



REPORTS AND ENQUIRIES

Farm Labour Research in the United States

by

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In this survey the term "farm labour research" is considered to apply to the study of the economic and social relationships of persons hired for agricultural work; some reference is also made to the economy of such labour as a factor of production and its efficient utilisation. A bibliography containing references to many representative reports of research and investigation is given at the end of the survey.¹

Several factors have retarded the growth of research into farm labour problems to such an extent that some matters already much studied, and dealt with by popular or legislative action in Europe, have as yet hardly been touched in the United States.

The American farm labour situation since the founding of the first white settlements of this country has been characterised by a shortage of hired farm labourers. This shortage had two principal causes. First and foremost was the abundance of free or cheap lands, making it easy for farm labourers to acquire their own farms during the expansion of the country and the growth of the area of land in farms. This made it easy for men to pass from the status of farm labourer to that of farm operator. Second, and of increasing importance since the close of the nineteenth century, has been the competition for labourers from other industries.

Further factors have operated against the formation of a class of permanent agricultural labourers and the arising of accompanying social and economic problems, and consequently of public interest in them. One of these is the remarkable development and application of labour-economising machinery and of more highly productive plant and livestock units in the last hundred years, which have made possible the trebling of agricultural production per worker, and allowed the release of thousands of farm workers to other occupations. While agricultural workers in the United States increased in absolute numbers up to about 1920, their percentage among the gainfully occupied

¹ Figures in parentheses in subsequent footnotes refer to the numbered items of this bibliography.

population declined from 87.1 per cent. in 1820 to 26.3 per cent. in 1920. Corresponding data for 1930 show that agricultural workers have declined slightly in number since 1920, and that they now form only 21.5 per cent. of the total gainfully occupied population. Another factor is the possibility and ability of members of the farming classes to move to another industry when desired. The nearly complete lack of organisation among agricultural labourers, too, has made that class almost inarticulate before the public, and has tended to minimise its importance as a group.

Frequently it is difficult or impossible to separate one consideration from another in making studies of farm labour. In investigations in the United States, the social topics are usually separated from the economic topics, efficiency, distribution, and utilisation. The latter are considered to fall within the field of farm management and organisation.

On the whole, the study of the farm labourer classes has always been greatly neglected in the United States. American research in such matters has been the development of practically the last thirty years. Popular interest, as manifested by articles in periodicals, was practically non-existent before the end of the nineteenth century. It grew slowly from then to about 1915. Periodical literature was scanty during that period, and concerned itself as much with child and woman labour as with any other aspect of agricultural labour.

During the world war labour of all kinds was at a premium. There was widespread interest in the full development and utilisation of potential labour supplies of every kind. This led to increased interest and investigation of labour matters, not only as concerned adult male farm labourers, but also juvenile labourers and adult female labourers. Since the war there has been considerable public interest in social and economic problems, and this has included agricultural labourers in various ways.

It should be noted that interest in research in farm labour, as well as in many other matters, has not been equal in different parts of the country. In general it may be stated that, because of this, more studies in representative agricultural localities or types of farming have been made in the North and West than in the South. Frequently in gathering data from all over the country it has been impossible to obtain as satisfactory reports from the South as from elsewhere.

Research into farm labour matters in the United States may be said to be conducted by four groups, namely, by Federal agencies, by State agencies, by non-official social or economic research groups, and by individual students.

RESEARCH BY FEDERAL INSTITUTIONS

The Federal agencies making studies of this character include the Congress, through its committees or commissions, the Department of Agriculture, and the Department of Labour. The Bureau of Immigration and the Bureau of the Census have gathered considerable information used by students of the farm labour situation. Other official bodies have occasionally touched upon agricultural labour.

The Congress

The Congress of the United States has several times ordered investigations of matters including farm labour. These have been principally surveys of existing situations and of public attitude. Some have dealt primarily with immigration or with foreign competition in production. Some have been scientific investigations; others were hearings at which interested parties appeared to give testimony for or against proposed legislation.¹

The Department of Agriculture

The first Federal organisation carrying on agricultural work was a division of the Patent Office. Apparently the earliest report by agricultural authorities concerning farm labourers was that on wages published in the annual report of the Commissioner of Patents in 1845.² It gave scattered correspondents' returns of farm wages in their communities. In 1850 the Commissioner sent out circulars requesting data concerning wages.

In 1862 the United States Department of Agriculture was created. In following years the statistical work of the Department was enlarged. Gradually there were developed scientific research, surveys, and enquiries as we understand them to-day. In 1866 the Department made its first comprehensive collection and report concerning farm wages.³ Seventeen similar collections were made at irregular intervals before 1909. In the earlier reports it did not always appear whether the data were for the year preceding or were the wages prevailing at the time the data were gathered. The later reports were averages for a year, as were those collected annually from 1909 to 1923 inclusive. These reports were occasionally supplemented by bulletins reviewing and summarising the farm-wage situation from 1866 to the dates of their issue.⁴ The data for the annual wage averages have not been collected since those for 1923. In that year and since then the data have been collected as the average wage rates of the first day of each quarter-year.⁵

Two other sets of data concerning farm labour are gathered periodically by the Department of Agriculture. Beginning with April 1918, figures concerning the farm labour situation, expressed as percentages of supply and of demand compared with normal, have been collected. For several years they were obtained as for 1 April only. Beginning with and since October 1923 they have been obtained practically every month.⁶ Data concerning the numbers of persons working on certain farms have been gathered monthly by the Department's crop correspondents, beginning with October 1923. These three sets of reports are

¹ (1)-(10). ² (11). ³ (12). ⁴ (13)-(16).

⁵ They are published in *Crops and Markets*, issued monthly by the Department, and also in the annual *Yearbook of the Department of Agriculture*.

⁶ These data are published in *Crops and Markets*.

obtained from the thousands of voluntary regular correspondents of the Department scattered over the country.

Following the entrance of the United States into the war in 1917 the Department of Agriculture placed farm labour specialists in each State. These men took an active part in conducting educational campaigns concerning farm labour matters. They also ascertained farm labour needs, and reported them to agencies possibly able to fill them. They promoted sympathetic understanding between farmers and business men concerning farm labour matters. They helped to distribute labourers. Steps were taken to develop and apply improved methods of estimating actual labour needs on farms.¹

In March 1919 the Secretary of Agriculture appointed a committee to plan the reorganisation and enlargement of the work of what has since become the Bureau of Agricultural Economics. Among other things, the committee recommended a project dealing with farm labour; their recommendation has, however, been carried out in part only.² Since 1920 a small amount has been given to research work other than that involved in the gathering of the periodic data noted above. The published studies resulting have dealt with factors affecting harvest labour demand and supply in the Wheat Belt and with the movements and conditions of employment of that labour³; with characteristics of farm labour classes in Massachusetts⁴ and New Jersey⁵; with the kinds, frequency, and values of the perquisites of farm labourers.⁶ Other unpublished studies have been carried on concerning the farm labour market of the north-eastern States; monthly wage payments to the various classes of farm labour; and relative amounts of time worked per year and wages received by certain groups on farms.

In the annual economic outlook reports formulated by the Department of Agriculture in co-operation with representatives of the agricultural colleges, there have been included general forecasts as to the probable supply and wages of farm labour.⁷

The seasonal distribution of farm labour has been studied by the Department of Agriculture in various ways, chiefly in connection with farm management projects made in several representative parts of the country. Most of these studies do not differentiate between hired labour and other human labour.⁸

Efficient use of man labour has been encouraged by popular publication of methods and equipment economising human effort.⁹ Three bureaux of the Department of Agriculture co-operated a few years ago in a study of the extent of the use of power by farmers.¹⁰ By the use of power, both animal and mechanical (the latter rapidly increasing in recent years), American farmers have kept their volume of production ahead of the needs of the rest of a population which has increased much more rapidly than the population in agriculture.

¹ (17), (18). ² (19), (20). ³ (21)-(23). ⁴ (24). ⁵ (25). ⁶ (26).

⁷ These reports for the last five years have been issued as Department of Agriculture publications in February of the respective years. Cf. (27).

⁸ (28)-(31). ⁹ (32)-(40). ¹⁰ (41).

Other less extended and intensive studies by the Department have dealt with a variety of topics related to farm labourers, often in connection with other primary topics. These have included seasonal labour distribution by type of farm and by crop; relative labour efficiency¹; causes of supply and demand of farm labour; labour movement between city and farm²; correlation of farm labour supply and wages with industrial activity and wages³; farm labourers, standards and costs of living⁴; the housing of farm labourers⁵; the agricultural ladder (that is, the progress of the farm labourer class to farm tenancy or ownership).⁶ On all of these topics further study is desirable to give comparable data for districts as yet barely touched, and to provide continuity of data.⁷

The Department of Labour

The United States Department of Labour has confined most of its labour studies to non-agricultural labour. By more or less tacit understanding most of the research concerning agricultural labourers has been left to the Department of Agriculture. However, the Children's Bureau has made surveys of child labour conditions in various parts of the United States, especially in regions of industrialised or specialised agriculture, including localities producing sugar beets, fruits, berries, truck crops, tobacco, and cotton. Some of these studies have included the work of mothers of child labourers. Most of the studies have dealt with hired child labourers only, though a few studies have applied also to children of farm operators. Topics treated have included characteristics of the families of the child workers, tasks, working conditions, living conditions, earnings, education of the children, and effects of the work on the children.⁸

The Women's Bureau has made only one study in which the work of women hired farm labourers was treated. That study was among women berry and orchard workers in the State of Washington. Wages, hours, and working conditions were stressed; attention was also given to living conditions and to characteristics of the workers and their families.⁹

In October 1929 the Bureau of Labour Statistics published an exhaustive study of wages from Colonial times to 1928. Agricultural wages, with some references to perquisites, were included.¹⁰

The last Congress passed a Bill directing the Bureau of Labour Statistics to collect, collate, report and publish at least once each month certain data concerning the volume of and changes in employment, total wages paid, and total hours of employment in specified industries, including agriculture. The proposed work directed is an enlargement and extension of similar work already done for certain industries by the Bureau. Authorisation was given to arrange with any other Federal, State, municipal, or governmental agency for the collection of these

¹ (42). ² (43). ³ (44). ⁴ (45)-(49). ⁵ (50). ⁶ (51)-(54).
⁷ (55). ⁸ (56)-(64). ⁹ (65). ¹⁰ (66). Cf. also (67).

data. Because the Bill carried no appropriation the new work has not yet been started.

The United States Employment Service, a division of the Department of Labour, has, since its foundation during the world war, studied the placements of agricultural labour. It has developed a system of estimating and forecasting harvest labour demand and supply for regions of extensive crop specialisation, such as the Wheat Belt and the Cotton Belt. The Service has also engaged in recruiting and distributing harvest labour, in the Wheat Belt, the Cotton Belt, and the Fruit Belt of the western half of the United States.¹

Data of the Bureau of Immigration concerning migration movements across international boundaries of the United States have furnished considerable information, especially since about 1909, concerning the past and intended occupations, foreign residence, and intended destination of immigrants.² Similar information has been obtained from emigrants. These data have been used in occasional studies, mostly outside the Bureau, concerning the effect of immigration on the agricultural labour supply. One such study shows that net immigration has a rather lower percentage of agricultural labourers than that class forms of the total gainfully occupied population.³ This was true even before the application of the quota restrictions to immigration. Other studies based on immigration data have quite consistently shown that many immigrants who had formerly been agricultural workers abroad have intended to enter other occupations, and that the bulk of immigrants have had cities rather than agricultural districts as their planned destinations.

While the net total immigration of farm labourers has been low, that of some nationalities or races has been at times so largely of agricultural labourers and so localised in movement and significance that considerable study has been given to it. The immigrations of orientals to the Pacific Coast and of Mexicans to the South-West have been of special interest. The principal studies of these movements as they relate to farm labour have been made by other than Federal agencies.

The Bureau of the Census

The Bureau of the Census of the United States Department of Commerce has published as for 1850, and every ten years⁴ since, data of various kinds relating to agricultural labourers.⁵ These have gradually been amplified until in 1920 information was tabulated by States showing the numbers of such labourers, their sex, age, race, colour, nativity and parentage (native or foreign), total wage payments in the previous year to farm labourers, and other data.

In 1890 and 1900 the Bureau of the Census gathered and published data concerning the amount of unemployment of individuals in the respective previous years.⁶ These included agricultural labourers.

¹ (68). ² (69). ³ (70). ⁴ The data for 1930 are not yet fully available.

⁵ (71). ⁶ (72) and (73) respectively.

The Census next gathered such data in 1930 ¹, but of rather different type. The report is designed to give a cross-section of the unemployment situation by enumerating those who are idle, and the length of time and causes of unemployment of the persons idle on the working day previous to the enumerator's call. It is expected that the tabulations, when fully available to the public, will afford the best available material on unemployment among farm labourers. ²

RESEARCH BY STATE INSTITUTIONS

Studies by State institutions or commissions have been few. Each State has in the executive branch of its Government a body dealing with agriculture and another dealing with labour, usually non-agricultural. Each State has also one or more agricultural colleges and agricultural experiment stations. These are the bodies most likely to be interested in agricultural labour. The extent of their activities depends upon their organisation and upon State interest in the subject. Other official bodies, often specially appointed, have sometimes dealt with farm labour incidentally to other objectives.

The writer knows of only one formal study of farm labour made by a State department of agriculture. ³ Several State agricultural colleges and experiment stations have made studies. The topics thus investigated include wages, working hours, seasonal labour distribution, estimating probable harvest labour demands, relations between labourer and employer, and child labour. At present no State appears to have in progress any study relating to social and economic problems of farm labourers. Numerous farm management studies have included such cost accounting data as expenses for farm wages, and seasonal labour distribution on farm enterprises. ⁴

Several State departments of labour, and occasionally also departments of industry and health, have made investigations covering farm labourers. ⁵ The topics treated include woman and child labour, characteristics of the labour classes, fluctuations in employment, occupational accidents, and housing (principally labour camps).

In addition to permanent State bodies, various State commissions have made important investigations bearing on problems of the farm labour classes. ⁶ Notable are those of several California commissions dealing primarily with certain immigrant classes. Early in 1931 a New Jersey commission reported on a survey of migratory children employed on farms.

RESEARCH BY NON-OFFICIAL INSTITUTIONS

Research bearing upon farm labourers has been carried on by certain non-official bodies interested in economic and social welfare problems.

¹ Bulletins have been issued as yet for only part of the States; cf. for example (74).

² For a study of farm population, including farm labourers, made by co-operation with the Department of Agriculture, cf. (75).

³ (76). ⁴ (77)-(84). ⁵ (85)-(88). ⁶ (89)-(96).

The most prominent of these agencies are concerned from the national as well as from a local standpoint. Most active among these have been the National Child Labour Committee, the National Bureau of Economic Research, and the Social Science Research Council.

The National Child Labour Committee has made surveys in sugar beet, tobacco, cotton, and truck crop cultivation.¹ Incidentally to some of these studies of children working on farms, it has secured considerable information concerning the characteristics of the children's families. The topics treated have included the work performed by children, its effect upon health and education, working and living conditions, and earnings.

The Social Science Research Council is a comparatively new body. It has partly outlined extensive research projects, among which farm labour problems are included. A series of studies dealing with Mexican immigrants has already been published. Three of the studies were of labourers in agriculture in different States; they dealt intimately with economic and social problems of agricultural labourers of Mexican ancestry or birth in relation to the other races resident in specified districts.²

The National Bureau of Economic Research has studied the amounts and distribution of the national income received by those engaged in the principal groups of occupations. It has also studied the volume of employment, hours worked, and earnings of workers. Estimates were reported for farm labourers.³

In addition to these organisations, other non-official bodies interested in economic and social welfare matters have made occasional studies of American farm labour classes. These have all been local, and most of them have been supplemented by similar surveys by other agencies, official or non-official.⁴

Very few individuals have contributed reports on studies of American farm labour problems independently of the organisations mentioned above.⁵

STUDIES ON OUTLYING POSSESSIONS

Research into farm labour problems of the outlying possessions of the United States needs to be considered apart from research into continental problems.⁶

Agricultural labour problems in Hawaii centre around the sugar and pineapple industries. Labour supply has for years been an acute problem, and much labour has been imported. This has led to the recruiting of labour from outside the Islands under contract in order to meet the demands of enlarged production and to fill the places of

¹ (97)-(109).

² (110)-(112).

³ (113)-(116).

⁴ (117)-(120). Cf. also (121).

⁵ (122)-(129).

⁶ Part of the literature concerning agricultural labour in the outlying possessions of the United States is in the nature of official reports of investigations rather than of research. These are valuable as sources of information on existing situations and practices.

those leaving the industries. Data have been furnished by various United States agencies concerning the race, sex, numbers, nativity, and conditions of employment of agricultural labour in Hawaii. Comprehensive surveys or studies have been made by the Federal Commissioners of Labour and their successors the Secretaries of Labour concerning the welfare of the labouring classes in the Islands.¹ Several years ago the director of the Bureau of Labour of the Philippine Islands made a thorough personal investigation of the recruiting of Filipinos for Hawaiian plantation work, their labour contracts, the labourers' working and living conditions, and other matters.²

Comparatively little has been done to study agricultural labour conditions in the Philippines. The Insular Bureau of Labour several years ago devoted an issue of its monthly bulletin to labour conditions in general. Agricultural labour matters were briefly treated.³

Porto Rico is characterised by a dense population growing faster than its industrial opportunities. Prevailing situations and problems have been at various times reported upon by Insular authorities or by the Governor.⁴ The United States Department of Labour has made one survey of labour and employment conditions through certain of its divisions.⁵ A study begun in 1928 by another organisation made a fairly thorough investigation of problems of the Island. It devoted considerable space to the "peasant class" and its economic and social problems.⁶

UNSURVEYED OR INSUFFICIENTLY SURVEYED PROBLEMS

In the field of farm labour problems in the United States, many studies are needed to complete existing organised information, and to gather information where little or none has been organised. Too little is known concerning the migratory classes of farm workers, their numbers, their cycles of agricultural employment, their non-agricultural occupations, their working and living conditions, the amounts and sufficiency of their earnings, their relation to many public health and delinquency problems. It may be that the country will always need some such people. But it should do its best to solve for them the problems indicated, and also to educate their children, and if possible to lead the migrants to a more settled life with its greater economic and social advantages.

Scientific management of labour such as has been applied to some other industries has not been applied to American agriculture to bring about an increase of labour efficiency. American effort has been towards high production per worker, rather than per unit of land as in some older countries; labour, not land, has been scarce, and American agriculture, on the whole, has been extensive rather than intensive.

¹ (130)-(135).

² (136). A Congressional investigation is reported in (137). A very recent study, (138), by a non-official body may also be cited.

³ (139).

⁴ (140).

⁵ (141)-(143).

⁶ (144).

Farm labourers' tasks have not been studied with reference to performance in individual tasks, occupational fatigue, or the relationship of various types of wage payment to the behaviour of labour.

Little attention has been paid in the United States to minimum wages for men, and no legislation of this kind exists in their behalf. About twelve States have laws on minimum wages for women; they do not seem to apply to agricultural workers.

There is little information concerning the possibilities and limitations of agricultural labourers' unions in the United States, or of the reasons which have prevented their widespread formation and growth. The Industrial Workers of the World movement some years ago attracted popular repressive measures in some of the Western States. The movement quickly declined to insignificance, and no particular study was given it. A few attempts have been made to form agricultural workers' unions, but only one besides the Industrial Workers of the World has had any measure of permanency. This situation is in strong contrast to the widespread and effective organisation of hired land workers in some other countries.

The problems of accidents, illness, and unemployment among agricultural workers have received little attention in the United States.

There are reported to be about 5,000 fatalities and 85,000 non-fatal accidents annually among farm workers of all classes. Many believe that the wider use of machinery is increasing these figures. Little is however known concerning the types of accidents and their frequency, or the resulting losses of time, money, and efficiency. Insurance companies transacting such insurance confess that they need more data for the proper conduct of their business. Nevertheless, the problem has attracted attention to the point that one State has a law which to all intents and purposes requires agricultural labourers to be insured against accidents by their employers. Three other States require the insurance of labourers on such risky jobs as threshing grain. A few States which have compulsory workmen's compensation laws for other occupations allow voluntary insurance for farm labourers; others exempt or exclude it specifically or by omitting to name the industry. A few States have no laws on the matter.

Occupational illness or disease of farm labourers has apparently been given little attention in the United States.

Unemployment among farm labourers has been the subject of some enquiries dealing also or primarily with other matters. But there is no extensive information concerning the seasonal and cyclical fluctuations of such unemployment, its effects on the income of farm labourers, the extent to which agricultural employment is supplemented by other occupations, or the seasonal and cyclical inter-relations of agricultural and other occupations. Some work has been done, as outlined above, on seasonal needs for labour on various crops and types of farms; but in general the work is one-sided and far from complete in itself.

Official reports and a survey of employment offices made by the Russell Sage Foundation a few years ago have given considerable information concerning the activities of employment offices operated

by private parties and by public authorities.¹ The few thorough studies concerning such agencies have been made with little attention to their relation to the distribution of farm labourers, except a study made in the North-Eastern States by the United States Department of Agriculture, the report of which has not yet been published. Considerable research is needed concerning the best means of estimating and forecasting farmers' labour needs, and of recruiting and distributing farm labourers.

On the whole, the social and economic problems of farm labourers are gradually attracting attention and research. As they grow in importance, the country will study them and attempt to solve them equitably.

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(36) — — — — *Saving Man Labour in Sugar Beet Fields*, by L. A. MOORHOUSE and T. H. SUMMERS. Farmers' Bulletin No. 1042. Washington, D.C., Govt. Printing Office, 1919.

(37) — — — BUREAU OF AGRICULTURAL ECONOMICS. *A Corn-Belt Farming System Which Saves Harvest Labour by Hogging Down Crops*, by J. A. DRAKE. Farmers' Bulletin No. 614. Washington, D.C., Govt. Printing Office, 1926.

(38) — — — BUREAUX OF AGRICULTURAL ECONOMICS AND OF PUBLIC ROADS. *Effective Haying Equipment and Practices*, by L. A. REYNOLDSON and C. D. KINSMAN. Farmers' Bulletin No. 1525. Washington, D.C., Govt. Printing Office, 1927.

(39) — — — BUREAUX OF AGRICULTURAL ECONOMICS, OF PLANT INDUSTRY, AND OF PUBLIC ROADS. *The Combined Harvester-Thresher in the Great Plains*, by L. A. REYNOLDSON, R. S. KIFER, J. H. MARTIN, and W. R. HUMPHRIES. Technical Bulletin No. 70. Washington, D.C., Govt. Printing Office, 1928.

(40) — — — *Shall I Buy a Combine ?* by L. A. REYNOLDSON, J. A. MARTIN, and W. R. HUMPHRIES. Farmers' Bulletin No. 1565. Washington, D.C., Govt. Printing Office, 1928.

(41) — — — BUREAUX OF PUBLIC ROADS, OF AGRICULTURAL ECONOMICS, AND OF ANIMAL INDUSTRY. *An Appraisal of Power Used on Farms in the United States*, by C. D. KINSMAN. Department Bulletin No. 1348. Washington, D.C., Govt. Printing Office, 1926.

(42) — — — *The Utilisation of Our Lands for Crops, Pasture, and Forests*, by L. C. GRAY and others. Yearbook Separate 896. Washington, D.C., Govt. Printing Office, 1924. Also published in the *Yearbook of the Department of Agriculture*, 1922, pp. 415-506. Cf. pp. 475-478 of either reference.

(43) — — — "Movement from City and Town to Farms", by George K. HOLMES, in the *Yearbook of the Department of Agriculture*, 1914, pp. 257-274. Washington, D.C., Govt. Printing Office, 1915.

(44) — — — BUREAU OF AGRICULTURAL ECONOMICS. *Post War Interrelations Between Agriculture and Business in the United States*, by L. H. BEAN. (Mimeographed.) Washington, D.C., 1930. Cf. pp. 15-17.

(45) — — — — *Cost of Living in Farm Homes in Several Areas of Iowa*, by E. L. KIRKPATRICK and George H. VON TUNGEN. (Mimeographed.) Washington, D.C., 1924.

(46) — — — *Living Conditions and the Cost of Living in Farm Homes of Delaware County, Ohio*, by E. L. KIRKPATRICK and B. L. MELVIN. (Mimeographed.) Washington, D.C., 1924.

(47) — — — BUREAU OF AGRICULTURAL ECONOMICS AND HOME ECONOMICS, *Average Expenditure for Household Furnishings and Equipment Purchased by Farm Families*, by E. L. KIRKPATRICK. (Mimeographed.) Washington, D.C., 1926.

(48) — — — BUREAU OF AGRICULTURAL ECONOMICS. *The Relation between the Ability to Pay and the Standard of Living Among Farmers*, by E. L. KIRKPATRICK and J. T. SANDERS. Department Bulletin No. 1382. Washington, D.C., Govt. Printing Office, 1926.

(Note. — The above Bulletin is referred to because part of its data refer to "croppers". Croppers are found in most of the cotton-producing States. They are practically a class of hired farm labourers who receive their remuneration in a share of the crops they help produce, rather than money. Statistically they are often classed as operators of tenant farms.)

(49) — — — *The Farmers' Standard of Living*, by E. L. KIRKPATRICK. Department Bulletin No. 1466. Washington, D.C., Govt. Printing Office, 1926.

(50) — — — "Housing the Worker on the Farm", by E. B. MCCORMICK, in the *Yearbook of the Department of Agriculture*, 1918, pp. 347-356. Washington, D.C., Govt. Printing Office, 1919.

(51) — — — OFFICE OF FARM MANAGEMENT AND FARM ECONOMICS. *Farm Ownership and Tenancy in the Black Prairie of Texas*, by J. T. SANDERS. Department Bulletin No. 1068. Washington, D.C., Govt. Printing Office, 1922.

(52) — — — BUREAU OF AGRICULTURAL ECONOMICS. *Relation of Land Tenure to Plantation Organisation*, by C. O. BRANNEN. Department Bulletin No. 1269. Washington, D.C., Govt. Printing Office, 1924.

(53) — — — *Condition of Farmers in a White-Farmer Area of the Cotton Piedmont, 1924-1926*, by Howard A. TURNER and L. D. HOWELL. Department Circular No. 78. Washington, D.C., Govt. Printing Office, 1929.

(54) — — — *Ownership of Tenant Farms in the United States*, by Howard A. TURNER. Department Bulletin No. 1432. Washington, D.C., Govt. Printing Office, 1926.

(55) Two miscellaneous tables of interest are contained in the following:

(a) UNITED STATES. DEPARTMENT OF AGRICULTURE. *Yearbook of the Department of Agriculture*, 1918. Washington, D.C., Govt. Printing Office, 1929. Cf. table 293, pp. 695-696: "How Farm Labour is Hired."

(b) — — — *Yearbook of the Department of Agriculture*, 1922, Washington, D.C., Govt. Printing Office, 1923. Cf. tables 586-588, pp. 1075-1077, for various data concerning length of working days of farm labourers.

(56) UNITED STATES. DEPARTMENT OF LABOUR. CHILDREN'S BUREAU. *Child Labour and the Work of Mothers in the Beet Fields of Colorado and Michigan*. Bureau Publication No. 115. Washington, D.C., Govt. Printing Office, 1923.

(57) — — — *Child Labour on Maryland Truck Farms*, by Alice CHANNING. Bureau Publication No. 123. Washington, D.C., Govt. Printing Office, 1925.

(58) — — — *Child Labour and the Work of Mothers on Norfolk Truck Farms*. Bureau Publication No. 130. Washington, D.C., Govt. Printing Office, 1924.

(59) — — — *Work of Children on Truck and Small-Fruit Farms in Southern New Jersey*. Bureau Publication No. 132. Washington, D.C., Govt. Printing Office, 1924.

(60) — — — *The Welfare of Children in Cotton-Growing Areas of Texas*. Bureau Publication No. 134. Washington, D.C., Govt. Printing Office, 1924.

(61) — — — *Child Labour in Fruit and Hop Growing District of the Northern Pacific Coast*, by Alice CHANNING. Bureau Publication No. 151. Washington, D.C., Govt. Printing Office, 1926.

(62) ——— *Child Labour in Representative Tobacco-Growing Areas*, by Harriet A. BYRNE. Bureau Publication No. 155. Washington, D.C., Govt. Printing Office, 1926.

(63) ——— *Work of Children on Illinois Farms*, by Dorothy WILLIAMS and Mary E. SKINNER. Bureau Publication No. 168. Washington, D.C., Govt. Printing Office, 1926.

(64) ——— *Children in Agriculture*, by Nettie MCGILL. Bureau Publication No. 187. Washington, D.C., Govt. Printing Office, 1929.

(65) ——— WOMEN'S BUREAU. *Women in the Fruit-Growing and Canning Industries in the State of Washington*. Bulletin of the Women's Bureau, No. 47. Washington, D.C., Govt. Printing Office, 1926.

(66) ——— BUREAU OF LABOUR STATISTICS. *History of Wages in the United States from Colonial Times to 1928*. Bulletin No. 499. Washington, D.C., Govt. Printing Office, 1929.

(67) Other studies by various divisions of the Department of Labour include :

(a) UNITED STATES. DEPARTMENT OF LABOUR. BUREAU OF LABOUR STATISTICS. *Handbook of Labour Statistics, 1929 Edition*. Bureau of Labour Statistics Bulletin 491. Cf. "Increase in Labour Productivity", pp. 619-623. Washington, D.C., Govt. Printing Office, 1929.

(b) TURNER, Victoria B. "Agricultural Wage Earners in the United States", in *Monthly Labour Review*, Vol. XV, No. 6, Dec. 1922, pp. 1192-1210.

(c) "Mechanisation of Agriculture as a Factor in Labour Displacement", in *Monthly Labour Review*, Vol. XXXIII, No. 4, Oct. 1931, pp. 749-783.

Divisions of the Department of Labour have published some material concerning agricultural labour in Hawaii and Porto Rico. Some are noted in connection with the discussion of research concerning agricultural labour in those islands.

(68) For descriptions of the work of the United States Employment Service, cf. the *Annual Report of the Director-General, United States Employment Service* (Department of Labour), for fiscal years ending 30 June ; or the annual *Summary of Activities of the Farm Labour Division, United States Employment Service* (Department of Labour), for each calendar year. The activities of the Service are also described in the following Bulletins of the United States Bureau of Labour Statistics : No. 355, pp. 12-17 ; No. 411, pp. 26-31 ; No. 478, pp. 22-24.

(69) UNITED STATES. DEPARTMENT OF LABOUR. BUREAU OF IMMIGRATION. *Annual Report of the Commissioner-General of Immigration*, for fiscal years ending 30 June. Washington, D.C., Govt. Printing Office.

(70) "Changes in Occupational Character of Immigration Since the War" in *Monthly Labour Review*, Vol. XXIV. No. 2. Feb. 1927, pp. 249-255.

(71) Data for the successive censuses may be found in the following :

(a) UNITED STATES. DEPARTMENT OF THE INTERIOR. CENSUS OFFICE. *Seventh Census of the United States, 1850*. Washington, D.C., Robert Armstrong, Public Printer, 1853. Table L, pp. Ixvii-Ixxix.

(b) ——— *Eighth Census of the United States, 1860 : Population of the United States in 1860*. Washington, D.C., Govt. Printing Office, 1864. Cf. tables on Occupations in the United States, pp. 656-680.

(c) ——— *Ninth Census of the United States, 1870*. Vol. I : *Statistics of the Population of the United States*. Washington, D.C., Govt. Printing Office, 1872. Cf. table XXVI, The Number of Persons in the United States Engaged in Each Class of Occupations, pp. 669-671.

(d) ——— *Tenth Census of the United States, 1880*. Vol. I : *Population*. Washington, D.C., Govt. Printing Office, 1883. Cf. the Tables of Occupations, pp. 701-909.

(e) ——— *Eleventh Census of the United States, 1890. Population : Report on the Population of the United States at the Eleventh Census*. Part II : *Occupations*, pp. 299-800. Washington, D.C., Govt. Printing Office, 1897.

(f) ——— *Twelfth Census of the United States, 1900*. Vol. II : *Population*. Part II : *Occupation*, pp. 503-601. Washington, D.C., U.S. Census Office, 1902.

(g) — DEPARTMENT OF COMMERCE. BUREAU OF THE CENSUS. *Thirteenth Census of the United States, 1910. Vol. IV : Population, 1910 : Occupation Statistics.* Washington, D.C., Govt. Printing Office, 1914.

(h) — — — *Fourteenth Census of the United States, 1920. Vol. IV : Population : Occupation.* Washington, D.C., Govt. Printing Office, 1923.

Detailed occupational data of the Fifteenth Census of the United States, taken in 1930, are as yet available for only part of the States. A general summary, *Gainful Workers in the United States by Industry Groups*, was released on 9 Sept. 1931 by the Census Bureau. For part of the States bulletins giving considerable detail have been issued : for example :

(i) — — — *Fifteenth Census of the United States : 1930, Population Bulletin, Second Series, Connecticut : Composition and Characteristics of the Population.* Washington, D.C., Govt. Printing Office, 1931.

(72) UNITED STATES. DEPARTMENT OF THE INTERIOR. CENSUS OFFICE. *Eleventh Census of the United States, 1890. Population. Report on the Population of the United States at the Eleventh Census. Part II : Occupations.* Washington, D.C., Govt. Printing Office, 1897. Cf. the section on "Months Unemployed", pp. 448-471, tables 101-107.

(73) — DEPARTMENT OF COMMERCE AND LABOUR. BUREAU OF THE CENSUS. *Special Reports. Occupations at the Twelfth Census.* Washington, D.C., Govt. Printing Office, 1904. Cf. especially pp. CXXV-CCXXXVII, 78-87, 214-423, and 480-763.

(74) — DEPARTMENT OF COMMERCE. BUREAU OF THE CENSUS. *Fifteenth Census of the United States : 1930. Unemployment Bulletin. Alabama. Unemployment Returns by Classes.* Washington, D.C., Govt. Printing Office, 1931.

(75) — — — *Farm Population of Selected Countries*, by C. J. GALPIN and Veda B. LARSEN. Washington, D.C., Govt. Printing Office, 1924.

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(76) NEW YORK. DEPARTMENT OF FARMS AND MARKETS. *A Study of Farm Labour in Seneca County, New York*, by Roy L. GILLET. Bulletin No. 164. Albany N.Y., 1924.

(77) CALIFORNIA. UNIVERSITY. COLLEGE OF AGRICULTURE. AGRICULTURAL EXPERIMENT STATION. *The Farm Labour Situation in California*, by R. L. ADAMS. Berkeley, California, 1917.

(78) COLORADO. AGRICULTURAL COLLEGE. *Children Working on Farms in Certain Sections of Northern Colorado*, by B. F. COEN, Wilbur E. SKINNER, and Dorothy LEACH. Colorado Agricultural College Bulletin, Series 27, No. 2. Fort Collins, Colorado, 1926.

(79) IOWA. STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS. AGRICULTURAL EXPERIMENT STATION. *Cost of Living on Iowa Farms*, by George H. VON TUNGELN, J. E. THADEN, and E. L. KIRKPATRICK. Bulletin No. 237. Ames, Iowa, 1926.

(80) KANSAS. STATE AGRICULTURAL COLLEGE. EXTENSION SERVICE. *Kansas Handbook of Harvest Labour*, by H. UMBERGER and E. L. RHODES. Extension Circular No. 23. Manhattan, Kansas, 1921.

(81) MINNESOTA. UNIVERSITY. AGRICULTURAL EXPERIMENT STATION. *Wages of Farm Labour*, by C. L. HOLMES. Technical Bulletin No. 4. University Farm, St. Paul, Minnesota, 1922.

(82) MISSOURI. UNIVERSITY. COLLEGE OF AGRICULTURE. AGRICULTURAL EXPERIMENT STATION. *The Distribution of Farm Labour*, by O. R. JOHNSON. Research Bulletin No. 6. Columbia, Missouri, 1913.

(83) OHIO. AGRICULTURAL EXPERIMENT STATION. *Movement of Open Country Population in Ohio*, by P. G. BECK and C. E. LIVELY. Bulletin No. 489. Wooster, Ohio, 1931.

- (84) WISCONSIN. UNIVERSITY. AGRICULTURAL EXPERIMENT STATION. *Farm Labour in Wisconsin*, by H. C. TAYLOR and J. D. BLACK. Bulletin 316. Madison, Wisconsin, 1920.
- (85) CALIFORNIA. BUREAU OF LABOUR STATISTICS. *Twenty-second Biennial Report of the Bureau of Labour Statistics of the State of California, 1925-1926*. Cf "Report of the Mexican Labour Situation in the Imperial Valley", pp. 113-127. Sacramento, California State Printing Office, 1926.
- (86) MICHIGAN. BUREAU OF LABOUR AND INDUSTRIAL STATISTICS. *Twelfth Annual Report, Year Ending 1 February 1895*. Part I: *Farm Labourers of Michigan*, pp. 1-236.
- (87) MARYLAND. COMMISSIONER OF LABOUR AND STATISTICS. *Berry and Vegetable Pickers in Maryland Fields*. *Child Labour in Vegetable Canneries in Maryland*. Baltimore, Maryland, 1929.
- (88) PENNSYLVANIA. DEPARTMENT OF LABOUR AND INDUSTRY. *Migratory Child Workers and School Attendance*, prepared by Bureau of Women and Children. Special Bulletin No. 26. Harrisburg, Pennsylvania, 1928.
- (89) CALIFORNIA. COMMISSION OF IMMIGRATION AND HOUSING. *Advisory Pamphlet on Camp Sanitation and Housing*. San Francisco, California, 1928.
- (90) — DEPARTMENTS OF INDUSTRIAL RELATIONS, OF AGRICULTURE, AND OF SOCIAL WELFARE. *Mexicans in California: Report of Governor C. C. Young's Mexican Fact-Finding Committee*. San Francisco, California, 1930.
- (91) — DEPARTMENT OF INDUSTRIAL RELATIONS. *Facts About Filipino Immigration into California*. Special Bulletin No. 3. San Francisco, California, 1930.
- (92) KANSAS. COURT OF INDUSTRIAL RELATIONS. *Third Annual Report for the Year Ending 31 December 1922*. Topeka, Kansas, Kansas State Printing Plant, 1923. Cf. pp. 123-124, "Child Labour in the Beet Fields of Kansas."
- (93) OHIO. STATE BOARD OF HEALTH. *Investigation of the Employment of Minors upon Truck Farms, Particularly Onion and Celery Farms in Some Localities of Ohio*, by E. R. HAYHURST. Ohio Public Health Journal of the Ohio State Board of Health, Vol. VI, No. 3, Sept. 1915, pp. 316-325.
- (94) CALIFORNIA. STATE BOARD OF CONTROL OF CALIFORNIA. *California and the Oriental*. Sacramento, California. State Printing Office, 1922.
- (95) NEW JERSEY. *Report of the Commission to Investigate the Employment of Migratory Children in the State of New Jersey*. Trenton, New Jersey, MacCrellish and Quigley Co., 1931.
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- (98) — *Child Labour in Sugar Beet Fields of Colorado*, by Edward N. CLOPPER and Lewis W. HINE. Pamphlet No. 259. New York, N.Y., National Child Labour Committee, 1916.
- (99) — *Children in Agriculture*, by Ruth MCINTIRE. Pamphlet No. 284. New York, N.Y., National Child Committee, 1918.
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(102) — *Children Working in the Sugar Beet Fields of the North Platte Valley of Nebraska*, by Sara A. BROWN and Robie O. SARGENT. Publication No. 318. New York, N.Y., National Child Labour Committee, 1924.

(103) — *Child Labour Among Cotton Growers of Texas*, by Charles E. GIBBONS and Clara B. ARMENTROUT. Publication No. 324. New York, N.Y., National Child Labour Committee, 1925.

(104) — *Children Working on Farms in Certain Sections of the Western Slope of Colorado*, by Charles E. GIBBONS and Howard M. BELL. Publication No. 327. New York, N.Y., National Child Labour Committee, 1925.

(105) — *Children Working in the Sugar Beet Fields of Certain Districts of the South Platte Valley, Colorado*, by Sara A. BROWN, Robie O. SARGENT, and Clara B. ARMENTROUT. Publication No. 333. New York, N.Y., National Child Labour Committee, 1926.

(106) — *The Migratory Child Worker*, by George B. MANGOLD, and *Education of the Migrant Child*, by Lillian B. HILL. Publication No. 354. New York, N.Y., National Child Labour Committee, 1929.

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(109) — "Notes in Compilation of Child Labour and Compulsory Attendance Laws as They Affect the Employment of Children in Agriculture", in *American Child*, Vol. II, No. 4, Feb. 1921, pp. 310-320.

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(112) — *Mexican Labour in the United States: Dimmit County, Winter Garden District, South Texas*. University of California Publications in Economics, Vol. VI, No. 5, Berkeley, California, University of California Press, 1930.

(113) NATIONAL BUREAU OF ECONOMIC RESEARCH, INC. *Employment Hours and Earnings in Prosperity and Depression, United States, 1920-1922*, by W. I. KING. New York, N.Y., National Bureau of Economic Research, Inc., 1923. Cf. especially: pp. 36-46, "Number of Employees on Farms"; pp. 74-77, "Employment on Farms"; pp. 86-102, "Hours Worked by Farm Employees"; pp. 118-141, "Wages of Farm Employees".

(114) — *Income in the United States: Its Amount and Distribution, 1909-1919*. New York, N.Y., Harcourt, Brace and Co., 1921. Cf. Chapter III, "The Distribution of the National Income", Section I, pp. 89-108, "The Share of Employees in the National Income".

(115) — *Income in the Various States: Its Sources and Distribution, 1919, 1920, and 1921*, by Maurice LEVEN. New York, N.Y., National Bureau of Economic Research, Inc., 1925. Cf. "Agriculture", pp. 62-65.

(116) — *The National Income and its Purchasing Power*, by W. I. KING. New York, N.Y., National Bureau of Economic Research, Inc., 1930. Cf. Chapter VI, "The Share of the Employees", pp. 120-169.

(117) COUNCIL OF WOMEN FOR HOME MISSIONS. COMMITTEE ON FARM AND CANNERY MIGRANTS. *The Mexican Population in Imperial Valley, California*, by Kathryn CRAMP, Louise F. SHIELDS, and Charles A. THOMSON. (Mimeographed.) Council of Women for Home Missions, 156 Fifth Ave., New York, N.Y., 1926.

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Cf. especially Part II, "The Domestic Problem of Filipino Immigration for the Mainland of the United States.

(119) NATIONAL INDUSTRIAL CONFERENCE BOARD. *Wages in the United States, 1914-1930*. New York, N.Y., National Industrial Conference Board, Inc., 1931. Cf. Chapter VI, pp. 197-203, "Wages in Agriculture".

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(121) HARRISON, Shelby M., and others. *Public Employment Offices*. New York, N.Y., Russell Sage Foundation, 1924. Cf. Chapter XXIX, "Farm Labour", pp. 527-547.

(122) WELLES, Mary Crowell. *Child Labourers in the Shade-Grown Tobacco Industry in Connecticut*. Hartford, Connecticut, Consumers' League of Connecticut, 1917.

(123) BUFFINGTON, Adaline A. "Automobile Migrants", in *Proceedings of the National Conference of Social Work, 52nd Annual Session*, June 1925, pp. 258-264. Chicago, Illinois, University of Chicago Press, 1925.

(124) DOUGLAS, Paul H. *Real Wages in the United States, 1890-1926*. Boston, Massachusetts, Houghton Mifflin Company, 1930. Cf. Chapter X, "Unskilled and Farm Labour", Section 2, "Farm Labour", pp. 184-190.

(125) GRAY, Lewis C. "Southern Agriculture, Plantation System, and the Negro Problem", in *Annals of the American Academy of Political and Social Science*, Vol. XL, Whole No. 129, March 1912, pp. 90-99.

(126) LESCOHIER, Don D. *The Labour Market*. New York, N.Y., The Macmillan Company, 1919. Cf. Chapter XIV, pp. 276-306, "Farm Labour".

(127) MILLIS, H. A. *The Japanese Problem in the United States*. New York, N.Y., The Macmillan Company, 1915. Cf. especially Chapter IV, "The Japanese in Agriculture in Western States Other than California", and Chapter V, "The Japanese as Agricultural Labourers in California".

(128) SPILLMAN, W. J. "The Agricultural Ladder", in *American Economic Review*, Vol. IX, No. 1, Supplement, March 1919, pp. 170-179.

(129) TETREAU, E. D. "The 'Agricultural Ladder' in the Careers of 610 Ohio Farmers", in *Journal of Land Public Utility Economics*, Vol. VII, No. 3, Aug. 1931, pp. 237-248.

(130) UNITED STATES. CONGRESS. SENATE. *Report of the Commissioner of Labour on Hawaii, 1901*. 57th Congress, First Session, Document No. 169. Washington, D.C., Govt. Printing Office, 1902.

(131) — DEPARTMENT OF LABOUR. *Report of the Commissioner of Labour on Hawaii*. Bulletin of the Department of Labour No. 47, July 1903, pp. 685-902. Washington, D.C., Govt. Printing Office, 1903.

(132) — DEPARTMENT OF COMMERCE AND LABOUR. *Third Report of the Commissioner of Labour on Hawaii*. Bulletin of the Bureau of Labour, No. 66, September 1906, pp. 366-679. Washington, D.C., Govt. Printing Office, 1906.

(133) — — *Fourth Report of the Commissioner of Labour on Hawaii*. Bulletin of the Bureau of Labour, No. 94, May 1911. Washington, D.C., Govt. Printing Office, 1911.

(134) — CONGRESS. SENATE. *Labour Conditions in Hawaii*. 64th Congress, First Session, Senate Document No. 432. Washington, D.C., Govt. Printing Office, 1916.

(135) — DEPARTMENT OF LABOUR. BUREAU OF LABOUR STATISTICS. *Labour Conditions in the Territory of Hawaii, 1929-1930*. Bulletin No. 534. Washington, D.C., Govt. Printing Office, 1931.

(136) PHILIPPINE ISLANDS. DEPARTMENT OF COMMERCE AND COMMUNICATIONS. BUREAU OF LABOUR. "Investigation of Labour Conditions and Employment of Filipinos in Hawaii", by Hermanegildo Cruz, in *Labour: Bulletin of the Bureau of Labour*, Vol. VII, No. 25, March 1926. (In English and Spanish.)

(137) UNITED STATES. CONGRESS. HOUSE. COMMITTEE ON IMMIGRATION AND NATURALISATION. *Labour Problems in Hawaii*. 67th Congress, First Session, Hearings on House Joint Resolutions Nos. 158 and 171. Serial 7, Parts 1 and 2. Washington, D.C., Govt. Printing Office, 1921.

(138) LASKER, BRUNO. *Filipino Immigration to Continental United States and to Hawaii*. Chicago, University of Chicago Press, 1931. See the chapters and appendices dealing with Filipinos in Hawaii.

(139) PHILIPPINE ISLANDS. DEPARTMENT OF COMMERCE AND COMMUNICATIONS. BUREAU OF LABOUR. "Labour Conditions in the Philippine Islands", in *Labour : Bulletin of the Bureau of Labour*, Vol. VIII, No. 26, March 1927.

(140) Important current information on Porto Rico is contained in the annual reports of the Governor of the Island and of the Department of Labour; or its predecessor, the Bureau of Labour of the Department of Agriculture and Labour.

(141) UNITED STATES. DEPARTMENT OF LABOUR. *Labour Conditions in Porto Rico*, by Azel AMES, pp. 377-439. Bulletin No. 34. Washington, D.C., Govt. Printing Office, 1901.

(142) — DEPARTMENT OF COMMERCE AND LABOUR. *Labour Conditions in Porto Rico*, by Walter E. WEYL, pp. 723-856. Bulletin of the Bureau of Labour, No. 61. Washington, D.C., Govt. Printing Office, 1905.

(143) — DEPARTMENT OF LABOUR. OFFICE OF THE SECRETARY. *Labour Conditions in Porto Rico : Report*, by Joseph MARCUS. Washington, D.C., Govt. Printing Office, 1919.

(144) CLARK, Victor S., and others. *Porto Rico and Its Problems*. Washington, D.C., The Brookings Institution, 1930. Cf. the following parts :

Chapter II, "Workers in Country and in Town", Section I, "Rural Living Conditions", pp. 13-39.

Appendix A, "The Porto Rico Peasant and His Historical Antecedents", by Jose C. ROSARIO, pp. 537-575.

Appendix B, "Plantation Employment and Wage Data", pp. 576-581.

Appendix F, "General Survey of a Farm : La Esperanza", by Jose SARACUENTA, pp. 648-653.

Actuarial Report on Health Insurance in Great Britain ¹

The Government Actuary has just completed a valuation of the assets and liabilities of the approved societies and their branches which administer National Health Insurance in Great Britain and Northern Ireland : this is the third valuation which has been made in the history of the scheme.

In order to understand the purpose and results of the valuation, one must know at least the essential features of the National Health Insurance Scheme. All employed persons earning less than £250 a year are liable to compulsory insurance. There is a uniform contribution for all men (9d. weekly) and another for all women (8½d. weekly), irrespective of age or wages. The contribution is shared equally be-

¹ MINISTRY OF HEALTH : *National Health Insurance. Report by the Government Actuary on the Third Valuation of the Assets and Liabilities of Approved Societies*. Cmd. 3978. London, H.M. Stationery Office, 1931. 97 pp.