Farm Labour Trends in the United States, 1910-1969

T. Lynn SMITH [1]

OF ALL THE CLIMACTERIC CHANGES characterising society in the United States since 1930, few are more striking or more significant than those involving the workers who extract from the land the nation's vast amounts of food, feed and fibre. These exemplify to the maximum the generalisation that, irrespective of what else may be involved, socio-cultural change in general represents a change in the rules of the game while a single generation of players is at society's gaming table.

To a large degree as an effect, but also substantially as a cause, the precipitous decline in the number of persons directly engaged in farm labour (as operators of farms, as economically active members of their families, and as hired workers) since Franklin D. Roosevelt was inaugurated as President (1933) is linked to many of the important developments in American society over a period of almost forty years. Unfortunately, though, it is also directly related to some of the most serious problems and crises which the nation has had to face, many of them still to be resolved. As is indicated below, the last six months of Hoover's administration and the opening ones of Roosevelt's marked the end of a lengthy epoch in American history in which subsistence agriculture and employment as farm labour represented the " marginal industry " of the United States. Together they formed the " employer of last resort ", or the places to which people could and did turn in order to find some means of eking out an existence when they had been " crowded out ", to use the economist's term, of all other industries and of commercial farming itself.

In July 1932 began the process of transferring this role to relief and welfare agencies, a trend that rose spectacularly during the bleak fall and winter months that followed, and one that was quickly supplied with a large institutionalised basis after Roosevelt took the oath of office as

[1] Graduate Research Professor, Department of Sociology, University of Florida. Mr. J. Michael Davis assisted in the compilations and computation on which this article is based.

President. Among the great developments alluded to above were such things as the phenomenal increase in agricultural production, and the perfection and adoption of all the components and the organisation itself involved in a highly mechanised or motorised system of farming. Accompanying them was the metamorphosis of American society, difficult to tab with either a plus or a minus sign, represented by the mass transfer of some 25 million persons, the vast majority of whom were of lower class or lower middle class status, from the farms to the cities and towns.[1] The allusion to problems and crises, of course, is intended to call to mind the development of relief and welfare rolls, particularly in the cities, the rioting and the destruction of property on a scale unparalleled in the history of the nation, " crime in the streets ", and all the other aspects of the spiralling insecurity of life and property in all the most populous sections of the country. Indeed had it not been for the tremendous move towards the homogenising of American society accomplished by the demise of share-cropping and share tenancy [2] and the mass transfer of over 600,000 families of Negro share-croppers and share tenants from the farms to the cities and towns, the problem of racially integrating schools and other public places might still be largely regional. As it is, the agony is nation-wide.

In the pages that follow, an attempt is made to determine and describe the changes that have taken place since 1910, and especially since 1930, and to analyse to some extent the more important components, correlatives and factors involved.

The precipitous decline in the number of farm workers

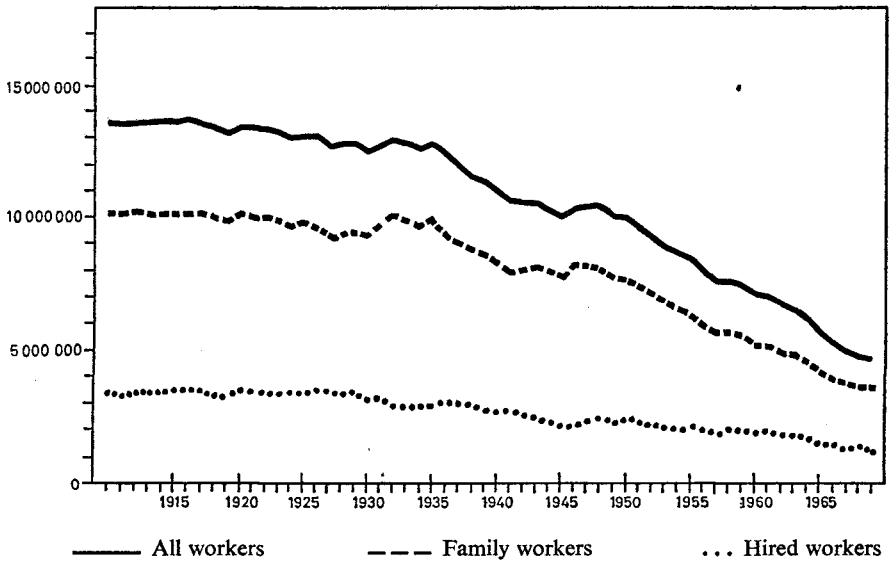
In this section attention is directed to the changes in the number of workers on the farms of the United States between 1910 and 1969 and especially to the enormous decrease that took place between 1930 and 1969. Many statistical data on this fundamental matter have been assembled and analysed and figure 1 presents the gist of them. It is based on the materials in various issues of *Farm Labor* [3] which contain the estimates made by the Crop Reporting Board of the United States Department of Agriculture. From an examination of this chart it is readily apparent that the average number of workers on the farms varied only slightly over the entire period 1910 to 1930, or in other words during the years immediately before the First World War, during this war itself—a time of drastic effort to increase the production of food—and even during the lengthy

[1] See T. Lynn Smith: " Some major current rural social trends in the United States of America ", in *International Social Science Journal* (Paris), Vol. XXI, No. 2, 1969, pp. 272-285.

[2] In 1930, with only a few exceptions, the Negro share tenant was merely " a share-cropper who had a mule ". See T. Lynn Smith: *The sociology of rural life* (New York, Harper and Brothers, 1953), pp. 279-285.

[3] A mimeographed monthly issued in Washington by the Crop Reporting Board of the Department of Agriculture.

FIGURE 1. CHANGES IN THE NUMBER OF WORKERS EMPLOYED ON FARMS IN THE UNITED STATES, 1910-69



interval of economic depression in agriculture and prosperity in industry that prevailed from soon after the cessation of hostilities in Europe to the onslaught of the great economic depression in 1929. It is true that the estimated total of all workers dropped from 13,555,000 in 1910 to 12,763,000 in 1929, a decline of about 6 per cent. However, this was due entirely to a decrease in the number of family workers [1] (which fell from 10,174,000 at the beginning of the period to 9,360,000 at the end, or by 8 per cent) [2], because the number of hired workers was actually slightly higher in 1929, or 3,403,000 compared with 3,381,000. The precipitous decline that has continued to the present began between 1929 and 1930.

To be exact, although there was little change between 1910 and 1930, the estimates for 1969 indicate that during the year ending a few months before these lines were written there were only 34 per cent as many workers as there had been in 1910. Moreover, the proportionate losses in those classified as family workers and those designated as hired workers were exactly the same. In 1969 the monthly averages of those working on farms were estimated to be as follows: all workers, 4,582,000; family workers, 3,429,000; and hired workers, 1,153,000. Finally, when all the

[1] The term " family workers " as used in this paper includes farm operators as well as their wives and children to whom no set wage is paid.

[2] As a " participant observer " I may add that this helps to explain why the song entitled " How ya gonna keep 'em down on the farm? " became the most popular hit of the time.

data are in for 1970 they will almost certainly indicate that there are at present only one-third as many people employed to carry on the crop, animal husbandry, and poultry enterprises of the nation as there were sixty years ago.

Before passing to another aspect of the subject, it seems necessary to point out one important defect in the trends charted in figure 1. This is the failure of the data to show that the line representing family workers, and that for all workers as well, reached a sharp peak in 1931 and 1932, at a height considerably above the 1910 levels. The opening years of the 1930s were the most critical of the great economic depression and 1931 and 1932 were years when, for one of the few times in the entire history of the United States, there was a huge net migration of people from the cities and towns to the rural districts and especially to the extensive portions that are marginal or submarginal lands in the economic sense.[1]

It is entirely logical to suppose that the straitened circumstances of farm operators in 1930, 1931 and 1932 caused them to expend as little as possible on farm wage workers, and that the sudden drop in hired hands shown in figure 1 truly reflects the reality. The tremendous " back-to-the-poor-land " movement of persons fleeing the cities and seeking locations in places where they could obtain some kind of shelter, wood and water, and small pieces of land on which they could produce something to eat, however, is not reflected in the curve for family workers. This is hardly unexpected. The sampling procedures simply were not designed to take care of such an exigency. Had they been, it would be seen that the sharp decline in family workers on American farms began about 1935.[2]

---

[1] For data on the huge " back-to-the-land " movement that took place during this period, see Smith: *The sociology of rural life*, op. cit., pp. 164-165. For a more detailed analysis of the extent to which the bulk of the migrants swelled the numbers of persons who were attempting to eke out an existence on the thin soils of the poor submarginal lands in the southern region, where more than half the nation's farm people resided, see T. Lynn Smith: " Recent changes in the farm population of the southern states ", in *Social Forces*, Vol. 15, No. 3, Mar. 1937, pp. 391-401. This study showed, among other things, the following. Between 1930 and 1935 the farm population of the southern states rose from 15,586,000 to 16,074,000, or by 3.1 per cent. In areas immediately surrounding cities of 100,000 or more inhabitants, the increase was 19.0 per cent; and in those adjacent to cities of from 50,000 to 100,000 inhabitants, the increase was 6.3 per cent; in counties more removed from important population centres and ranking highest in the region from the standpoint of the quality of their soils for agricultural purposes, there was a loss of 2.8 per cent; and " those counties which are located in the areas so ill-suited for farming that the National Resources Committee recommended them for retirement from agricultural uses showed an increase of 10.6 per cent in the farm population ".

[2] Consider in this connection that the number of farms enumerated in the coterminous United States (the United States of America less the states of Alaska and Hawaii) rose rapidly from 4,008,907 in 1880 to 6,361,502 in 1910, crested at 6,448,343 in 1920, and then declined to 6,288,648 in 1930. During the next five years, because of the large number of families who had recourse to the traditional " employer of last resort " or " marginal industry ", namely subsistence agriculture, during the depths of the great economic depression, the number of farms shot up to 6,812,350 in 1935. Moreover, this all-time peak number was attained even though the emergency national cotton control programme, with its notorious " plough-up " campaign, had been initiated in 1933 and even though the processes that eventually were to eliminate the semi-servile share-cropper from the American rural scene

Regional variations in the decrease in farm workers

The extent to which the rapid falling-off in the number of farm workers has been nation-wide, on the one hand, or largely confined to a few parts of the country, on the other, is the matter to which attention is now directed. For the years from 1953 on the data make it possible to present information on this subject in about as much detail as might be desired; and for the years at the beginning of the period many of the more useful compilations and computations, such as the five-year averages, have already been made and published in *Farm Labor*. Accordingly the decision was made to assemble in table 1 the essential figures, both absolute and proportionate, showing the changes between 1953-57 and 1967-69 in all the census geographic divisions and all the thirty-nine states and groups of states employed in the tabulations made by the Crop Reporting Board.

In connection with the numerous significant regional and state variations in the changes in the numbers of farm workers that may be observed from a study of table 1, it seems advisable to call attention to the following facts:

(1) The national averages by which regional or state variations may be judged appear in heavy type at the top of the table.

(2) During the fourteen-year period under consideration the number of farm workers fell off in every state or group of states, with the single exception of Florida. There a very large increase in the number of hired workers was sufficient to offset a substantial decrease in the number of family workers and to produce a small increase in the combined total. None of the other thirty-eight states or groups of states had increases either in the number of family workers or that of hired labourers, except Colorado, for which the estimated number of hired workers rose slightly. In Florida, it may be added, the large increase of hired labourers has

---

were already well under way by 1935. Contrary to what those in other countries may suppose, this is germane to the subject under discussion because, incredible as it may appear, the United States Bureau of the Census has always classified as farms the small portions of the cotton plantations on which the ex-slaves, their descendants, and the hundreds of thousands of white families who had also got entrapped by the system, lived and performed their closely supervised agricultural tasks. (For details of this consult Smith: *The sociology of rural life*, op. cit., pp. 280-283.) Therefore, had it not been for the decrease in the number of tracts of land worked by share-croppers, who were employed by the year and nominally paid one-half of the crop for their labour, the number of farms reported by the Census of 1935 would have been considerably larger than the total given above. The reported numbers of share-croppers for the years under consideration are as follows: 1925, 623,058; 1930, 776,278; 1935, 716,256; and 1940, 541,291. It should probably be specified that each of these units represented a family and not just one worker. By 1959 the number of share-croppers had fallen to 121,037, and by 1964 there were so few of them remaining that the Census officials abandoned the use of the category in the tabulations. The data given above were taken from US Bureau of the Census: *Census of Agriculture, 1959*, Vol. II: *General report: statistics by subjects* (Washington, DC, US Government Printing Office, 1962), pp. 1032-1033.

TABLE I. CHANGES IN THE NUMBER OF FARM WORKERS IN THE UNITED STATES, BY TYPE OF WORKERS AND STATES OR GROUPS OF STATES, 1953-57 TO 1967-69

(Numbers in thousands)

Census divisions and states	All workers				Family workers				Hired workers			
	1953-57	1967-69	Decrease		1953-57	1967-69	Decrease		1953-57	1967-69	Decrease	
			Number	%			Number	%			Number	%
United States	**8 253**	**4 744**	**3 509**	**42.5**	**6 257**	**3 537**	**2 720**	**43.5**	**1 996**	**1 206**	**790**	**39.6**
New England	189	81	108	57.1	120	52	68	56.7	69	29	40	58.0
Middle Atlantic	499	244	255	51.1	359	188	171	47.6	140	56	84	60.0
New York	199	101	98	49.2	132	74	58	43.9	67	27	40	59.7
New Jersey	56	22	34	60.7	33	10	23	69.7	23	12	11	47.8
Pennsylvania	244	121	123	50.4	194	104	90	46.4	50	17	33	66.0
East North Central	1 408	798	610	43.3	1 204	696	508	42.2	204	102	102	50.0
Ohio	286	157	129	45.1	244	139	105	43.0	42	18	24	57.1
Indiana	258	128	130	50.4	228	117	111	48.7	30	12	18	60.0
Illinois	292	170	122	41.8	237	142	95	40.1	55	28	27	49.1
Michigan	249	144	105	42.2	207	199	88	42.5	42	24	18	42.8
Wisconsin	323	199	124	38.4	288	179	109	37.8	35	20	15	42.8
West North Central	1 511	968	543	35.9	1 295	838	457	35.3	216	129	87	40.3
Minnesota	313	193	120	38.3	268	173	95	35.4	45	20	25	55.6
Iowa	314	218	96	30.6	273	190	83	30.4	41	28	13	31.7
Missouri	317	197	120	37.8	270	165	105	38.9	47	32	15	31.9
North Dakota	110	63	47	42.7	88	52	36	40.9	22	11	11	50.0
South Dakota	106	69	37	34.9	92	61	31	33.7	14	8	6	42.8
Nebraska	168	111	57	33.9	146	96	50	34.2	22	15	7	31.8
Kansas	183	117	66	36.1	158	101	57	36.1	25	15	10	40.0

South Atlantic	1 468	762	706	48.1	1 092	525	567	51.9	376	236	140	37.2
Delaware-Maryland	80	41	39	48.8	52	29	23	44.2	28	11	17	60.7
Virginia	228	115	113	49.6	171	89	82	48.0	57	25	32	56.1
West Virginia	90	39	51	56.7	75	33	42	56.0	15	6	9	60.0
North Carolina	500	263	237	47.4	398	194	204	51.2	102	79	23	22.5
South Carolina	230	83	147	63.9	165	61	104	63.0	65	22	43	66.2
Georgia	233	108	125	53.6	175	84	91	52.0	58	24	34	58.6
Florida	107	113	+6	+5.6	56	35	21	37.5	51	78	+27	+52.9
East South Central	1 007	578	499	49.6	872	458	414	47.5	205	119	86	42.0
Kentucky	268	178	90	33.6	221	142	79	35.7	47	35	12	25.5
Tennessee	277	159	118	42.6	224	129	95	42.4	53	30	23	43.4
Alabama	194	104	90	46.4	156	81	75	48.1	38	23	15	39.5
Mississippi	338	137	201	59.5	271	106	165	60.9	67	31	36	53.7
West South Central	1 122	654	468	41.7	772	445	327	42.4	350	204	146	41.7
Arkansas	262	140	122	46.6	172	85	87	50.6	90	55	35	38.9
Louisiana	177	95	82	46.3	115	57	58	50.4	62	34	28	45.2
Oklahoma	205	127	78	38.0	168	109	59	35.1	37	18	19	51.4
Texas	478	292	186	38.9	317	194	123	38.8	161	97	64	39.8
Mountain	368	253	115	31.2	234	153	81	34.6	134	100	34	25.4
Montana	57	41	16	28.1	42	29	13	30.9	15	12	3	20.0
Idaho	69	48	21	30.4	50	35	15	30.0	19	13	6	31.6
Colorado	75	57	18	24.0	57	36	21	36.8	18	21	+3	+16.7
New Mexico-Arizona	100	62	38	38.0	38	22	16	42.1	62	40	22	35.5
Wyoming-Utah-Nevada	67	45	22	32.8	47	31	16	34.0	20	14	6	30.0
Pacific	611	412	199	32.6	309	179	130	41.7	302	230	72	23.8
Washington	126	80	46	36.5	87	52	35	40.2	39	27	12	30.8
Oregon	103	71	32	31.1	73	48	25	34.2	30	22	8	26.7
California	382	261	121	31.9	149	79	70	47.0	233	181	52	22.3

Source: Compiled and computed from data in *Farm Labor*, Jan. 1959 and 13 Jan. 1970. + = increase.
Because the numbers are rounded, the totals do not always check.

been brought about by the large reclamation projects in the southern part of the state, which have greatly expanded the acreages in huge, highly commercialised, corporation farms engaged in the production of citrus fruits and of vegetables for the winter markets. To supply the masses of unskilled workers used in such operations, labourers, many of them migratory, have been recruited far and wide, including considerable numbers (who have been allowed to enter the country on temporary visas) engaged in the West Indies.

(3) Among all workers, the proportionate losses were heaviest in South Carolina, New Jersey, Mississippi, New England (six states), West Virginia, Georgia, Indiana, and Pennsylvania, in the order named. These include most of the states in the highly industrialised north-eastern section of the country, three states (South Carolina, Mississippi, and Georgia) long known for their production of cotton and for having the highest proportions of Negroes in their populations, and West Virginia, where agriculture has been largely of the type conducted on small general and subsistence farms.

(4) All the states showing the least proportionate losses in the number of farm workers are in the west, including Colorado, which has the smallest percentage decrease of all. Montana, Idaho, Oregon, California, and Wyoming-Utah-Nevada, follow in rising order.

(5) The regional variations in the decreases in family workers differ considerably from those involving hired farm workers. Thus it will be noted that the proportionate falling off in family workers was most pronounced in New Jersey, South Carolina, Mississippi, New England, West Virginia, Georgia, Arkansas and Louisiana, in the order named, with the index ranging from 69.7 per cent for New Jersey to 50.4 per cent for Louisiana. The decreases in hired workers, in turn, ranged from the high of 66.2 per cent in South Carolina, followed by Pennsylvania, Delaware-Maryland, West Virginia, Indiana, New York and Georgia, in the order named, to 58.0 per cent in New England. This comparison shows that the greatest proportionate decreases in both categories of farm workers in the United States have been in the south and the north-east. However, the southern states generally figured more prominently in the loss of family workers and the north-eastern states in the decrease in the number of hired workers. At the other end of the scale (i.e. the states that experienced the smallest proportionate losses), the very lowest proportionate decreases in family workers were registered by Idaho, Iowa, Montana, South Dakota, Wyoming-Utah-Nevada, Nebraska and Oregon. Six of these are western states and three are located in the great agricultural midwest. The states experiencing the least falling-off in hired farm workers were Montana, California, North Carolina, Kentucky, Oregon, and Wyoming-Utah-Nevada, in that order. The presence of the two great tobacco producing states, North Carolina and Kentucky (both

ranking high in the size of farm population), in this group, otherwise exclusively western, is significant. The production of tobacco, especially the picking, is among the last types of farming to be mechanised.

(6) In absolute figures a handful of states account for a very large part of the decrease in farm workers that occurred during the fourteen-year period ending in 1968. North Carolina alone had 237,000 fewer persons employed on farms at the end than at the beginning of that span, a figure equal to 6.8 per cent of the total for the nation; and if three other southern states (Mississippi, Texas, and South Carolina) are included with it the four together lost 771,000 farm workers, or 22 per cent of the total. It will be noted, however, that eight other states (Indiana, Ohio, Wisconsin and Illinois in the midwest; Pennsylvania in the north-east; Georgia and Arkansas in the south; and California on the Pacific coast) experienced decreases of 120,000 farm workers apiece during the period under consideration. The data in table I also indicate that the largest absolute losses in family workers were in North Carolina, Mississippi, Texas and Indiana, in the order named; and that the exodus of hired workers was largest in Texas, California, North Carolina, New York and New England.

(7) As a result of the changes between 1953-57 and 1967-69, the parts of the country in which agriculture had relied most upon hired workers at the close of the Second World War became even more dependent upon them by 1970, whereas in the great midwest, often known as the " farm belt " of the United States, an area famed for its large, highly productive family-sized farms operated by farmers of the middle socio-economic class, farming had become even more of a family enterprise by the end of the period than it had been at the beginning. Thus in California, where even in 1953-57 no fewer than 61.0 per cent of the farm workers were hired hands, by 1967-69 the proportion had mounted to 69.3 per cent. It is now being rivalled for the dubious honour of being first in this respect, however, by Florida, where during the same span of years the proportion of hired workers among those working on farms shot up from 47.7 to 69.0 per cent. New Mexico-Arizona, New Jersey and New England, the others in the list in which at the beginning of the period more than a third of the farm workers were hired hands, likewise were areas in which the proportions of wage workers increased substantially. In New Jersey the change was from 41.1 per cent to 54.5 per cent. In sharp contrast, throughout the entire midwest, where in 1953-57 hired labourers figured least in work on the farms, the low proportions registered then became even lower by 1967-69. It is highly significant that in 1970, as in 1930, the richly productive farms of the " corn belt " and the " western dairy region " remain almost exclusively enterprises on which the farmers themselves aided only by the members of their families do almost all the work.

Components of the decrease

Some reference has already been made to the changes in the two major components of the labour force employed in work on American farms, namely family workers and hired workers. It seems well at this point, however, to indicate the exact amount and proportion of the change represented by the decrease in the number of each of them. According to the estimates made by the Crop Reporting Board the number of workers on farms fell from 13,555,000 (10,174,000 classified as family workers and 3,381,000 hired workers) in 1910 to 4,582,000 (3,429,000 family workers and 1,153,000 hired workers) in 1969, a decrease of 8,973,000 or 66.2 per cent. Of the total loss, 6,745,000 were family workers and 2,228,000 were hired workers, so 75.2 per cent of the change was due to the decline of the former and 24.8 per cent to that of the latter. If 1930 is taken as the starting point, then the decreases were 7,915,000, 5,878,000, and 2,037,000 for all farm workers, family workers and hired workers respectively; and in this case 74.3 per cent of the change was due to the decrease in family workers and 25.7 per cent to that in hired workers.

Actually there is considerable error in these figures suggesting that the proportion of family workers to hired workers did not change significantly over a sixty-year period in which employment on American farms was reduced by 66.2 per cent. The difficulty is that in the populous agricultural sections of the southern states, which alone contained 54 per cent of the nation's rural farm population in 1930 and 44 per cent in 1960, the bulk of the farm labourers are counted not as hired workers but as family workers. The reference here is to the way in which the share-croppers and share tenants in the vast cotton-growing districts are misclassified. Fortunately, this particular type of labour contract is now almost entirely a matter of past history in the United States, but for the purposes of this article the demise of share-cropping is one of the more important components of the plummeting number of farm workers since 1930; and for this reason it is advisable to dwell for a few moments upon the nature of the semi-servile arrangement involved.

Perhaps it should first be stated that for almost exactly a century this pernicious system maintained the Negro freedmen and their descendants in a bondage that was almost as great as the actual slavery that had preceded it, and, in addition, that its degrading features were extended to enmesh hundreds of thousands of impoverished white families as well.

This late and unlamented system of share-cropping was introduced in the cotton-growing areas of the United States in 1867 and 1868. It was resorted to by the planters of the south following a couple of years of disastrous results in their efforts to produce the region's great staple crop by paying cash wages to the freedmen who had been their slaves.[1] These

[1] See Smith: *The sociology of rural life*, op. cit., pp. 546-559, and the sources cited there.

planters had found to their sorrow that cash wages paid to workers habituated to a system in which the necessities of life had been provided by their owners (workers for whom money was traditionally spent only on " extras " of one kind or another, and who were extremely appreciative of their newly granted freedom to move about at will) would not bring forth the steady work essential in the production of a crop of cotton. Resort to the system of share-cropping was the result. Its essential nature has been depicted in a survey carried out under the auspices of the Federal Emergency Relief Administration in 1934, when the system was in its heyday:

> On the plantations that had withstood the reconstruction period following the Civil War, the cropper system displaced the old slave system. For a satisfactory share of the harvest [nominally 50 per cent], the landlord would agree to " furnish " the cropper while he cultivated the crop. The " furnish " consisted of living quarters, foodstuff and equipment.
>
> The cropper and his family furnished the labour. . . . After the harvest the cropper [theoretically] would be paid for his portion of the crop less the value of his " furnish ". . . . While the cropper system offered ample opportunity for the landlords to be fair, and some croppers may have profited under the system, in general the cropper's independence was only nominal. Obviously, the system was merely a variation of the old slave relationship and kept the cropper on the margin of economic existence.[1]

The number of southern families whose livelihoods came from share-cropping increased steadily from the time the system was introduced until 1930, when 776,278 cases figured in the tabulations of the Census of Agriculture. Of these almost exactly half (392,897) were households of Negroes and the other half (383,381) were households of whites. In addition there were in the south in 1930 almost 700,000 Negroes who were classified as tenants, of whom fewer than 100,000 were counted as paying a cash rent. A very large proportion of these Negro share tenants (and considerable numbers of the region's white share tenants as well) were merely share-croppers with mules, i.e. persons who owned a little livestock and farm equipment (ploughs, cultivators, etc.) and who were theoretically entitled to three-fourths rather than one-half of the cotton produced on the tracts of land they were assigned to work.[2] By 1959 the category of share-croppers had decreased to a mere 121,037 (73,387 of them non-white or Negro), and in 1964 the Bureau of the Census abandoned the share-cropper category altogether and included the few thousand of them that may have remained in the class of share tenants. Even so the combined class was so greatly reduced by then that it

[1] P. G. Beck and M. C. Forster: *Six rural problem areas : relief—resources—rehabilitation*, Research Monograph I (Washington, DC, Federal Emergency Relief Administration, 1935), pp. 21-22. See also Fred C. Frey and T. Lynn Smith: " The influence of the AAA Cotton Program upon the tenant, cropper, and laborer ", in *Rural Sociology* (Baton Rouge (Louisiana)), Vol. I, No. 4, Dec. 1936, pp. 483-505.

[2] Smith: *The sociology of rural life*, op. cit., pp. 279-285. Note especially that in the proposed tenure classification given there the southern share tenants appear in the category of farm labourers and not that of farm operators.

contained only 57,155 non-white or Negro tenants.[1] There is, of course, no reliable way of determining the number of farm workers included in the families of the southern agricultural labourers who were counted as share-croppers and share tenants in the 1930 census. Probably, though, it is not less than 2 million and if this number, or even one-half of it, is moved from the category of family workers to that of hired workers, the changes noted in the principal components of the farm labour force between 1930 and 1969 become very different. Most important of all, any correction whatsoever for this factor would demonstrate that, since 1930, the proportion of family workers has become increasingly important in the production of food, feed and fibre in the United States.

Finally, it should be indicated that within the huge majority of family workers who supply the labour used on American farms, the decreases taking place since 1930 have been confined almost exclusively to the families who once lived and worked on the smaller farms. In brief, between 1935 and 1964 the number of farms in the United States fell from 6,812,350 to 3,157,857, or by 3,654,493. Of this decrease, however, 2,775,988 farms (or 76.0 per cent) were less than 100 acres in size. The former operators of these farms and the members of their families account for the larger part of the tremendous drop in the number of family workers on American farms since 1935.[2]

The decrease in farm workers and agricultural production

It would be an egregious error to suppose that the tremendous decrease in hired agricultural labourers (and family workers as well) during the period 1910-69 was accompanied by a reduction in the volume of farming activities in the United States. Instead the area of land in farms and the area of land used to grow crops both increased somewhat during the period, and there was a phenomenal rise in the amount of the farm products secured from both. In comparison with the situation in 1910, by 1969 a farm labour force that had been reduced to only one-third continued to work the nation's farm lands, greatly intensified their tillage, and attained spectacular increases in the volume of agricultural products. A few of the most pertinent facts are given in table II.

The data in this compilation require little comment. It should be noted, however, that the perfection of various synthetic fibres has greatly affected the demand for and the ability to market crops of cotton, and that since 1933 the acreage devoted to its production has been rigidly

[1] Also by 1964 the class of non-white (mostly Negro) cash tenants had been reduced from 97,920 in 1930 to 14,265. The data in these paragraphs are taken from US Bureau of the Census: *Census of Agriculture, 1959*, Vol. II: *General report*, op. cit., pp. 1116-1117; and idem: *Census of Agriculture, 1964*, Vol. II: *Statistics by subjects* (Washington, DC, US Government Printing Office, 1968), p. 765.

[2] Unfortunately, of course, the data for the "farms" operated by southern share-croppers and share tenants discussed above are inextricably bound up in these figures.

TABLE II. CHANGE IN THE AMOUNT OF SELECTED CROPS HARVESTED AND OF LIVESTOCK, POULTRY AND LIVESTOCK AND POULTRY PRODUCTS SOLD, UNITED STATES, 1929 AND 1964

Farm products	Unit of measure	Million units		Increase	
		1929	1964	Amount	%
Crops harvested:					
Corn, for grain	Bushels	2 131	3 361	1 230	58
Corn, for silage	Tons	29	79	50	172
Sorghums, for grain	Bushels	49	463	414	845
Wheat	Bushels	801	1 218	417	52
Rice	Pounds	1 514	7 482	5 968	394
Soybeans, for beans	Bushels	9	670	661	7 344
Alfalfa, hay and pellets	Tons	23	68	45	196
Cotton	Bales	14	15	1	7
Tobacco	Pounds	1 456	1 988	532	36
Sugar-cane	Tons	10	25	15	150
Sugar-beet	Tons	7	23	16	229
Irish potatoes	100 pounds	193	222	29	15
Products sold:					
Whole milk	100 pounds	383	1 074	691	180
Chickens	Number	285	2 116	1 831	642
Eggs	Dozens	1 957	4 282	2 325	119
Turkeys	Number	17	105	88	518
Cattle and calves	Number	27 [1]	63	36	133
Hogs and pigs	Number	49 [1]	84	35	71
Sheep and lambs	Number	29 [1]	22	−7	−24

Source: Compiled from US Bureau of the Census: *Census of Agriculture, 1964*, Vol. II: *Statistics by subjects*, op. cit., Chapters 2 and 4.

[1] Data are for 1939. − = decrease.

controlled, as indeed has that given over to wheat and tobacco. Sheep husbandry has been adversely affected as well as cotton production by changes in the materials used in clothing. The increase in the number of swine marketed is not as significant as it seems, because there has been a sudden shift from the growing of the " lard " type to the " bacon " type of pig. This means that hogs at present going to slaughter are much smaller than was the case before foodstuffs made of vegetable oils cut heavily into the consumption of lard, butter and other animal fats. To a limited degree there may also have been a decrease in the average size of the cattle used for veal and beef.

Considering the drastic reduction in the number of people employed in their production, the large increases in the amounts of corn, rice, whole milk and eggs should not be ignored. But most spectacular of all have been the tremendous gains in three " wonder " crops and in poultry husbandry. As should be evident from the data in table II soybeans have

become the most revolutionary crop in American agriculture, but the sorghums, and especially milo, have recently come to be all-important in the growing numbers of cattle-fattening pens for the production of beef that have been established in the area extending from western Texas to northern Colorado and western Nebraska. Much less has been said about the increase in alfalfa, but the fact is that during the past two decades the virtues of this wonder plant have finally been recognised by the dairy farmers of Wisconsin, Minnesota and other portions of the great dairy zone, and presently cows are transforming alfalfa hay and pellets into a very large share of all the milk, cheese and other dairy products consumed by more than 200 million people in the country. During the past twenty years, also, the increased production of broilers and other chickens and of turkeys has come to offer serious competition to " red meats " in the supermarkets. In summary the greatly reduced farm labour force continues to make tremendous gains in the amounts of food, forage and fibre that go to feed the nation, to supply many of the raw materials for its factories and to form part of its exports to other countries.[1]

The decrease of farm workers and the mechanisation of agriculture

Unlike the somewhat paradoxical concomitant of the rapid and long-sustained drop in the number of workers on the farms of the United States that has just been discussed, the correlation between that decrease and the mechanisation and motorisation of farming activities is clear and unmistakable. Even though at certain times and in many places resort to the use of mechanical equipment has come as a response to the unavailability of human hands to do the work, the trend in farm labour in the United States could never have followed the course it has taken had it not been for the remarkable development of motors and machines devised and perfected to aid man in his efforts to gain a livelihood by tilling the soil. In brief, tractors, motor trucks, electric motors, and so on, and the hundreds of highly perfected machines, implements, tools and contrivances that they power now provide the energy and execute the tasks that in 1910, and in most cases as late as 1930, were done by manpower alone or by manpower aided by horses and mules. In this connection it is essential to have in mind that between 1930 and 1964 the acreage of farm land in the United States increased slightly, that the average farm more than doubled in size, and that the number of workers per farm fell very slightly, from 2.0 to 1.9 [2].

[1] For more details on trends in agricultural production in the United States from 1910 to 1969 see *Changes in farm production and efficiency : a summary report, 1969* (Washington, DC, US Department of Agriculture, 1969).

[2] Smith: " Some major current rural social trends in the United States of America ", loc. cit.

In considering the relationship between the decline in the number of farm workers and the mechanisation of agriculture it is also well to keep in mind that this is part and parcel of the long-continued transfer of functions from the rural to the urban portions of the United States and other countries, of which the Industrial Revolution itself (or the replacement of cottage industries by factories) is a prime example. In 1910 the farms not only produced the horses and mules, the hay, the grain and the pastures that supplied the energy to move most of the machines, implements and vehicles used in the production and transportation of agricultural commodities; they were also the source of the energy (horses and mules, hay and grain) that moved the systems of transportation (drays, cabs, carriages, delivery wagons, and so on) within the nation's cities and towns. By 1970 all this has been reversed. At present not only do the farms depend upon urban industries to build the tractors and their associated implements, the electric motors and the equipment they drive, and the motor trucks and automobiles that move things from one place to another on the farm and from farm to market; the petrol, oil, electricity and other sources of energy to move them all likewise must come from plants manned by industrial workers. Hence from 1930 on, the change has consisted largely in the substitution of mechanical and motor power for manpower in the various processes involved in agricultural production, processing and transportation.

The extent to which this has developed is readily demonstrated, as can be seen from table III. The data in this tabulation call for little interpretation. It should probably be stressed, however, that by 1969 the farms of the United States had an average of 1.05 tractors for each person who worked on those farms, not counting those used for gardening operations. This does not include the self-propelled grain combines, corn pickers, cotton pickers, etc., used in farming activities. Moreover, it should be stressed that the numerical increases shown in table III do not tell the whole story, because the tractors and other machines have become progressively larger, faster and more powerful. For example, although the number of tractors on farms did not increase dramatically between 1955 and 1969, the total horse power represented by them increased from 126 million to 200 million in that short period.[1]

This leads to some brief comments upon the imperative that has governed the invention and perfection of most of the marvellous machines and implements that American farmers and the industries created to serve them have contributed to civilisation. It must first be stressed that practically all of these have come from or in response to the ideas and desires of the middle-class operators of substantial family-sized farms in the great midwestern " farm belt " of the United States. There, in sharp distinction to the south, where large cotton, sugar-cane and rice

[1] *Changes in farm production and efficiency : a summary report, 1969*, op. cit., table 13.

plantations have dominated the rural scene, the quest has always been for ways and means of doing essential farm work with the expenditure of the minimum amounts of human energy. The socio-cultural values I have in mind are illustrated by the following assessment of the need for a sulky plough made by one Illinois farmer over a century ago.

> A large amount of ploughing is done by farmers' sons aged 14 years and upwards. To follow the team in a furrow, day after day, is very tiresome work, and has the effect of giving the boy a heavy, awkward gait, by stiffening the lower limbs—a condition from which he seldom, if ever, recovers. To remedy this, the plough should be made to run on wheels, giving the driver a sulky seat upon which to ride. This can be done without extra power to move it, as the wheels will relieve an amount of friction equal to the increased weight of the driver and the extra gearing. . . . Several patents have been issued for sulky ploughs, but thus far none have proved practicable.[1]

These values retained their vigour, and if anything became even stronger, from 1910 on when the internal combustion engine began to be applied to the propulsion of farm implements as well as motor vehicles. From that time to the present the order of the day has been the search for larger, lighter, stronger and more efficient agricultural machinery and equipment. But if they wished to sell their products, the manufacturers of farm machines and implements have had to be guided by one key principle. Irrespective of how large the individual tractor or attachment, and irrespective of the ways in which various implements were to be combined so as to perform two, three, and even as many as six operations at a time (such as ploughing, pulverising, application of fertilisers, dissemination of insecticides, etc.), the imperative has been that the entire outfit should require the work of only one man or at most one man aided by another person. In other words the guiding principle has been to direct all the improvements in the preparation of the seed bed, the application of fertilisers, the control of insects and weeds, harvesting and transportation in ways that would enable the farmer alone or with the assistance of some member of his family to perform all the activities involved.

That spectacular results have been achieved in this respect should be readily apparent to anyone who takes the trouble to examine the advertisements the manufacturers of agricultural machinery place in the farm

[1] M. L. Dunlap: " Agricultural machinery ", in *Report of the Commissioner of Agriculture for the year 1863* (Washington, DC, US Government Printing Office, 1863), pp. 417-418. The drawing Dunlap presented to indicate how he thought the improved implement would look, rather naturally bears no resemblance whatsoever to those finally perfected about twenty-five years later (and after several hundred patents for riding ploughs of one kind or another had been taken out). Somewhat ironically, also, the use of the sulky plough was never adopted throughout the heavily populated agricultural districts in the southern part of the United States. When I first went to work in Louisiana in 1931, at a time when the use of the tractor had already made the horse-drawn sulky plough obsolete in the mid-western and far-western portions of the country, and on the eve of the onslaught of the mechanisation of agriculture in the cotton belt, the small walking plough drawn by a single mule was still almost the sole reliance of farmers throughout the entire southern region.

journals. For example I have before me the April 1970 issue of the *Farm Journal*, a periodical with a nation-wide circulation that is published in Philadelphia, and is now in its ninety-fourth year. Among the coloured illustrations in this issue are several by various companies illustrating how the equipment they offer for sale, operated in each case by one man, will simultaneously cut and assemble in windrows broad swaths of alfalfa or other forage crops; and also how one of the same tractors attached to other pieces of machinery, and also requiring the work of only one man, gathers the hay from the windrows, compresses and ties it into bales, and loads the bales into a truck that is trailed behind the hay baler being pulled by the tractor. On another page of the same magazine is a photograph in colour of a Missouri farmer operating by himself a complex set of equipment that in one trip over the land simultaneously performs the following six operations: (1) tilling the land and preparing the beds for the seeds; (2) planting six rows of corn; (3) applying fertiliser; (4) incorporating a chemical insecticide into the soil; (5) spraying a weed-killer over the surface of the land; and (6) scooping out furrows between the rows of corn to catch and hold the rain-water.

TABLE III. SELECTED FARM MACHINERY IN USE IN THE UNITED STATES, SPECIFIED YEARS 1910 TO 1969

(In thousands)

Year	Tractors (except garden)	Motor trucks	Grain combines	Corn pickers	Pick-up hay balers
1910-1914	9	6	—	—	—
1930-1934	995	894	—	—	—
1940-1944	1 861	1 193	271	129	—
1950	3 394	2 207	714	456	196
1955	4 345	2 675	980	668	448
1960	4 685	2 825	1 042	792	680
1965	4 783	3 023	910	690	751
1969	4 810	3 160	850	625	790

Source: Compiled from data in *Changes in farm production and efficiency : a summary report, 1969*, op. cit., table 12.

Conclusion

As a result of the trends described and analysed in the preceding pages, the number of farm workers in the United States has been reduced from about 13,500,000 in 1910 to approximately 4,500,000 in 1970. In the concluding paragraphs of this article an attempt is made to present a few of the most salient facts about the workers employed at present in American agriculture.

(1) The operators of the farms themselves assisted by members of their families who are paid no stipulated cash wage make up about three-fourths (or 3,375,000) of those whose physical energies have a part in the processes of agricultural production. The farm operators themselves account for about 40 per cent of the total, their wives for 18 per cent and other members of their families for 17 per cent. In addition about 120,000, or 2 per cent of all farm workers, are children of the farm operators to whom a cash wage is paid. The remaining 1,005,000 (23 per cent) are hired labourers who are not members of the farm operators' families.[1]

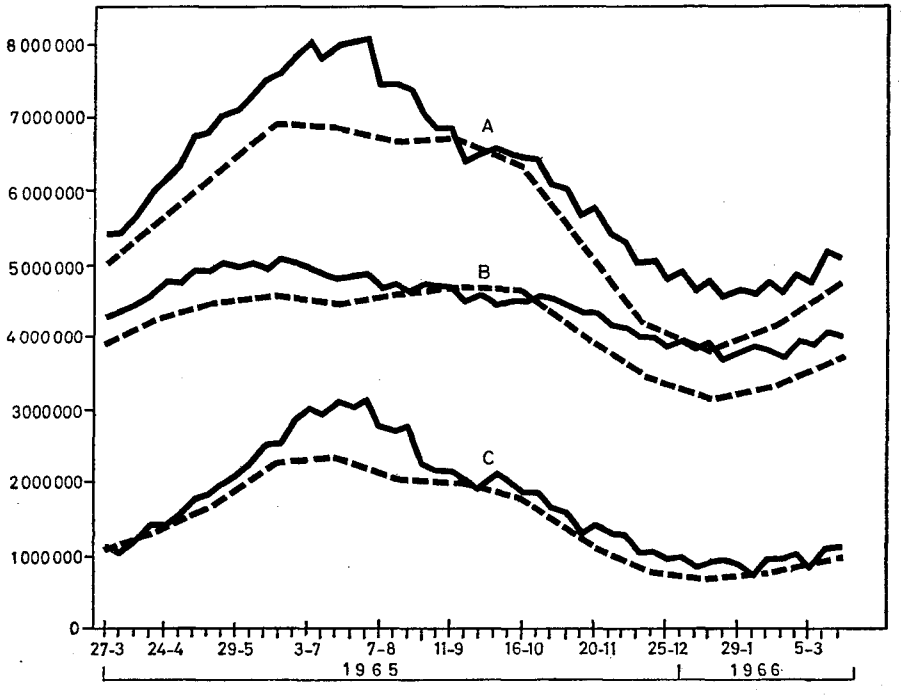
(2) Employment in American agriculture is highly seasonal (see figure 2) even though the curves representing the composite picture for the nation as a whole do not depict such violent seasonal swings as do those for the various states if viewed separately. The 1969 materials released by the Crop Reporting Board [2], for example, show that the peak national employment of 5,581,300 during July was only 164 per cent of the low for the year of 3,404,000 in January; whereas in North Carolina farm employment during the peak month (July) was 291 per cent of that for January, the lowest point in the annual cycle. Moreover, the month of peak employment varies greatly, although in nearly all states January or December is the slackest period of the year. Thus the number of farm workers reaches its peak in Florida in February; in South Carolina, Oklahoma, Texas and Washington during June; in many states, including Ohio, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Nebraska, Kansas, North Carolina, Idaho and Oregon in July; in Pennsylvania, North Dakota, South Dakota, Virginia, Montana and Colorado in August; in New York, Missouri, Mississippi, Louisiana and California in September; and in Maine, Indiana, Georgia, Kentucky, Tennessee, Alabama and Arkansas during October.

(3) Employment of hired farm workers is much more seasonal than that of members of farm families, a point made abundantly clear by an examination of the curves shown in figure 2. In order to show up these differences in some of the states where hired workers constitute rather substantial proportions of all workers on farms, a considerable number of computations were made showing the greatest number of workers in any month during 1969 as a percentage of the smallest number in any month. Some of these computations, with the percentage figure for family workers the first in each pair, are as follows: Maine, where large numbers of hired workers participate in the fall potato harvest, 127 and 591; New

[1] The data in this paragraph are estimates for 1970 based upon the materials secured in a weekly survey extending from 20 March 1965 to 19 March 1966 and published in US Bureau of the Census: *Census of Agriculture, 1964*, Vol. III, Part 2, " Farm Labor " (Washington, DC, US Government Printing Office, 1968), and the early 1970 issues of *Farm Labor*.

[2] *Farm Labor*, 10 Mar. 1970.

FIGURE 2. THE SEASONALITY OF FARM EMPLOYMENT IN THE UNITED STATES



A. All workers
B. Family workers
C. Hired workers

——— Special survey
— — — Estimates of Crop Reporting Board

York, in which many additional workers are needed to assist with the harvest of fruits and vegetables in late summer and fall, 128 and 281; North Carolina, where extra hands to pick tobacco in July are of critical importance, 191 and 1,529; Florida, which relies upon large numbers of hired workers to pick the citrus fruits and to supply most of the labour needed for the production of vegetables for the winter market, 143 and 202; Texas, which uses hired workers in a wide variety of large-scale farming operations, 139 and 237; Colorado, which depends heavily upon seasonal hired labourers for its fruit and vegetable enterprises, 159 and 821; Oregon, where many hired workers help to pick fruit, 166 and 1,180; and California, where large-scale operations dominate the scene and hired labourers in large numbers are required at peak seasons to gather grapes and other fruits, and for a host of other purposes, 134 and 171. In part the seasonal demands for extra hired workers are met by the movement northward (as the season advances) of migratory agricultural workers from southern California, Arizona, Texas, Louisiana and Flor-

ida, a phenomenon which represents one of the most sordid aspects of American agriculture. Even so the half million or so casual migrants, many of whom are workers from other countries admitted for short periods, do little to reduce the shortage of farm labour in some states at the very time when there is a surplus in others.

(4) Although the use of considerable numbers of unskilled farm workers still prevails in the gathering of some crops, such as tobacco, fruits, and vegetables, at the present time the operation of the machines and equipment used on the typical farm requires a high degree of skill and the capacity to use much judgment on the part of family workers and hired workers alike. Indeed it is exactly the difficulty or even impossibility of securing and keeping employees of the high quality required that gives much of the comparative advantage to family-sized farms and enables them to retain their importance in most of the different types of farming area. Moreover, the skill required to handle the expensive and complicated machines now used in cotton culture has, during the years since 1930, completely changed the nature of the work in the extensive and once heavily populated cotton fields of the south. Illustrative of the revolutionary changes in this area, and the problems they have generated for the planters and other farm operators concerned, and for the nation's cities and towns as well, is the following letter from an Arkansas planter published in the September 1968 issue of *Farm Journal.* It appeared in the magazine's "Letters" section, accompanied by an invitation from the Editor to other readers to send in their own thoughts on the subject, and carried the caption "Who should feed the poor?" The letter is as follows:

> Are farmers really responsible for the rural poor, as some of the "poor leaders" and politicians claim?
>
> Many southern farmers already are carrying a heavy share of the load. For example, the illiterate father of one of our tenant families is not capable of driving our new eight-row tractors. With chemical farming, we no longer need them as hoe hands. But he has ten children and two illegitimate grandchildren, for whom we have compassion and have tried to help. My dilemma: Am I morally obligated to feed these people from here on? Or should I advise them to go to town and get on welfare?

It should be stressed, however, that the skills and responsibilities of the typical family worker who engages in farm activities have also become much greater than they were earlier.

(5) A few of the great agricultural states contain relatively large proportions of the workers remaining on American farms, and the list of states having the largest numbers of family workers differs radically from that pertaining to hired workers. If all farm workers are taken into account, on the basis of the estimates made by the Crop Reporting Board, in 1969 Texas was in the first place, with a monthly average of 286,000 workers, followed by California, North Carolina, Iowa and

Wisconsin, in the order named. Together these five states had a total of 1,207,000 workers, or 26.3 per cent of the total (4,589,800) in the United States. Next in order came Missouri, Minnesota, Illinois, Kentucky and Tennessee, to bring the combined total for the ten up to 2,054,000, or 44.8 per cent of all farm workers in the country.

If only the monthly averages of the number of family workers are considered, Texas also led the list with 191,000, followed by Iowa, North Carolina, Wisconsin and Minnesota. Together these two southern states and three midwestern ones had a monthly average of 908,000 family workers on their farms, or 26.6 per cent of the 3,415,400 reported for the United States; and if Missouri, Indiana, Ohio, Kentucky and Tennessee are added to the list the combined total is 1,592,000, or 46.6 per cent of the lot.

Most concentrated of all are the hired farm workers. California alone, with a monthly average of 187,000 is the place of employment of almost 16 per cent of the estimated total (1,174,000) in the United States. Next in order come Texas, Florida and North Carolina, with averages of 95,000, 78,000 and 63,000 respectively, to bring the sum for the four to 423,000, or 36 per cent of all those in the United States. All the other states rank far below, although Arizona and Louisiana each have monthly averages of 31,000, Washington and Virginia 30,000, and Missouri and Mississippi 29,000. Together these ten states have a monthly average of 603,000 hired farm workers, or 51.4 per cent of the national total.