts of the state. An average of fifty minutes a day was added to the working hours of the city worker as an estimate of the time which he was spending in going to and from work. On the farm this is done on the employer's time. Only actual working time was counted, loss of time from unemployment being deducted. On this basis farm laborers proved to be the poorest paid of all workers, even the lowly paid factory worker receiving more than the farm laborer. The hours per year reported for the farm laborers were 3700, for the factory laborers, 3050. There is question, however, as to the validity of comparisons of farm and city wages upon an hourly basis. A considerable amount of the working time upon farms is not devoted to confining or pace-set labor.

The major problem, however, in comparing farm and industrial wages is that of the relative buying power of the dollar of farm and urban wage

income. This is analyzed carefully in terms of farm and urban business and family incomes in the report in this series upon Agricultural Income. It is there pointed out that the purpose of an income comparison largely determines the basis of valuation of supplies furnished the farm family by the farm. If comparison of well-being is the objective, the bushel of potatoes and quart of milk obtained in the country is probably as valuable as the bushel and quart in the city. The same principle maintains if the well-being of farm and urban laborers is compared. The proper basis of comparison, if relative well-being is to be measured, is how far urban laborers' earnings will go, after buying the equivalent of what is furnished the farm laborer as perquisites, in buying what urban laborers spend the rest of their earnings upon, over against how far farm laborers' cash earnings will go in buying what they spend their cash earnings upon. To determine how far each income will go, we must know upon what each is spent, and the prices of the commodities bought. Even after these elements are determined, it will probably be found that the two groups spend and save unequally and consequently live so differently that it is difficult if not impossible to reduce the elements in the two types of living to an equivalent basis. The possible procedures for handling this problem are outlined in the report upon Agricultural Income. They are also discussed below in Project 28.

## GROUP D

### Projects Dealing with Working and Living Conditions of Farm Laborers

Important aspects of the subjects dealt with in this group of projects are developed more fully and fundamentally in the reports upon Farm Family Living and Rural Organization.

#### PROJECT 24. Working and Living Conditions in a Type-of-Farming Area (Joint with Farm Family Living and Farm Management)

**Objective: To ascertain the facts as to hours of labor, physical effort involved and any physical hardships and hazards to health, and as to living quarters, housing, etc., of hired labor.**

(By George A. Pond)

Previous studies which had as objectives, in part at least, the securing of some of the information called for by this project were made in Wisconsin, Massachusetts, and the Wheat Belt of the Great Plains Area.<sup>1</sup>

(1) H. C. Taylor and J. D. Black, *Farm Labor in Wisconsin*, Wisconsin Bulletin 316, 1920.

J. C. Folsom, *Farm Labor in Massachusetts, 1921*, U. S. D. A. Bulletin 1220, 1924. Also *Truck Farm Labor in New Jersey*, U. S. D. A. Bulletin 1285, 1925.

D. D. Lescohier, *Sources of Supply and Conditions of Employment of Harvest Labor in the Wheat Belt*, U. S. D. A. Bulletin 1211, 1924.

*Conditions Affecting the Demand for Harvest Labor in the Wheat Belt*, U. S. D. A. Bulletin 1230, 1924.



The Wisconsin study covers most of the points to be considered in this project, but deals primarily with dairy farms. The Massachusetts study deals with labor on dairy farms, fruit farms, tobacco and onion farms, market gardening farms, and cranberry farms. The Wheat Belt studies deal very largely with the transient harvest labor.

Much of the information needed regarding hours of labor and kinds of work performed by hired labor can be obtained from detailed farm accounting studies and from farm management surveys conducted primarily for other purposes. The field workers who conduct these studies can usually supply considerable essential information as to living quarters and housing conditions. The accounting studies are a more satisfactory source than the surveys for information regarding hours and kinds of work since they supply a fuller picture of just what each worker on the farm does each day. For this purpose, the type of individual worker's daily labor report, as prepared by the Division of Farm Management and Costs of the Bureau of Agricultural Economics, United States Department of Agriculture, is more satisfactory than the memorandum labor record made out by the proprietor, because the latter usually contains insufficient detail regarding individual workers. The survey, on the other hand, has an advantage in that it is usually possible to get a larger and more representative sample at less expense. A combination of the two would probably be most satisfactory. The Wisconsin study indicated that the number of hours of labor obtained by the questionnaire method tends to be somewhat larger than is found in detailed accounting studies covering similar groups of farms. The writer has observed this same difference in comparing survey and accounting data collected by the Minnesota Agricultural Experiment Station.

While considerable useful information concerning farm labor conditions can doubtless be obtained merely by utilizing data that are collected as an incident to accounting and farm business survey studies, if we are to have adequate knowledge of this subject we must plan especially for it. Much can be ascertained merely by supplementing the information obtained incidentally. This may be planned in various ways, particularly by: (a) recording the data by individual workers, as already suggested, (b) interviewing the hired laborers concerning their activities during other than working hours, their participation in the affairs of the community, etc., (c) collecting information concerning loss of time through illness, medical attention, including teeth and eyes, (e) a job analysis of the principal types of labor performed with respect to physical exertion required, fatigue, etc. Some of this information can be obtained to better advantage in connection with other projects outlined in this report, particularly Nos. 1, 4 and 28. That listed under (b), (c) and (d) requires the assistance of rural sociologists, and (e) requires assistance from engineers and specialists in other related fields.

Whether such information as the foregoing is sufficiently important to warrant the expense involved will depend upon many circumstances. In recent years, there has been a growing interest in the nature of labor in farming. Conditions have changed so much with modern develop-

ments that city people in particular are not well informed as to the effects of these changes upon working conditions on farms. Better information on this subject will doubtless be of considerable benefit to agriculture.

No set procedure can be prescribed for the analysis of the data assembled in this study. Simple tabulations of hours of labor for both week-days and Sundays by months or seasons may be made. These may be compared with similar data for the proprietor in the same area and with data covering workers in other areas. In Minnesota, the writer has noted that in general the hired laborers employed by the month or season work slightly more hours during the week and slightly fewer on Sunday than the proprietor. Day laborers usually work fewer hours per day than either the proprietor or month hands during the same period. On dairy farms hired laborers work more hours per day than those on beef or grain farms, especially on Sunday. There is much less seasonal variation in the hours worked per day on dairy farms than on other types studied in Minnesota.

Much of the data useful in this study does not lend itself to simple numerical measurement or statistical analysis. Many of the measurements must be purely subjective. Rural sociologists should collaborate in the analysis of the data dealing with living quarters, housing, etc.

Care must be taken not to generalize regarding the findings of this type of study in any particular area. Conditions of labor may be very different in a market milk area than in an area where cream is sold for manufacture into butter. The conditions of sugar beet laborers may be quite different in areas where the crop has been raised quite extensively over a period of time and where beets have recently been introduced and but few farmers grow them. Then, too, in some areas Mexican labor is used exclusively, whereas in other areas much local white labor may be employed. This diversity of conditions of work and labor supply are even more important in market gardening than in dairy farming or sugar beet growing.

#### **PROJECT 25. Accident Insurance for Farm Laborers**

This is discussed in Project 9 in the report on Agricultural Insurance.

#### **PROJECT 26. The Employer-Employee Relationship in Agriculture (Joint with Rural Social Psychology)**

**Objectives: To determine (a) the usual wage contracts and terms of employment of farm laborers, (b) the amount and kind of supervision and delegation of authority to hired workers, and (c) the experience of farmers with different methods of stimulating interest and rewarding satisfactory service on the part of employees.**

(By George A. Pond)

Previous studies in Wisconsin<sup>1</sup> and Massachusetts<sup>2</sup> had as a major

(1) H. C. Taylor and J. D. Black, *Farm Labor in Wisconsin*, Wisconsin Bulletin 316, 1920.

(2) J. C. Folsom, *Farm Labor in Massachusetts, 1921*, U. S. D. A. Bulletin 1220, 1924.

objective the securing of data for this type of study. Anyone interested in this subject should study these early attempts carefully.

Most of the data requisite for this study would have to be secured for the purpose specified, although there is considerable material collected in general farm management studies, particularly detailed accounting studies, that could be used as supplementary information. A simple questionnaire addressed to farm operators would probably secure considerable information on wage contracts, method of hiring, and employment attitudes. This can be considered as exploratory to the main effort. Farm laborers can hardly be expected to respond to a questionnaire even if a sufficient mailing list could be obtained. The field study will take the form of a rather limited case study of a considerable number of employer-employee situations, in which all operators and laborers are interviewed. In addition to specific data on employment contracts, wage systems, bonuses and rewards, and details concerning supervision and delegation of authority, it is especially important to secure the opinion of both the employer and employee as to the advantages and disadvantages of the employment systems with which they have had experience, and suggestions for improvement. A major portion of such interviewing, however, will be directed at ascertaining the attitudes of the operators and laborers toward the employer-employee relationship in general and upon the farm under study in particular. Social psychologists will need to assist in the planning of these interviews, and in training field workers in conducting them.<sup>3</sup> The Wisconsin study above cited included interviews with operators and laborers in twenty-one counties. However, no formal technique of interviewing was available at the time.

Since the results of a study of this type are of limited application, careful judgment must be exercised in applying them to a particular situation. The personal element in the employment situation is such an important and variable factor that only very broad generalizations can be made as a guide to solving the employment problems of a specific farm.

### **PROJECT 27. Participation of Farm Laborers in Rural Affairs (Joint with Rural Organization)**

### **PROJECT 28. How Farm Laborers' Money Incomes are Used**

(By Charles P. Loomis)

To the extent that this project would deal with the expenditures of farm laborers with families, most of the problems involved are considered in the report in this series on Farm Family Living.<sup>1</sup> However, there are

(3) Suggestions as to this part of the project will be found in the report on Rural Social Psychology.

(1) Also for a bibliography of rural living studies, see *United States Department of Agriculture Miscellaneous Publication No. 116*, Compiled by Louise O. Bercaw. For a discussion of the value of such researches, see C. C. Zimmerman, "The Family Budget as a Tool for Sociological Analysis," *American Journal of Sociology*, May 1928, pp. 33, 901-11.

some problems which are peculiar to the expenditures of farm laborer families. If the southern croppers are excluded from the laborer group, most of the farm laborers in the United States are without families.

Regardless of whether the farm laborer has a family or not, this project is interested in comparing expenditures of the following:

1. Different farm laborers or farm laborer families
2. Farm laborers in different areas
3. Farm laborers and similar groups among urban laborers.<sup>2</sup>
4. Farm laborers and other agricultural classes; e.g., farm owners, tenants, and in some instances, croppers.

Most students of family living recognize the necessity of the classification of families or individuals on some logical and objective basis.<sup>3</sup> This is particularly necessary before studies of the expenditures of farm laborers can possibly yield fruitful results, because of the many types and classes of farm labor. For instance, it would be rather meaningless to analyze with no differentiation the expenditures of the single farm laborers who live as members of the employers' family, the single farm laborers who "batch," the farm laborers who live in the bunk house and eat in the cook shack, and the married laborers who derive part of their income from gardens, pasturage of livestock, etc. In studies of individuals, distinction must be made between male and female, child and adult. When the study is of family groups, the relative needs of male, female and child must be considered.

Classification might also be made according to the method of wage payment, such as (1) daily with board and lodging furnished, (2) daily without board and lodging, (3) yearly or monthly, no part paid in any other medium than money, (4) partly in kind—food, feed, in use of house, garden and pasture, (5) by the acre, bushel, or some other similar unit, without board, lodging or any other items of non-monetary income, (6) in cash plus certain non-monetary items.

However, the important factor to be considered in classification is that the individuals who are grouped together have a common mode of life, and as the case may be, similar expenditures. Wherever possible these expenditures should be itemized as has been customary in studies of rural expenditures.<sup>4</sup>

The data must be collected by surveys for the most part, since it will be difficult to get farm laborers to keep any kind of records. Those who

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(2) For comparisons of the rural farm family with the urban family, see P. A. Sorokin and C. C. Zimmerman, *Principles of Rural-Urban Sociology* (Henry Holt and Company, New York, 1929).

(3) Many studies have classified rural families into groups of tenants and owners. This is particularly true of studies made in the southern states where social stratification is pronounced. See C. C. Taylor and C. C. Zimmerman, *Economic and Social Conditions of North Carolina Farmers*, North Carolina Department of Agriculture, Tenancy Commission, (1923).

(4) For a discussion of the problems involved in such classification and an itemized list of goods used, see Kirkpatrick's *The Farmer's Standard of Living*, U. S. D. A. Bulletin 1466, Washington, D. C., 1926. Also C. C. Zimmerman, *Income and Expenditures of Minnesota Farm and City Families*, Minnesota Agricultural Experiment Station Bulletin 255, 1929.

W. A. Anderson, *Factors Influencing Living Conditions of White Owner and Tenant Farmers in Wake County*, North Carolina Agricultural Experiment Station Technical Bulletin 37, 1930.

did keep records upon request would not represent the group. Since one person does all the spending, in the case of single laborers, and the spendable income is a relatively small amount, the data are likely to be reasonably accurate.

The study will concern itself with the distribution of the cash wages of the laborer, and emphasis will be placed upon competition between spending and saving. An effort will be made to determine the rate of accumulation, if there is any saving.

When the project reaches the stage of analysis of the data there are many problems open to the investigator, as will be evident from the projects discussed in the report on research relating to Farm Family Living. One of the most common approaches is to study the proportions of the total expenditures which are spent on the different items in the budget of laborers with different incomes. Other factors will be age, parentage, education, degree of community participation, and plans for future occupation. Rate of accumulation must be analyzed as carefully as spending.

The foregoing discussion assumes a study in one area. As a second stage, the project might be extended to include other areas, to be selected according to the methods of case analysis, as outlined under "The Case Method" in *Research Method and Procedure*. A conventional plan would be to choose areas that represent the major sets of conditions in a state with respect to prosperity of farming, type of farming, nationality backgrounds and the like.

Comparisons with urban laborers will be especially significant from the standpoint of comparisons of the rates of saving.

Any comparisons between laborer, tenant and owner families would take the form of studies outlined in the report on Farm Family Living.

Such a project might denote especial attention to those marginal families on the extremely low levels. Analysis of these families at or below a certain subsistence level which might be arrived at on the basis of known standards and criteria might be compared with results derived from budgetary studies of other groups.<sup>5</sup>

Where the labor is highly seasonal the expenditures during the periods in which they are being paid and when idle may be compared; and together with this the manner of living of single laborers in periods of unemployment. Also the part of the budget expended for travel in the case of fruit and harvest laborers who "follow the harvest" would be worth while.<sup>6</sup>

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(5) See S. B. Rowntree, *Poverty—A Study of Town Life* (Longmans, Green and Company, London, 1922).

For a discussion of rural labor, see the same author's book, *How the Labourer Lives—A Study of the Rural Labour Problem* (Thomas Nelson and Sons, London, 1913).

(6) Don D. Lescohier, *Sources of Supply and Conditions of Employment of Harvest Labor in the Wheat Belt*, U. S. D. A. Bulletin 1221.

## GROUP E

### Projects Dealing with Specified Classes of Farm Laborers

Projects in this group may deal with any of the aspects of farm labor discussed in Groups A to D. In practice, they commonly deal with a selection of subjects that are pertinent to the occasion.

#### PROJECT 29. Child Labor on Farms in an Area

(By Grace Abbott)

The purpose of undertaking research projects of this kind is primarily to furnish the community or state in which the survey is made with a picture of labor conditions of children who work in agriculture, and with the effects of such work upon children, so that regulation, if necessary, may have a factual basis. Publicity with reference to the findings would increase the interest in such legislation as is found necessary and would lead to some voluntary curtailment of rural child labor and to improvement in rural education, recreation, housing and sanitation.

Between 1920 and 1924 the Children's Bureau made a series of investigations of children in agriculture. These surveys "held a microscope as it were over typical farming areas in different sections, with the idea of obtaining a representative picture of the work of children on farms throughout the country. Schedules were secured for approximately 13,500 children doing farm work in 14 states, including sugar-beet growing sections in Michigan and Colorado; cotton-growing counties in Texas; truck and small fruit areas in southern New Jersey, Maryland, Virginia, Illinois, Washington, and Oregon; wheat, potato-raising and grazing sections in North Dakota; a section in the Illinois corn belt; and tobacco-growing districts in Kentucky, South Carolina, Virginia, Massachusetts, and Connecticut." (*Children in Agriculture*, p. 3.) Thus certain areas where large-scale agriculture predominates were covered, as well as areas of small individually-owned farms; areas relying for their labor supply chiefly on migrants, and areas in which the farmer's own family does most of the work; and areas in which native white, Negro, or foreign-born labor predominate. Several private organizations, chief among them the National Child Labor Committee, have also made investigations of various aspects of rural child labor in other parts of the country, and a few of the state agricultural colleges and departments of labor have made inquiries in their own states.<sup>1</sup>

##### (1) Children's Bureau Studies:

*Rural Children in Selected Counties of North Carolina*, No. 33, 1918.

*Child Labor and the Work of Mothers in the Beet Fields of Colorado and Michigan*, No. 115, 1923.

*Child Labor on Maryland Truck Farms*, No. 123, 1923.

*Child Labor in North Dakota*, No. 129, 1923.

*Child Labor and the Work of Mothers on Norfolk Truck Farms*, No. 130, 1924.

*Work of Children on Truck and Small-Fruit Farms in Southern New Jersey*, No. 132, 1924.

*The Welfare of Children in Cotton-Growing Areas of Texas*, No. 134, 1924.

*Child Labor in Fruit and Hop Growing Districts of the Northern Pacific Coast*, No. 151, 1926.

These various studies have brought out facts as to the number of children of different ages working; race and nativity of child workers; economic status of parents, whether owners, tenants or laborers; resident or migratory child workers; status of child workers—whether working out for hire or working on home farm; earnings of children hiring out; number of days children work per season; length of working day; kinds of operations performed by children in the course of a season; and extent to which work in agriculture interferes with school attendance. Many of the studies consider also accidents sustained by children in the course of farm work, analyzing them with respect to the severity and duration of the disability and the home and community environment, describing living conditions, family living, standards, literacy of parents, and community facilities for social life. Some of the reports attempt to evaluate the physical effects of agricultural work on the children.

### *Suggestions for future research*

With this body of detailed information as a starting point, what future research might profitably be undertaken?

There are two reasons for undertaking further inquiries: (1) local communities will from time to time wish to inform themselves concerning the nature and extent of agricultural child labor in order to devise programs for dealing with it; (2) national agencies will wish to compare trends in different parts of the country and in different type-of-farming areas. Material of this sort also has a bearing, apart from its usefulness for remedial purposes, on the general farm problem: the use of child labor in crop raising is connected with the farmers' poverty or prosperity, with changes in the system of farm tenure, with commercialized agriculture, and with the progress of farm mechanization. All of these and other economic factors affect the work and welfare of rural children. It is desirable that trends in rural child labor be investigated and correlated with these broader economic and social movements.

A. *Continuing surveys.* At present we lack information concerning these changes. Studies made once in a certain locality, and not followed up,

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*Child Labor in Representative Tobacco-Growing Areas*, No. 155, 1926.

*Work of Children on Illinois Farms*, No. 168, 1926.

*Children in Agriculture*, No. 187, 1929.

National Child Labor Committee Studies:

*Child Labor in Sugar Beet Fields of Colorado*, 1916.

*Child Labor in Sugar Beet Fields of Michigan*, 1925.

*Denver and Farm Labor Families*, 1925.

*Children Working in Sugar Beet Fields of Certain Districts of South Platte Valley of Colorado*, 1925.

*Children Working on Farms in Certain Sections of Western Slope of Colorado*, 1925.

*Children Working on Farms in Certain Sections of Northern Colorado* (made in cooperation with Colorado Agricultural College) 1926.

*Child Labor in Agriculture and Farm Life in Arkansas Valley of Colorado* (made in cooperation with Colorado Agricultural College) 1929.

*Farm Work and Schools in Kentucky*, February 1917.

*Causes of Absence from Rural Schools in Oklahoma*, September 1917.

*People Who Go to Beets*, January 1920.

*Child Labor Among Cotton Growers of Texas*, 1925.

*Migratory Child Workers*, January 1929.

become obsolete after some years. It would be desirable to have follow-up studies undertaken, preferably at regular intervals—say, every five or ten years depending upon local conditions, by research departments of state universities, agricultural colleges, or experiment stations located in different states or by the United States Children's Bureau. Different type-of-farming areas should be selected for study: e.g., areas where diversified farming is practiced and areas where specialized crops are raised on which children have been employed in large numbers, such as cotton, tobacco, truck or sugar beets.

The schedules used in taking these local sample censuses should include the following points:

Child's age; sex; race and nativity; residence (to show how many are resident farm children, and how many are migratory); economic status of child—i.e. wage-worker or unpaid family worker working on home farm and whether employed by an individual farmer or a corporation; kinds of work done; father's status (owner, tenant, hired laborer, or other occupation); occupation of mother; details of child's occupation; seasons and days per season worked; number of weeks school was attended in the previous year.

If the area chosen is small enough, or the staff large enough, it would be desirable, at least in certain places, to attempt to make the count of children working in agriculture complete. If the area of enumeration could be made to correspond with a minor civil division of a county as shown in the Census of Population, it would be possible to calculate the proportion of resident children of certain age groups at work.

The total number of children of different ages employed in agriculture is not accurately known. The Census, taken decennially at a time of year when employment in agriculture is relatively light—early spring—does not show all who would be working in summer or at harvest time; furthermore, it does not tabulate children under 10 years of age who may be gainfully employed. In fact, its definition of gainful employment is such as to exclude children who work intermittently, although their total during the year may amount to several months or may during a short period be very intensive. The studies made by the Children's Bureau showed large numbers of workers younger than 10 years.

B. *Special Studies.* These samples censuses should be supplemented by more detailed studies dealing with such questions as kinds of work performed by children and the physical strains involved. To estimate the effects of farm work upon the health and growth of children, the operations on which they are engaged might be studied with reference to the physical characteristics and defects of the individual children performing them. A similar study has been made for city working children by the New York State Department of Labor.<sup>2</sup> If physical examinations of rural working children are made, such as those made in the sugar beet study of the Children's Bureau,<sup>3</sup> medical collaboration will be neces-

(2) *The Health of the Working Child?* New York State Department of Labor Special Bulletin 134, 1924.

(3) *Child Labor and the Work of Mothers in the Beet Fields of Colorado and Michigan*, No. 115, 1923.



sary. The question of why children are assigned certain operations should be considered. Are they set to tasks which they are adapted to perform and at which they can acquire skill, or are tasks which adults consider too disagreeable assigned to them? Accidents to farm children, living conditions of migratory families, earnings and rates of pay of children, or of family groups where the children are not paid separately—each of these questions merits more thorough and continuing study since public attention to the facts is necessary for improvement in public opinion on the rights of the farm child.

C. *Interpretative studies.* Once the trend in rural child labor is established for certain areas, an attempt may be made to correlate these changes with broader economic and technological changes. We may learn whether, in order to cut costs when farm prices sink and the burden of taxes and debts increases, the farmer resorts to child labor, and if so, whether in the form of unpaid family labor or of hired labor—resident or migrant?

If large-scale agriculture spreads, one would expect to find a greater use of child labor for certain types of work requiring hand labor and lending itself to crew operation—unless this is counteracted by extreme cheapness of adult labor, the development of new machinery, or a radical change in hiring policies.

Some of these changes seem to be imminent and the time appears opportune for a program of investigation into rural child labor.

## **PROJECT 30. Hired Woman Labor on Farms in an Area**

(By Mary Anderson)

Little authentic information is available concerning women agricultural wage-earners; what hours they work; what wages they receive; what their home and family responsibilities are. Furthermore, how large a group of workers they constitute during a busy agricultural season cannot be ascertained exactly. Few farmers or ranchers keep accurate wage and hour records of their employees. Housing facilities for farm workers, especially for casuals, are notoriously unsatisfactory. Since the Census of Occupations is taken at a time that is slack for agriculture, it is probable that a great many more than the 171,000 women reported as working for wages on farms by the 1930 Census actually were engaged in such work during the summer or harvest period of that year.

Women who work for hire in agriculture are practically unorganized; they are without the protection of almost all legal restrictions on women's employment; they are exempt from the accident compensation laws of most states. On the other hand, women agricultural wage-earners are exposed to all the hazards of seasonal employment: long hours frequently augmented by excessive over-time; unstable employment; variations in wage payment at periods during the course of a season depending upon the relation of available labor to the amount of work to be done. In fact, this type of employment for women is generally unstandardized.

Clearly it is to the interest of the welfare of an important section of

our rural population that a reliable fund of data be built up through scientific investigation of the employment conditions, housing, and household responsibilities of hired women laborers on farms.

#### *Method and scope*

Such an investigation was made by the Women's Bureau of the United States Department of Labor of women engaged in the picking of berries, prunes, apples and pears, and other orchard jobs in the State of Washington during the summer and autumn of 1923.<sup>1</sup> The survey had three objectives: information concerning the industrial background of these women; data on their hours, wages and working conditions; and facts about their family responsibilities.

In general it may be said that the data were collected either in interviews or by correspondence with the ranchers and their workers. The rancher's questionnaire covered acreage, crop conditions, labor supply, policies and housing. The absence of systematic records in agricultural employment was a great handicap. Bookkeeping frequently was so haphazard that it was difficult to get information concerning either hours worked or earnings of individual pickers. The ranchers who had reliable data were probably among the more progressive, and their books proved very valuable in the formulation of conclusions on wages of field workers. In their desire to cooperate, some ranchers kept individual pay records after the visit of the Women's Bureau agents and submitted these later.

The schedule used in the interviews with the women recorded details of their personal, family and industrial history including their age, nativity, marital status and living conditions. These items were supplemented by information as to the number of persons and number of wage-earners in the family, and their occupations, as well as the home duties and family responsibilities of the women interviewed. The worker was questioned also about her present job, the type of work, the reason for entering upon it, the hours and the pay, and about her former jobs, the length of time held and the reasons for leaving. The women were classified as resident or migrant workers; if the latter, they were asked to give information about the living quarters occupied. Inspection of such quarters was made by Bureau agents, who scheduled details as to kind, size, equipment and facilities.

Since it was not possible at the time of such interviews to get all the information desirable and necessary for an analysis of seasonal work, the agents at the end of the harvest season sent questionnaires to a selected group of women, to those who, when interviewed during the personal canvass, had promised to keep a detailed and systematic record of their season's work, and to those who had seemed especially interested, alert and capable of supplying the desired information. They were requested to furnish data for their whole season's work on the ranches; that is, to state the entire period of their employment and the actual number of days or weeks worked; the days lost for various reasons; and the total earnings, including any bonus.

(1) *Women in the Fruit-Growing and Canning Industries in the State of Washington*, United States Department of Labor, Women's Bureau, 1926.

The clarity with which certain unfavorable aspects of women's paid agricultural employment stand out from the data secured by the Women's Bureau in its investigation of women in fruit harvesting indicates strongly the need and the practicability of similar investigations of women in other types of agricultural work in various sections of the country; for example, of women in the sugar beet and tobacco fields, in truck gardens, of the thousands in the cotton fields of the South. Only by a thorough understanding of the problems of these women gained through a first-hand approach can any solution of their difficulties be attempted.

### **PROJECT 31. Migratory Labor on Farms in an Area**

(By Josiah C. Folsom)

Migratory labor may be considered as that going for work into a region that is beyond daily reach of home.

A survey of migrants is best restricted to the relatively small areas in which they constitute a considerable part of the farm labor force at some season. Usually this is a section of intensive culture of some crop specialty which calls for considerable help in addition to that resident. People of foreign extraction, often with large numbers of women and children, make up large proportions of the migrants.

A field canvass to include interviews with migratory laborers and their employers is advisable. The schedule of questions should be devised to bring out significant and pertinent facts as to the supply and demand, use, wages, earnings, working and living conditions of the migrants on the farms, and their recruiting and placement. Data should be obtained as to the social and economic conditions and motives of these people, and their relationships to the localities in which they work and live.

References to several such studies are given in the General Bibliography.

### **PROJECT 32. Non-migrant Foreign Farm Labor Groups**

The studies made by Professor Paul S. Taylor of Mexican groups in California, Colorado and Texas, cited in the General Bibliography, will serve as examples of such studies. Professor Taylor has written as follows:

"The history of the entry of an immigrant group such as the Finns in Michigan or the German-Russians of Colorado, their economic rôle, their advance or failure to advance up the socio-economic ladder, their relations with native or other foreign groups of the region, offer fruitful subjects for research. I have followed a pattern of research in studying Mexicans which seemed significant to me; others may find this or other patterns appropriate to their chosen subjects."

### PROJECT 33. Croppers in the Cotton Belt

**Objective: To analyze the factors affecting the supply of and demand for cropper labor, and the conditions affecting labor efficiency, economic advancement and socialization of this class of labor.**

(By J. D. Pope)

The cropper is a special type of farm laborer found in large numbers in the Cotton Belt. According to the Census of 1930 croppers operated about 20 per cent of the total number of farms in the leading cotton states, and about 28 per cent of the harvested crop acreage. Although the cropper has some of the essential characteristics of the tenant, he is for all practical purposes a hired laborer, since the performance of the human labor operations is his sole function in cotton production. He ordinarily furnishes none of the capital goods required in production, such as equipment and work-stock; these are usually furnished by tenants. His status resembles that of the tenant in the arrangement whereby the landlord gives him the use of a certain tract of land for a definite period, living quarters, and a title to a share of the product. He shares with the landlord the risk involved in certain cash expenses and in the price and yield of the product. Ordinarily he is more closely supervised than the tenant. The cropper usually receives in return for his labor one-half of the proceeds of the cotton and cottonseed produced, less one-half of the cost of fertilizer and ginning. The cropper is classed as a tenant by the federal Census; in some states his legal status is considered that of a tenant, in other states that of a hired laborer.

The cropper presents many of the problems which are characteristic of other types of farm labor, and the objectives of this project should be inclusive, from the special viewpoint of the cropper as a laborer, of many of the problems outlined in other projects in this series. The organization, scope and method of analysis outlined in connection with other phases of farm labor will be applicable in considerable degree to this project. Certain phases of the project, however, are closely related to problems of tenant relationships, and therefore should be integrated with studies conducted primarily from the point of view of agricultural land tenure.

One of the objectives of this project consists in studying the factors affecting the supply of croppers, such as the influence of the price of cotton and other factors on shifts to and from the cropper category. The effect of business conditions and industrial unemployment on movements of croppers to and from farms should also be examined. On the demand side, the analysis should be concerned with the economic status of the cotton producer, the outlook for prices and similar factors, as they influence the effective demand for cropper labor.

Another important objective consists in studying labor efficiency under the cropper system. In ordinary farm wage labor employment, the employer wishes to obtain maximum output per unit of expenditure for labor, and therefore has an economic interest in labor-saving devices. The cropper, however, receives in payment for his services a fixed pro-

portion of the crop, regardless of the efficiency with which his labor has been used. Under the usual cropper contract, new types of labor-saving machinery are furnished by the landlord at his own expense, and incidentally, require more supervision. In many labor-saving machines, horse or motor is substituted for man power. This upsets to an extent the usual share-crop arrangement, since the landlord's share of costs of production may be increased without corresponding increase in the share of production which he receives. Under such conditions, modification of the customary arrangements between landlord and tenant becomes necessary. Furthermore, throughout most of the Cotton Belt, hand picking is still in practice generally, and without a corresponding reduction in the harvest labor requirements there is less incentive than would otherwise be the case to reduce the man labor requirements in cultivation. The potential effects of a practicable mechanical cotton picker have large implications with respect to the cropper system. Ways and means by which technical and scientific progress may be applied in connection with the cropper system constitute a significant aspect of this project.

Another important objective is a study of the effect of the cropper system on thrift and the economic progress of this class of farm labor. This phase of the project is very closely related to tenure. In practice a large proportion of croppers obtain advances either in cash or in kind which enable them to defray a portion of their living expenses during the growing of the cotton crop and prior to harvesting and selling. The landlord seeks to protect himself with "time" prices and high interest rates, or perhaps a percentage of a store account which he has underwritten. This system appears to have given rise to a kind of "mutual exploitation" between landlord and cropper. In a year of declining prices the cropper may have obtained advances equal to more than the value of his share of the product. In years of good production and high prices the landlord may make profits from advances which tend to offset the losses in bad years. As long as the cropper is tied to this system and has no hope of progressing towards ownership and accumulation of capital goods, he will tend to spend each year such unexpended surplus as he may be able to claim. Incentives and stimulation to progress should be introduced into the system, taking into account the economic situation of both the landlord and cropper.

Methodology becomes of special importance in connection with this phase of a study of the cropper system. The usual surveys will be helpful in providing background material, but actual experiments with croppers will probably be needed to discover the best means of progress and advancement. Perhaps the experimental method, either with privately-owned farms or with farms owned and controlled by an educational corporation would be useful. Such a project would be conducted as a tenure project also and would include other classes of share tenants whose problems are similar to those of croppers.

This project is concerned not only with measurement of such factors as income and perquisites but also with inequities in sharing income which may grow out of violently fluctuating prices of cotton and the

more stable overhead items of investment in land, equipment and work-stock.

The project will deal also with the social problems centering around the cropper as one who does not possess capital goods, and who has few or no ties which tend to bind him to the community. At the same time the cropper represents a family unit for which schools, medical care and other services must be provided. In this respect the cropper system has brought about an intensification of the problems of many other types of farm labor.

## **GROUP F**

### **Miscellaneous**

#### **PROJECT 34. Governmental Problems with Respect to Farm Labor (Joint with Agricultural Policy)**

(By Josiah C. Folsom)

Government regulatory problems with respect to farm labor pertain largely to migratory labor. Some of them have scarcely been realized by the public, and research is essential to their proper understanding and handling. They should be studied from the standpoints of the farmer employers, the laborers and the public. Reasonable working and living conditions, especially when women and children are concerned; health and industrial hazards, protection from wage and other exploitation, distribution of labor to areas where needed, relief from unemployment and destitution, and crime prevention are all included.

Public agencies may also affect farm labor conditions through compulsory education for children, and protection against exploitation of child and woman labor.

Federal immigration policy has had a pronounced effect upon the labor situation in the United States since 1920.

Government service functions with respect to farm labor are illustrated by the work of public employment offices discussed in Project 35. In other countries, government policies with respect to credit, small holdings and laborer's allotments have been of much significance for farm labor, and we may be entering an era when we shall have similar interests.

#### **PROJECT 35. Placement of Farm Labor by Employment Offices**

(By Don D. Lescohier)

Employment offices can be of little service in connection with the placement of labor recruited from a local farm community or neighboring country town and obtaining employment in the same locality. This situation will probably take care of itself through the informal methods by which men are now finding employment on farms in their own com-

munities. Employment offices can function where people living in rural communities or in cities desire to obtain employment outside their own neighborhood and where farmers must obtain employees from the outside.

Three methods may be used to meet this situation: (1) newspaper advertising; (2) private employment offices; (3) public employment offices.

The experience of European countries and of all sections of this country indicates that *advertising in newspapers or trade journals* will continue to be utilized even if good employment service is available. A certain proportion of farmers and farm hands think that they can serve their own ends best by resorting to advertising.

*Private employment agencies.* While in some instances farmers and farm hands have obtained satisfactory service from private employment agencies, in the vast majority, the abuses connected with these agencies have been so great that they have proved to be an undesirable means of trying to bring the supply of and demand for farm labor together.

*Public employment offices.* Three situations confront public employment offices in handling farm labor: (a) furnishing farm labor for nearby farming areas; (b) furnishing labor for a state or similar sized area; (c) furnishing labor for large harvest areas at some distance from the employment agency.

The area of recruitment of labor corresponds roughly to the area of its dispersion into employment. Labor supply for local demand is ordinarily obtained in the local area. Labor supply for a state or similar area is ordinarily obtained in a metropolitan center of that area, but a large part of it drifts into the city from the outlying country. Some of this comes from lumbering, construction, road building and similar industries; some from the farming communities. Men leave communities where there is a scarcity of work, or wages are low, and go into the city to find an opportunity for better farm employment. Labor for large harvest areas, such as the wheat or cotton demands, is ordinarily recruited from several states, and passes from the labor centers of the states to the labor centers nearer the place of employment. Wheat harvest labor moves from the states east of the Mississippi into such centers as Kansas City, Sioux City and Fargo.

The employment office has a double problem, therefore. First, it must gauge the demand in order to advertise the opportunities and attract free labor into the employment offices in the distribution centers. To attract the proper amount of labor requires particular skill and judgment.

Second, the employment office must cause the farmers to translate a vague demand for labor into specific demands for given numbers of men at specified wages. Unless employment offices work upon specific orders, their functioning is very unsatisfactory. It is necessary, therefore, for employment offices dealing in farm labor to establish contact with all the local communities from which demand comes and have responsible agents in those communities send the orders, or cause the orders to be

sent, to the nearest centers of labor distribution. Farmers and other employers tend to send orders into employment offices and then pick up men wherever they can without cancelling their orders; forcing responsibility for the orders given is a difficult and often delicate task. Public employment offices are the only agencies which will train farmers to be responsible for their orders. Unless the farmers are responsible, the workers cannot have confidence when they are sent out to jobs, and it is difficult to get them to spend the time and money to go to the farms.

The record systems of an employment office may be the same for farm work as for other work. Special blanks should be used, of course, but the general system is not different. Mr. Bryce Stewart of Industrial Relations Counsellors, New York, has been studying employment office record systems intensively. His results should be utilized rather than a new attempt made upon this subject.<sup>1</sup> The work of the Farm Labor Division of the United States Employment Service at Kansas City should be investigated; also that of the Canadian Employment Service. These will furnish practical experience with the problems indicated.

### PROJECT 36. Employment Planning for an Area

(By J. D. Black)

The suggestion has frequently been made that trade center areas should be able to plan their combined farm and urban activities in such a way as to provide more uniform year-round employment. Since in most instances farm work cannot be so arranged as to keep the summer labor force busy in winter, an effort is made to piece out work on the farm with urban work. The latter should be in a city or village nearby so as not to carry the men too far from their farm jobs. Of course this adjustment is already made to a large extent, but in most cities there are too few winter industries to provide employment for all the farm hands who seek it. Consequently they go to the lumber camps or larger cities where they lose their taste for steady work by associating with the hobos and transients who now do most of the logging and casual city work.

If a city or village community with its surrounding net of farms wished to try to provide steady year-round work for all of its people, farm hands and urban workers alike, it should first make a census of all the people available for different kinds of work at different times of the year, and of all the industries requiring labor and the amount required at different times. The accompanying table shows the results of such an ideal census for a Wisconsin city of 4000 inhabitants. The available labor is represented as constant except that during the three summer months 150 boys are home from high school and college. The farmers need 125 additional hands beginning about April 1, and 170 more in July and August. The vacation laborers, the men released from the meat-packing plant and a wagon factory more than meet this peak-load demand for haying and harvesting. In April there is a real shortage. During the winter months,

(1) See *Statistical Procedure of Employment Offices* by Annabel and Bryce Stewart, Russell Sage Foundation, just announced.



SAMPLE OF SURVEY OF THE LABOR REQUIREMENTS AND AVAILABLE MAN LABOR FOR A WISCONSIN CITY  
OF 4,000 POPULATION WITH 480 FARMS WITHIN ITS TRADE AREA

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Men Available . . . . .	1730	1710	1710	1711	1711	1780	1850	1850	1755	1710	1710	1710
<i>Men Needed</i>												
Country—Farming . . . . .	575	575	590	790	790	800	960	960	880	800	650	575
City—Merchants, clerks and professional men . . . . .	100	104	104	104	104	104	104	104	104	104	110	125
—Building trades . . . . .	20	20	24	36	46	46	46	46	46	35	25	20
—Wagon factory . . . . .	551	551	501	448	430	400	360	360	375	428	550	500
—Barn equipment factory . . . . .	240	245	250	260	265	260	240	240	240	235	220	210
—Meat packing plant . . . . .	68	70	66	58	28	15	15	15	15	20	58	68
—Miscellaneous . . . . .	40	40	42	45	46	44	44	44	48	48	40	36
Total . . . . .	1594	1605	1577	1741	1709	1669	1769	1769	1708	1670	1653	1594
Surplus labor . . . . .	136	105	133	—30	2	111	81	81	47	40	57	116

however, from 105 to 136 men are unemployed, probably farm hands, carpenters, painters, etc.

The city or village finding itself so situated will set about smoothing out the demand for labor. This could be done in some degree on the farms by adjustments in farm organization, or some industry might be brought to town which would give 100 to 125 men work for the four winter months, or the factories now in operation might be induced to take on more men in winter and release more in April. Similarly, a pea-canning factory giving work to 75 vacation workers would fit in well.

Considered from a research point of view, this problem suggests, first, several surveys such as above outlined to discover whether maladjustments do exist, and their nature; second, the inducing of some local organization to try out the experiment of equating the supply of farm labor to the demand for it.

### PROJECT 37. Organized Movements of Farm Labor and Organization of Farm Labor in the United States

(By Charles P. Loomis)

This project should not be confused with the general problem of organizations of farmers and farmers' movements.<sup>1</sup> We are here interested in *labor* organizations. Organized movements of farm laborers have been much less common than of farm operators.<sup>2</sup> In fact, one of the most important phases of this project should be the detailed study of the reasons why labor unions have been rather unsuccessful in organizing farm labor in the United States; also what type of farm economy or type-of-farming area has apparently made and laborer most susceptible to organization. The proceedings and publications of the labor unions which have sought to obtain farm labor members are invaluable sources of information.

A detailed historical study should be made of the most successful attempt on the part of labor unions in the United States to organize farm laborers. This was the organization of the harvest hands in the West and Middle West by the Industrial Workers of the World. The causes for the growth and decline of this organization should be ascertained as well as its functioning and power during the periods of its existence. Also the relation of the organization of farm laborers to general farmer organizations, particularly the Non-Partisan League, should be emphasized.

In making such a study, the general guides to periodical literature should be consulted for articles and monographic studies.<sup>3</sup> General

(1) For Treatment of and readings concerning this problem, see P. A. Sorokin and C. C. Zimmerman, *Principles of Rural-Urban Sociology* (Henry Holt and Company, New York, 1929), 450 ff.

(2) See J. A. Venn, "Agricultural Labor," *Encyclopedia of the Social Sciences*, for a treatment of the reasons why labor unions have with some few exceptions been unsuccessful in organizing farm labor.

(3) In this connection see D. D. Lescohier, "With the I. W. W. in the Wheat Lands," *Harpers*, August 1923, pp. 371-8; and George P. West, "After Liberalism Had Failed," *Nation*, May 30, 1923, p. 629.

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works on the particular organizations involved should be consulted to ascertain the policies of the union in the organization of agricultural laborers.<sup>4</sup> Publications of other institutions interested in civil liberties, etc., are also helpful.<sup>5</sup>

The periodical publications of the organization itself probably constitute the most important source of data: for example, *The Industrial Worker—Official Organ of the Western Branches of the I.W.W.*<sup>6</sup>, *Industrial Solidarity*, and *The Industrial Pioneer*.<sup>7</sup> Other literature published by the organization should also be useful.<sup>8</sup>

Court proceedings in the localities where members of the I.W.W. were tried should be consulted, also the newspapers and other general publications in the local areas where the organization was strong. The records of locals or "jungles" should be studied if possible, and old members and organizers interviewed.

As is always true in historical research, particularly when and where feeling is running high, the historian must be very careful in the conclusions drawn from any document. All evidence must be subjected to the most rigid criticism.

(4) See especially Paul Frederick Brissenden, *The I. W. W.—A Study of American Syndicalism* (Columbia University Press, New York, 1919); and John Graham Brooks, *American Syndicalism—The I. W. W.* (The Macmillan Company, New York, 1913); also Hans Bötcher, *Zur revolutionären Gewerkschaftsbewegung in Amerika, Deutschland und England*, Probleme der Weltwirtschaft, Vol. 37, Schriften des Instituts für Weltwirtschaft und Seeverkehr an der Universität Kiel, 1922.

(5) Examples of this type of source are Winthrop D. Lane, *Uncle Sam, Jailor*, National Civil Liberties Bureau, 41 Union Square, New York City; and the general publications of the American Civil Liberties Union, 138 West 13th Street, New York City.

(6) Mail address, Box 1857, Seattle, Washington.

(7) Published by the Industrial Workers of the World, 1001 W. Madison Street, Chicago, Illinois.

(8) See especially *Agriculture—The World's Basic Industry and Workers*, Industrial Workers of the World, 1001 W. Madison Street, Chicago, Illinois. Other publications from the above office are: *The History of the I. W. W.*, *I. W. W. Songs* (some for harvest hands), *The I. W. W. in Theory and Practice*. For other publications see "Price List—Literature, Songs, and Leaflets." In addition see K. Wallis, "A Harvest Staff Comes Back to Town," *The Workers' Monthly*, November 1924; E. W. Latchem, "The Modern Agricultural Slave," *One Big Union Monthly*, August 1920.