U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
CHILDREN'S BUREAU
GRACE ABBOTT, Chief

CHILD LABOR AND THE WORK OF MOTHERS IN THE BEET FIELDS OF COLORADO AND MICHIGAN

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UNITED STATES DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, July 18, 1922.

SIR: I transmit herewith a report entitled "Child Labor and the Work of Mothers in the Beet Fields of Colorado and Michigan."

The investigation was planned and carried on under the direction of Ellen Nathalie Matthews, director of the industrial division of the bureau. Dr. Gertrude A. Light made physical examinations of children in the Colorado beet-field region and analyzed the findings with reference to health.

It is a pleasure to acknowledge the cooperation given by the beet-sugar companies and by local school officials in both Colorado and Michigan. Among the latter, special mention should be made of the assistance given by the commissioner of schools of Saginaw County, Mich., Mrs. Evangeline G. Tefft, in the supplementary study of the effect of beet-field work upon school attendance.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,
Secretary of Labor.

TWO FAMILIES OF BEET-FIELD WORKERS.

All three boys and the oldest girl worked; the other children spent the day in the fields with their mothers.

CHILD LABOR AND THE WORK OF MOTHERS IN THE BEET FIELDS OF COLORADO AND MICHIGAN.

INTRODUCTION.

THE SUGAR-BEET CROP AND ITS HAND WORKERS.

The beet-sugar industry in the United States is of comparatively recent development; but its growth during the last 20 or 25 years has been so rapid that its importance both as a manufacturing and an agricultural industry is fully established. In 1896 there were but 7 factories in the country, producing 37,536 tons of beet sugar; 10 years later the number of factories had increased to 63 and the sugar tonnage to 483,612.[1] In 1920 there were 98 factories with a total output of 1,090,021 tons.[2]

The increase in sugar-beet acreage has kept pace with the growth in the manufacture of beet sugar. In 1920, 872,376 acres of beets were harvested[3], an increase of almost 700 per cent over the acreage in 1899.[4]

Beet-growing areas are located all the way from Ohio to California, but are concentrated in three sections: The middle western, of which the most important States are Michigan, Ohio and Wisconsin; the western mountain section, with Colorado, Utah, and Idaho leading in beet production; and the Pacific coast section in which California is the only important beet-growing State. Table I shows the relative importance of the beet-growing States in 1920.

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[1] Letter from the Secretary of Agriculture, Sixty-first Congress, First Session, Senate Document 22, pp. 3, 14.

[2] U. S. Department of Agriculture, Monthly Crop Reporter, April, 1921, p. 38.

[3] Ibid.

[4] Thirteenth Census of the United States, 1910, Vol. V, Agriculture, p. 691. Washington, 1913.

TABLE I.—*Beet-sugar production in the United States, by States.*[1]

State.	Sugar produced.		Area harvested.		Beets worked.		Number of factories in operation.[1]
	Number tons.[1]	Per cent distribution.	Number acres.[1]	Per cent distribution.	Number tons.[1]	Per cent distribution.	
United States	1,090,021	100.0	872,376	100.0	7,999,222	100.0	98
California	167,997	15.4	122,813	14.1	1,051,889	13.1	10
Colorado	294,482	27.0	219,847	25.2	2,165,737	27.1	17
Idaho	57,603	5.3	45,810	5.3	413,178	5.2	9
Michigan	165,899	15.2	149,559	17.1	1,243,868	15.5	17
Nebraska	89,518	8.2	72,296	8.3	669,666	8.4	5
Ohio	47,073	4.3	49,199	5.6	382,273	4.8	5
Utah	162,588	14.9	112,567	12.9	1,261,011	15.8	18
Wisconsin	20,943	1.9	20,686	2.4	168,854	2.1	5
Other[2]	83,918	7.7	79,599	9.1	642,746	8.0	12

[1] U. S. Department of Agriculture, Monthly Crop Reporter, April, 1921, p. 38.
[2] Illinois, Indiana, Iowa, Kansas, Minnesota, Montana, Washington, Wyoming.

Contracts for beet growing are arranged every year between the sugar-manufacturing companies and the farmers in beet-raising localities, and every acre of sugar beets is contracted for before the seed is sown. The farmer with his machinery prepares the ground for planting, seeds the crop, cultivates between the rows, and at harvest time loosens the beet roots from the soil. But the intermediate and subsequent processes are performed by an army of hand workers, for although machinery for certain of these processes is being tried, it is not as yet in general use. As the work is distinctly seasonal and also comes at a time when regular farm labor is busy with other crops, the farmer usually hires labor on contract to do the handwork. These laborers have no more to do with the regular farm work than harvest hands or fruit pickers, though in the intervals between the hand processes they sometimes hire themselves out to the farmers for other work. The amount of hand labor required for the beets is usually estimated at 1 adult worker to every 10 acres, which means that in the United States approximately 87,238 adult laborers or an equivalent working force of adults and children were required in 1920.

A large part of the work is done by children ranging in age from 6 to 16 years. Just how many children are employed in the beet fields is not known.[5] All contracts are made with the head of the family, usually the father, and as he merely agrees to take care of the work on a given number of acres, no record appears anywhere

[5] Seventeenth Biennial Report, Colorado Bureau of Labor Statistics, 1919–20, p. 20 (Denver, 1920), contains the following statement:
"An estimate of the number of children working in the beet fields in Colorado was made after conference with Judge Baker of the Weld County court, and a representative of the Great Western Sugar Co., Denver.
"Judge Baker stated that the number of children at work in the Weld County beet fields is about 2,500. The number of children in that county who are put to work in the fields is perhaps larger than in any other part of the State, but 400 children are in the fields for every factory in Colorado * * * which would give the total in the entire State at 6,800, which estimate is probably liberal and for some of the districts it may be high."

of the number or ages of the persons working for him. Although the sugar companies bring in large numbers of laborers to hire out to the farmers and it is possible to secure from the companies the number of families brought in, and in some cases the number of full fares and half fares paid, that information obviously does not show how many children, even of contract laborers, worked.

Although children working in the beet fields are for the most part those of contract laborers, some are the children of land owners or renters who, although they have a fairly large acreage, are not prosperous enough to hire labor, or who have a small beet acreage which they feel can easily be cared for by their own families.

The supply of contract hand laborers comes from two sources. First, there are the families resident near the beet farms. These are usually families that have originally come either from cities or from other rural areas in the United States to work in the beet fields and have remained in the district the year round. In some cases they buy or rent little houses of their own; in others they remain in the "beet shack" supplied them by the sugar company or the farmer, paying a nominal rent, if any, during the winter. Those who are brought in from outside for the work are usually recruited from the foreign quarters of large cities. During the winter the agent of the sugar company visits such localities as are likely to furnish laborers, advertises in their papers, visits local employment agencies, and otherwise gets in touch with the labor supply. Formerly it was possible to recruit from Chicago, Detroit, Toledo, Cleveland, Pittsburgh, and other cities and towns of the Middle West sufficient labor for the Michigan beet fields; and Denver, Pueblo, Trinidad, and some of the Nebraska and Kansas cities or western mining districts supplied labor for the Colorado section. But during the period immediately following the war it was impossible to find enough labor near by, and the labor agents were obliged to go into New Mexico and Texas and to the border of Old Mexico and to draw to a much greater extent upon the great field of Mexican labor. Fort Worth, El Paso, and San Antonio have become important recruiting centers for beet-field laborers, from which whole trainloads of Mexicans are shipped north and east to the beet fields.

The laborer contracts to do the handwork on as many acres as he thinks he and his family group can take care of. The sugar company, or the farmer—if the agreement is made directly with the latter—contracts to pay the laborer a fixed rate per acre, part of the amount to be paid after each operation. In addition, the railroad fares of the workers to the fields where they are to work are paid by the sugar company, and shelter is provided either by the company or by the farmer for whom the laborer is to work.

The first operations turned over to the hand worker are blocking and thinning. It has been found cheaper to be liberal with the seed and plant more than enough than to risk a poor stand, but to obtain the most perfect beets only one plant must be allowed to mature, and the plants should be from 10 to 12 inches apart in the row. Accordingly sections of seedlings are chopped out with a hoe, and only small clumps 10 or 12 inches apart are left. Blocking, as it is called, is usually done by adult laborers [6] and is followed immediately by thinning, a process performed as a rule by children. It consists in pulling out all but one beet plant and leaving one—preferably the strongest, though usually no great discrimination is shown by the children—to attain maturity. The blocking and thinning must be done before the beet plants grow too large, and the work is usually done under pressure.

As soon as the blocking and thinning are completed hoeing begins. The farmer cultivates with machinery between the rows, but between the individual plants in the rows the ground must be kept free from weeds and the soil stirred about the growing beets, necessitating one, two, and often three, hand hoeings. Where the machine cultivation is neglected the weeds often grow rank and strong and make the hoeing very difficult. There is not, however, the same pressure in hoeing as there is in blocking and thinning and it is always done in a more leisurely way. This is usually the work of the older children or adults.

Between the last hoeing—that is, about the end of July—and the time of harvest an interval of some weeks elapses. The date of beginning the harvest depends upon the sugar content of the beets and is determined by the chemists in the testing stations of the sugar companies. After the beets have been loosened from the soil by a horse-drawn machine known as a lifter, they are pulled up by the hand worker and thrown in piles or rows to be "topped." For the latter operation a sharp, heavy knife, about 18 inches long, with a hook at the end, is used. The worker, with the knife grasped in the right hand, hooks up the beet and chops off the crown of leaves with a sharp, downward stroke. All leaves must be cut cleanly away and to do this more than one stroke is frequently required. As the beets, though averaging under 3 pounds with the tops, are often too heavy for a child to hold firmly enough to stand the cutting stroke of the knife, many children rest the beet on their knee, standing on one foot while they cut the leaves off or "top" the beet. Where adults and children are working in groups together, the children frequently pull and throw the beets in piles for the adults to top; but if there are more children than are needed for pulling, the larger children top and the smaller ones pull and pile.

[6] "Adult" throughout this report means a person 16 years of age or over.

While the families are usually brought to the beet fields in April, and occasionally as early as March, the handwork does not begin before May. In order that the whole crop may not be at the same stage of growth at the same time the planting season is extended over a month or more and in consequence different fields are ready for the same operation at different times. Blocking and thinning usually take the laborers about five or six weeks. The hoeing is spread over four or five weeks longer. After it comes an interval of about six weeks in which there is no handwork in the beet fields.

The beet harvest begins about the 1st of October and lasts until about the middle of November, or between six and seven weeks. The beet-field laborers then pack up their belongings and hasten south to the warmer climate of New or Old Mexico or go back to the cities to look for work in some factory or shop; or, if they elect to remain in the beet districts for the winter, they settle down on the earnings of the family in the beet fields or try to secure the scarce jobs in the vicinity.

COMPARISON OF CONDITIONS IN COLORADO AND MICHIGAN.

The present study was made in Weld and Larimer Counties in Colorado, and in Gratiot, Saginaw, and Isabella Counties in Michigan, which were selected as representative of the beet-raising areas in their respective States and sections. Families were selected for study in which at least one child under the age of 16, or the mother if she had a child under 6 years of age, had worked in the beet fields in 1920.

Conditions in the Colorado and the Michigan sections were in general very similar. The great majority of the parents in the families interviewed in both sections were foreign born, though most of the children themselves had been born in the United States. In the Michigan area studied, however, where the beet farms averaged only 5 or 6 acres, a larger number of native American families of English-speaking stock were engaged in the work in their own fields than in Colorado, where the plantings averaged upwards of 20 acres. Almost seven-tenths of the Colorado families were Russian-Germans, and one-tenth were Mexicans; the Michigan workers included a wide range of nationalities, most of them Slavic, in addition to Mexicans. In each section migratory workers had been brought in from more or less distant points to supplement the available resident labor, but practically four-fifths of the Colorado families, as compared with only one-third of those in the Michigan section, resided within a few miles of the beet farms. Some farm owners, tenant farmers, and contract laborers were included in the survey in each area; but largely because of the smaller acreages proportionately

more beet farmers' families in Michigan than in Colorado were doing handwork on their own beet crop.

Tenant farmers and farm owners lived in the ordinary farmhouse of the area, but laborers' families in both Colorado and Michigan occupied any kind of shelter that was available for temporary use—abandoned farmhouses, rude frame or tar-paper shacks, and even tents and caravan wagons—though some of the sugar companies in Michigan had provided one or two room portable cottages for their laborers. The dwellings were in many cases in bad repair, dark, ill ventilated, and far from weatherproof. Overcrowding was extreme. In Colorado 77 per cent and in Michigan 60 per cent of the laborers' families lived with two or more persons per room. Sanitation was poor, and the water supply, especially in the irrigated districts of Colorado, was often neither plentiful nor protected against contamination. Most of the laborers occupied their "beet shacks" for five or six months a year.

In the Colorado section 1,073 children between 6 and 16 years of age and in the Michigan section, 763 had worked in the beet fields in the summer of 1920. A large proportion (from one-fifth to one-fourth) even of the 6- and 7-year-old children in the families interviewed had worked; but the workers constituted a majority—approximately three-fifths—of the 8-year-old children, and practically all of those over the age of 10. One fourth of the working children in each section were under 10, over one-half from 10 to 13, and only one-fifth 14 or 15 years of age. Girls as well as boys of all ages did the work; a slight tendency to spare girls, apparent for all ages in the Michigan families, in Colorado affected only girls under 10 years of age.

More than half the Colorado child workers had worked more than six weeks in the beet fields in 1920. Practically the same proportion of Michigan workers had spent more than four weeks at the work, and at the time the study was made in Michigan the fall work of pulling and topping, which would add two or more to the number of weeks worked, had not begun.

Contract laborers' children in both sections worked several weeks longer than did the children of beet farmers, whose acreages, even in Colorado, where the beet farms were relatively large, were smaller than those for which a laborer usually took a contract. Partly because of the smaller acreage, the children of farm owners and tenant farmers did not work under the same pressure as did the children of contract laborers. In many cases their hours were shorter and the weeks spent at the work were fewer; but even when growers' children worked long hours throughout a number of weeks the acreage which they worked indicates that usually they were not obliged to work so hard and so fast as laborers' children, who as

soon as they completed the work in one field were set to work on another. Practically all the working children in each section studied took part in the spring process, for even the youngest children can thin, and the necessity for thinning out the plants before they have grown too large is urgent. Only about four-fifths of the working children in each of the sections did hoeing. Not only is the need for haste, and consequently for using all hands, less than during blocking and thinning, but the work is also somewhat heavier than the spring process and can not be done so satisfactorily by very young children. In Colorado 85 per cent of the children worked from 9 to 14 or more hours a day in the thinning season, as compared with only 67 per cent in Michigan—a difference probably due to the relatively larger proportion of farm owners with small acreages in the Michigan study. The proportion—two-thirds—working nine hours a day or longer while hoeing was no greater in Colorado than in Michigan. Even the contract laborers' families, who constituted the bulk of those visited in Colorado, were able to take this work in a somewhat more leisurely way than they had the blocking and thinning. No fall work had begun at the time of the study in Michigan. In Colorado the labor of practically all the children was again utilized in pulling and topping in order to get in the crop before it was caught by a heavy fost or otherwise spoiled; three-fourths of the children working at this process reported a working day of from 9 to 13 hours.

The Colorado children were more experienced workers than those in the Michigan families included in the survey. Of the former, only 17 per cent of those from 10 to 15 years of age were working in the beet fields for the first time; of the latter, 35 per cent were beginners. On the one hand many of the Russian-German workers in Colorado had been engaged in beet-field work season after season for a number of years; on the other, some of the Michigan farmers' families owing to local conditions were doing their own handwork for the first time. The more experienced Colorado child workers on an average cared for 5.9 acres per child, whereas the Michigan workers averaged only 4.1 acres per child.

In both sections absence from school for work in the beet fields, especially during the harvest season, was reported, and difficulty was experienced in enforcing the school attendance law in the case of beet-field workers. The average percentage of attendance for resident children in the Colorado section who attended schools making no special provisions for beet-field workers was 74 per cent in the case of laborers' and 89 per cent in the case of farm owners' children. In Michigan these percentages were 72 and 85, respectively. In Colorado summer sessions provided for beet-field workers in a few

towns had resulted in bringing up the percentage of attendance to 90 for laborers' as well as for farmers' children attending these schools. The proportion of retarded children in the families studied in each area was considerably larger than the average. Thirty-five per cent of the resident children 8 to 16 years of age in Michigan beet-field workers' families and three-fifths of the corresponding group in Colorado were retarded from one to six or seven years. The comparatively large number of farm owners' children, who are less retarded than laborers' children, decrease the proportion of retarded children in the Michigan families. Most of the Michigan children living near the beet fields attended rural schools. About half the Colorado children attended schools in the sugar-factory towns, and these children had a percentage of retardation more than twice as large as the average for city schools, measured by even a very conservative standard. Children attending schools providing a summer session for beet-field workers were little, if any, less retarded than those for whom no such provision had been made, despite the improvement in their school attendance. Such sessions have been held at most but two or three seasons, and it is impossible as yet to ascertain what effect they may have in reducing retardation among the children who lose time from the regular session for work on the beet farms.

Supplementary studies of school attendance and retardation among resident children in both sections covering approximately 3,000 children in Colorado and 1,300 in Michigan showed that the percentage of school attendance of beet-field working children of every age was from 20 to 30 less than that of nonworking children and that the proportion of retarded working children was greater for every age than that of retarded nonworking children. In the Colorado section the percentage of retardation for workers ranged, according to the ages of the children, from one and one-third times to more than twice that for children who had not stayed out of school to work in the beet fields.

The children of migratory laborers are likely to lose even more time from school than resident children, as they are withdrawn from school early in the spring in order to get settled in the beet-growing area in time for thinning and seldom return to town until late November or December, some weeks after school has begun. Among the migratory laborers' families in the Colorado section the percentage of retarded children was 62; that for children in the Michigan migratory families was 47.

The mothers of many young children were beet-field workers. Very few of the Russian-German mothers, including farmers' as well as contract laborers' wives, in the Colorado families studied did

not work in the beet fields. In Michigan, on the other hand, although proportionately as many mothers in contract laborers' families did beet-field work as in Colorado, only about one-half of the farm owners' wives worked in the fields. Farm owners' wives of native birth were relatively numerous in the Michigan section, and among these women field work is not customary. The average number of seasons at work was 8 for Colorado women and only 3 for Michigan women. Women worked about the same hours and approximately the same number of weeks as children, and during the busy seasons were able to give little attention to their homes or the care of their children. Babies were usually taken to the field, where they remained all day, in some cases sheltered by a canvas tent, but in others without even the shade of a tree. In many families they were left at home, either alone or with older children to care for them. Many of these caretakers were under 7 years of age.

Family earnings from beet contracts ranged from less than $100 to $3,000 or more, according to the number of workers and their ability. In both sections studied the largest group, approximately one-fifth of the laborers' families, expected to receive for their season's work in the beet fields from $800 to $1,000. About one-half of the families in Colorado and less than one-third of those in Michigan earned $1,000 or more. The value of a child's work, if he engaged in all the processes, averaged in the Colorado section about $200 and in Michigan from $114 to $122.[7] The Michigan children, it will be remembered, were far from being such experienced workers as the Colorado children.

The Colorado families, especially the resident Russian-Germans, were supported largely, if not entirely, by their beet-contract earnings. About one-fourth of the Colorado fathers did no regular work from beet season to beet season, partly, no doubt, because winter work was scarce, but also because the earnings of women and children from their work in the beet fields relieved the father in some cases of the necessity of working throughout the year to support his family. In Michigan only 7 per cent of the fathers who were laborers had had no employment during the winter preceding this survey.

[7] Includes a bonus of $7 an acre.

FAMILIES WORKING IN THE COLORADO BEET FIELDS.

SCOPE AND METHOD OF STUDY.

The beet-sugar industry has been developed on a larger scale in Colorado than in any other State in the Union, and for a number of years Colorado has led all States in the area harvested and the tons of sugar produced, though both Michigan and Utah have as many sugar factories in operation.[8] The beets are grown in the irrigated basins of the Platte and the Arkansas Rivers, the Arkansas Valley covering a tract of land approximately 125 miles long from the Kansas State line to Pueblo, and the northern irrigated districts reaching north from Denver for about 75 miles, then running east and north again along the Platte River. On the western slope of the Rockies along the Grand and the Gunnison Rivers is another irrigated beet-growing section, but the area there is small compared to that in the eastern part of the State.

The present study of child labor and the work of mothers in the Colorado beet fields was made in the beet-raising area north of Denver, in Weld and Larimer Counties. In no other two counties in Colorado are beets so extensively grown. In Weld County there were in 1920 three sugar factories—one at Eaton, one at Greeley, and one at Windsor—which reported[9] 45,412 acres of beets tributary to them. In Larimer County there were two sugar factories, one at Fort Collins and one at Loveland, supplied from 30,130 acres of beets. All these factories were owned by one sugar company. They reported to the Children's Bureau that 4,234, or 44 per cent of the hand workers who they stated were required, were brought in from outside districts and that the remaining laborers were resident, usually living in towns near the beet fields the year round. Practically all the resident workers were members of family groups. Approximately 80 per cent of the nonresident workers also were in family groups,

[8] See Table I, p. 2.

[9] Each of the beet-sugar factories in the districts selected for study in both Colorado and Michigan furnished the Children's Bureau with information for their territory on the following points: (1) Number of acres in sugar beets; (2) number of sugar-beet growers; (3) number of growers owning farms; (4) number of growers renting farms; (5) number or proportion of growers who do their own handwork and hire no laborers; (6) number of hand laborers required; (7) proportion of these laborers who are resident; (8) proportion of resident laborers who are single men; (9) total number of transient laborers brought in for season of 1920 by company; number of single men and number of family groups thus brought in; (10) proportion of farms in the district growing beets.

according to the figures given by the four factories reporting on this point. Thus about nine-tenths of the workers, resident and migratory, as reported by four of the five factories in the two counties belonged in families in which father, mother, and some or all of the children worked in the beet fields.

Families in these two counties in which at least one child under 16 years of age or the mother of a child under 6 had worked in the beet fields for at least one week in the season of 1920 were selected as the basis of the study and were visited by agents of the bureau. It was difficult to locate families having children at work, especially as at the time the study was begun (the 1st of September) no handwork in the beet fields was in progress and the resident workers had returned to their homes in the near-by towns to await the harvest season. The best means of securing the names of resident families with children appeared to be to take the names of the children who had enrolled in the summer schools and early school sessions of both counties. These were almost exclusively children who were taking summer-school work because they expected to be out in the fall for the beet harvest.[10] The complete enrollment was taken for schools at Greeley, Windsor, Fort Collins, and Loveland, which were holding summer sessions,[11] and for four rural schools in each of the two counties. The lists so secured did not include the names of many nonresident families, for they did not, in many cases, put their children in school in these districts. In order to secure a proper proportion of these families, lists giving the names and locations of families brought in for the work were secured from the sugar factories, and districts were selected for visiting to which the sugar factories reported that transient families had been sent. In addition, agents making the visits were instructed to take the name of every unlisted family found in the district which they visited and to ask especially for transient families. Notwithstanding these efforts a very large proportion of resident families seems to have been included in the study, as compared with the proportion of resident laborers shown by the figures of the sugar factories. As a result the report depicts somewhat more favorable conditions, at least in respect to the school progress made by the children,[12] than if the proportion of transient families included in the study had been more nearly representative of the counties as a whole.

ECONOMIC STATUS OF FAMILIES.

The great majority—over three-fourths—of the 542 families interviewed in the two counties, were those of contract laborers. Com-

[10] See pp. 38–39.
[11] See p. 38.
[12] See Study of school records of migratory beet-field workers, pp. 52–53.

paratively few were families owning or renting farms and cultivating their own beets; barely a tenth were farm owners, and only 13 per cent were tenant farmers. It will be remembered that no family was included in the study unless at least one child or the mother worked in the beet fields, and, as a rule, the grower, even when he only rents his land, does not do the handwork on his beet crop, nor is this work performed by the members of his family.[13] The tenants and farm owners whose families work are usually men who have risen from the ranks of contract laborers, and who, with few exceptions, are living in a poor way on the land, striving body and soul to save enough money to purchase a farm or to add to the few acres which they have laboriously acquired. For farm owners, at least, there is a certain social stigma attached to "working in the beets," and they are likely to hire contract labor for the work as soon as they are able to do so.

Of the 418 laborers' families in the study, 348 were resident in the beet-growing area. Many of these families had come directly from Europe, where they had worked in the beet fields, some of them since childhood. They were with few exceptions thrifty, industrious, and ambitious, anxious to save money, buy a farm, and "let some one else work the beets." When not engaged on the beet crop the fathers, if they had any other occupation, were for the most part general farm hands, or else they worked in the sugar factories during the weeks following the harvest when sugar was being made, living during the winter in shacks and small houses, which they usually owned, clustered on the outskirts of the sugar-manufacturing towns. Seventy families of laborers had been brought into the area for the work from more or less distant points in the United States, where most of the men had worked as factory hands, miners, or railroad laborers.

Slightly fewer children to a family were reported among the laborers included in the study than among the growers, so that although more than three-fourths of the families were those of laborers, less than three-fourths of the children were laborers' children. An even smaller proportion of the children over 6 years of age were in laborers' families. The laborers' families included more young couples with babies and small children, whereas the beet growers were older people, many of them with grown sons and daughters.

[13] According to reports made to the Children's Bureau by the Colorado sugar companies the proportion of beet growers, including owners and tenants, who did their own handwork varied from 2 to 20 per cent. About one-sixth of the growers in the districts tributary to the five factories in Weld and Larimer Counties did their own handwork.

TABLE II.—*Economic status of family, by age of child; children under 16 years of age in families that worked in beet fields: Colorado group.*

Age of child.	Children under 16 years of age.						
	Total.	Economic status of family.					
		Laborer.		Tenant farmer.		Farm owner.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	2,115	1,581	74.8	310	14.7	224	10.6
Under 6 years	715	561	78.5	99	13.8	55	7.7
6 years, under 16	1,400	1,020	72.9	211	15.1	169	12.1

NATIONALITY.

Nativity.

Few of those who work in the beet fields of Colorado are the wives and children of native Americans, and these with rare exceptions are of foreign extraction, the grandparents of the children having been born in foreign countries. Less than 15 per cent of the fathers and mothers in the families visited had been born in America, and over two-fifths of these were of Mexican stock. On the other hand, most of the children themselves had been born in the United States. About one-fourth of those between 6 and 16 years of age had not been born in this country, but less than a fifth of all the children and only 3 per cent of those under 6 years of age were foreign born.

Russian-Germans formed the largest group of foreign-born parents. Not quite seven-tenths of the fathers were of this stock and their children constituted not quite three-fourths of all the children in the study. The Russian-Germans predominated in every economic group—laborer, tenant farmer, and farm owner. They made up the bulk of the resident families who may be considered the backbone of the hand labor in the Colorado beet fields. They had been brought into the State originally in the early years of the beet industry when its increasing growth demanded more laborers than could be secured near by. Although they came to the United States from Russia, they are descendants of Germans who migrated to Russia in the eighteenth century but who did not intermarry with the Russians to any extent, retaining even to this day their Teutonic habits, language, and religion. They cling also to the customs of their forefathers, one of which is that women and children work in the fields. Many of them had been beet-field laborers before they came to the United States, for although Germany led the world in beet-sugar production previous to the war, most of her agricultural laborers were imported

from Russia, and Russia herself was second only to Germany in beet-sugar production.[14]

TABLE III.—*Nationality of father, by economic status of family; children under 16 years of age in families that worked in beet fields: Colorado group.*

Nationality of father.	Children under 16 years of age.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	2,115	100.0	1,581	100.0	310	100.0	224	100.0
Native	287	13.6	225	14.2	26	8.4	36	16.1
Mexican	104	4.9	104	6.6	.....	.....	.....	.....
Other	183	8.7	121	7.7	26	8.4	36	16.1
Foreign born	1,825	86.3	1,356	85.8	284	91.6	185	82.6
Mexican	149	7.0	149	9.4	.....	.....	.....	.....
Russian-German	1,554	73.5	1,135	71.8	261	84.2	158	70.5
German	55	2.6	30	1.9	11	3.5	14	6.2
Slav	34	1.6	25	1.6	9	2.9	.....	.....
All other	21	1.0	9	.6	3	1.0	9	4.0
Nationality not reported	12	.6	8	.5	.....	.....	4	1.8
Nativity not reported	3	.1	.....	.....	.....	.....	3	1.3

In contrast to this predominance of Russian-Germans in the resident labor supply, most of the migratory laborers brought into Weld and Larimer Counties in the season of 1920 were Mexicans—90 per cent according to the figures furnished the Children's Bureau by the sugar factories. Six per cent of the fathers included in the study were Mexicans, and another 6 per cent were of Mexican stock. Their children formed respectively 7 and 5 per cent of the total number of children[15] included in the survey. Most of the families had been brought from Texas, many having gone there directly from Old Mexico during the war-time suspension of immigration restrictions. Others came from New Mexico or the mining districts of Colorado. As yet the Mexicans have not been assimilated by the communities to which they have flocked. None of those included in the present study had progressed to the position of farm owners, or even tenant farmers. In Weld and Larimer Counties they seldom remain through the winter. Little or no work is to be had, and the climate is colder than they like. Every day after the 1st of November sees little groups of them at the railroad stations, many of them thinly clad, carrying shabby bits of hand baggage. They make their way

[14] The Sugar Industry, U. S Department of Commerce, Bureau of Foreign and Domestic Commerce, Miscellaneous Series No. 9, p. 102. Washington, 1913.

[15] If more migratory families had been included, the proportion of Mexicans would have been larger. See p. 12.

back to the South or in some cases only to Denver, to live crowded in miserable shanties until spring calls them out again to the beet fields.

Knowledge of English.

Many of the children whose families work in the beet fields hear English for practically the first time when they go to school. As the result of a law passed in 1919 [16] requiring instruction in the common branches to be given in the English language this situation will probably improve. Prior to the passage of the law instruction in the parochial schools attended by many of the children was in German. Even among the children 6 years old or over, in the families studied, 53 could speak no English, though 22 of them had been born in this country. Eighty-eight of the fathers and 251 of the mothers had no knowledge of the language. The Russian-Germans live apart in their own little settlements and worship in their own churches, and despite the fact that many of them had been in the United States 10 or 15 years and none less than 5 years, German is the language of the household. The men come in contact with English-speaking persons in their daily work to some extent, but the women seldom go outside their homes. Thus most of the Russian-German fathers (82 per cent) had acquired some knowledge of English, at least enough to make themselves understood, but less than half the mothers were able to speak English.

TABLE IV.—*Literacy and ability of father to speak English, by number of years in the United States and nationality; fathers in families that worked in beet fields: Colorado group.*

Years in the United States and nationality of father.	Fathers.								
	Total.	Unable to speak English.		Unable to read English.		Unable to read and write English.		Unable to read and write in any language.	
		Number.	Per cent.[a]	Number.	Per cent.[a]	Number.	Per cent.[a]	Number.	Per cent.[a]
Total	[b]518	88	17.0	343	66.2	372	71.8	108	20.8
Native	74	1	1.4	16	21.6	21	28.4	7	9.5
Mexican	33	1	.....	16	.....	20	.....	6	.....
Other	41	.....	.....	.....	.....	1	.....	1	.....
Foreign-born	444	87	19.6	327	73.6	351	79.1	101	22.7
Less than 3 years	16	12	.....	15	.....	15	.....	8	.....
3 years, less than 5	9	5	.....	9	.....	9	.....	5	.....
5 years, less than 10	155	46	29.7	130	83.9	136	87.7	45	29.0
10 years, less than 15	134	15	11.2	98	73.1	104	77.6	26	19.4
15 and over	127	8	6.3	74	58.3	86	67.7	17	13.4
Not reported	3	1	.....	1	.....	1	.....	.....	.....

[a] Not shown where base is less than 50.

[b] Excludes 23 fathers who were dead or had deserted and 1 for whom nationality, years in the United States, ability to speak English, and literacy were not reported.

[16] Colorado Laws, 1919, ch. 179.

TABLE V.—*Literacy and ability of mother to speak English, by number of years in the United States and nationality; mothers in families that worked in beet fields: Colorado group.*

Years in the United States and nationality of mothers.	Mothers.								
	Total.	Unable to speak English.		Unable to read English.		Unable to read and write English.		Unable to read and write in any language.	
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	[2]525	250	47.6	429	81.7	444	84.6	222	42.3
Native	79	15	19.0	25	31.6	28	35.4	13	16.5
Mexican	33	15	.....	22	.....	25	.....	10	.....
Other	46	.....	.....	3	.....	3	.....	3	.....
Foreign born	446	235	52.7	404	90.6	416	93.3	209	46.9
Less than 3 years	21	21	.....	21	.....	21	.....	16	.....
3 years, less than 5	13	11	.....	13	.....	13	.....	10	.....
5 years, less than 10	159	112	70.4	152	95.6	154	96.9	73	45.9
10 years, less than 15	132	58	43.9	120	90.9	123	93.2	60	45.5
15 and over	121	33	27.3	98	81.0	105	86.8	50	41.3

[1] Not shown where base is less than 50.
[2] Excludes 16 mothers who were dead or away or had deserted, and 1 for whom nationality, years in the United States, ability to speak English, and literacy were not reported.

The Mexicans are comparatively newcomers to the beet fields—little more than half the fathers and only one-third of the mothers in the study had lived in the United States as much as 5 years. Considering that they stay but a short time in any one place, and like most of the foreign born tend to live in little colonies of their own, it is not surprising that of the native Mexican fathers included in the study only 42 per cent could speak English. As always among immigrants, the women, coming in contact with Americans even more gradually than the men, learn English much more slowly, and only 7 per cent of the mothers could speak the English language. Of the Mexican parents born in the United States, all the fathers except one could speak English well enough to make themselves understood, whereas almost half the mothers had no knowledge of the language. Some of the women may have spent part of their lives in Old Mexico, but it is highly probable that many of them grew up in the United States without attending school or attending schools where the instruction was in Spanish, always speaking their native tongue in the family, and not mingling enough with outsiders to pick up English as the men did.

Where so few had a speaking knowledge of English one might expect that the ability to read and write it would also be the exception rather than the rule. Such, indeed, proved to be the case: Only 1 foreign-born father in 4 could read the language, and only 1 in 5 was able both to read and to write English. Only 42 of the 446 foreign-

born mothers had learned to read English and only 30 to read and write it. In addition to their ignorance of English a large number of the parents were illiterate even in their own language.

Thus handicapped it is difficult for these parents to share in any way in the life of the community. Besides the personal inconvenience which they suffer they are cut off from the many avenues of popular instruction which would be of assistance in safeguarding their children's health, in guiding their conduct, and in becoming their companions. It is difficult for them to understand American customs, ideals, and institutions, and if they do not cooperate with the public schools as effectively as might be desired it is hardly to be wondered at.

Little attempt has been made locally to provide instruction for non-English speaking men and women. In the two counties studied only one instance of an evening school for adults was found. In Greeley, at the instigation of the local woman's club, an evening school had been held in the late winter and spring of 1920. It was spoken of with appreciation many times by the foreign-born beet-field workers who had attended it, and regret was expressed that it had been started so late that many had been obliged to withdraw for the spring work before the course was completed.

CHILD LABOR.

Number and ages of children and duration of work.

In the families visited 1,073 children between 6 and 16 years had worked in the beet fields during the season of 1920. All except 37 of them had worked for their own parents and without remuneration. The child-labor law of Colorado, like that of most States, exempts agricultural work from its minimum-age provision,[17] and children may be put to work in the fields at any age. Four children even younger than 6 years were reported by their parents as having worked a part of each day for from one to eight weeks. Among the working children between 6 and 16 years of age covered by the study, well over one-fourth were less than 10 years of age, and more than one-half were from 10 to 13, inclusive. Only 191 working children had reached their fourteenth birthdays.

[17] The law prohibits work in specified occupations, not including agricultural pursuits, under the age of 14 and also any work for compensation "during any portion of any month when the public schools * * * are in session." It continues, "Nothing in this act shall be construed to prevent the employment of children in any fruit orchard, garden, field or farm: *Provided*, That any child under 14 years of age engaging in such employment for persons other than their own parents must first secure a permit from the superintendent of schools in accordance with the provisions of section 15 of this act. The hours of work during each day, or in any week shall be in compliance with the provisions of this act as to the hours during any day or week when children may be employed." The natural interpretation of the last sentence is that the maximum hours provision of the child labor law (See footnote 19, p. 22) applies to children working in "fruit orchard, garden, field, or farm." Mills' Annotated Statutes, revised edition 1912, sec. 657.

TABLE VI.—*Age of child, by economic status of family; children between 6 and 16 years of age working in beet fields: Colorado group.*

Age of child.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	[1] 1,073	100.0	[1] 774	100.0	164	100.0	135	100.0
6 years, under 7	15	1.4	8	1.0	6	3.7	1	.7
7 years, under 8	56	5.2	44	5.7	6	3.7	6	4.4
8 years, under 9	91	8.5	76	9.8	7	4.3	8	5.9
9 years, under 10	127	11.8	95	12.3	20	12.2	12	8.9
10 years, under 11	171	15.9	120	15.5	31	18.9	20	14.8
11 years, under 12	116	10.8	81	10.5	19	11.6	16	11.9
12 years, under 13	170	15.8	124	16.0	24	14.6	22	16.3
13 years, under 14	136	12.7	95	12.3	23	14.0	18	13.3
14 years, under 15	122	11.4	83	10.7	17	10.4	22	16.3
15 years, under 16	69	6.4	48	6.2	11	6.7	10	7.4

[1] Excludes 4 children under 6 who worked in beet fields.

The tendency among the families in which it is customary for children to work is to make the children's labor count as soon as possible. As one of the mothers said, "Asa's worked ever since he could lift a beet." More than three-fifths of the 8-year-old children in the families in which at least one older child had already gone to work were beet-field workers.[18] From the age of 10 on, practically all worked in the cultivation of beets. Even among the 6- and the 7-year-old children one child in four was reported as working. Girls as well as boys worked at all ages, but there appeared to be a tendency to spare the youngest girls. Thus, 60 per cent of the boys under 10 years of age in the families studied but only 36 per cent of the girls under 10 years of age were reported as working; all the 10-year-old boys helped with the crop, as compared with 89 per cent of the 10-year-old girls. In these families, however, the proportions of working girls and boys over 10 years of age who worked were practically identical—94 and 95 per cent, respectively.

The work, it will be remembered, is not continuous. Blocking and thinning, the first handwork, begins about the 1st of June. During the last days of May wagons or motors carrying the beet-field laborer's family and his household goods, with perhaps a chicken coop on top and the family cow bringing up the rear, fill the roads leading

[18] The totals on which are based this proportion and the following proportions of children of different ages at work exclude 189 children—(1) the eldest working child in each family, and (2) children who were the only child workers in their respective families. To avoid a bias in favor of a high proportion of children working which would be given by the basis of selection of families in the present study (i. e., families in which at least one child worked), these working children who presumably furnished the reason for the selection of the family are excluded.

out from Greeley, Fort Collins, Loveland, and other neighboring sugar-factory cities where the resident beet-field laborers live during the winter. By the 1st of June they, as well as the migratory workers, have been apportioned among the farmers and are established in the shelters provided for them, usually adjacent to the beet fields where they are to work. Shortly after blocking and thinning are completed, hoeing is begun, and, if several hoeings are required, may extend into August. From the middle of August until the harvest there is no handwork in the beet fields. After the last hoeing the resident families usually return to their homes on the outskirts of the near-by cities. The early days of October witness their second migration to the beet fields, this time for the work of pulling and topping.

At the time of the Children's Bureau agent's visit many families had not completed the fall work, and some of them expected to work at least two or three weeks longer. Of the 1,073 working children, 571 had already spent more than six weeks in the beet fields during the 1920 season, and 61 of them had worked from 12 to 17 weeks. The latter were all laborers' or tenants' children. Five children under 8 years of age, 18 between 8 and 9, and 16 between 9 and 10 had worked 10 weeks or more. One-fifth of the laborers' children had worked at least 10 weeks—practically twice as many proportionately as the children of tenant farmers. The largest group of owners' children had worked five weeks and the largest group of tenants' and of laborers' children had worked seven weeks.

TABLE VII.—*Number of weeks worked, by age of child; children between 6 and 16 years of age working in beet fields: Colorado group.*

Age of child.	Children between 6 and 16 years of age working in beet fields.											
	Total.	Number of weeks worked.										
		Less than 1.		1		2		3		4		5	
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	[2]1,073	4	0.4	24	2.2	28	2.6	57	5.3	81	7.5	125	11.6
6 years, under 7	15	.....	.....	.....	.....	.....	.....	3	.....	1	.....	3	.....
7 years, under 8	56	1	1.8	1	1.8	1	1.8	6	10.7	6	10.7	9	16.1
8 years, under 9	91	1	1.1	3	3.3	1	1.1	8	8.8	8	8.8	11	12.1
9 years, under 10	127	.....	.....	3	2.4	5	3.9	9	7.1	8	6.3	19	15.0
10 years, under 11	171	1	.6	6	3.5	5	2.9	12	7.0	12	7.0	15	8.8
11 years, under 12	116	.....	.....	2	1.7	2	1.7	3	2.6	12	10.3	17	14.7
12 years, under 13	170	1	.6	5	2.9	4	2.4	7	4.1	8	4.7	19	11.2
13 years, under 14	136	.....	.....	1	.7	5	3.7	5	3.7	11	8.1	15	11.0
14 years, under 15	122	.....	.....	3	2.5	3	2.5	2	1.6	10	8.2	10	8.2
15 years, under 16	69	.....	.....	.....	.....	2	2.9	2	2.9	5	7.2	7	10.1

[1] Not shown where base is less than 50.

[2] Excludes 4 children under 6 years of age who worked in beet fields.

TABLE VII.—*Number of weeks worked, by age of child*—Continued.

Age of child.	Children between 6 and 16 years of age working in beet fields.											
	Number of weeks worked.											
	6		7		8		9		10		11	
	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	119	11.1	154	14.4	117	10.9	118	11.0	78	7.3	43	4.0
6 years, under 7	2	.....	1	.....	3	.....	1	.....	.....	.....	.....	.....
7 years, under 8	5	8.9	9	16.1	5	8.9	5	8.9	1	1.8	1	1.8
8 years, under 9	11	12.1	12	13.2	7	7.7	5	5.5	10	11.0	2	2.2
9 years, under 10	15	11.8	21	16.5	19	15.0	5	3.9	8	6.3	2	1.6
10 years, under 11	16	9.4	19	11.1	15	8.8	25	14.6	15	8.8	11	6.4
11 years, under 12	11	9.5	17	14.7	11	9.5	15	12.9	10	8.6	5	4.3
12 years, under 13	21	12.4	24	14.1	24	14.1	16	9.4	13	7.6	7	4.1
13 years, under 14	11	8.1	24	17.6	12	8.8	16	11.8	11	8.1	6	4.4
14 years, under 15	18	14.8	16	13.1	14	11.5	17	13.9	8	6.6	5	4.1
15 years, under 16	9	13.0	11	15.9	7	10.1	13	18.8	2	2.9	4	5.8

Age of child.	Children between 6 and 16 years of age working in beet fields.											
	Number of weeks worked.											
	12		13		14		15		17		Not reported.	
	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	24	2.2	22	2.1	9	0.8	4	0.4	2	0.2	64	6.0
6 years, under 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
7 years, under 8	2	3.6	1	1.8	.....	.....	.....	.....	.....	.....	3	5.4
8 years, under 9	2	2.2	1	1.1	1	1.1	1	1.1	1	1.1	6	6.6
9 years, under 10	4	3.1	2	1.6	.....	.....	.....	.....	.....	.....	7	5.5
10 years, under 11	5	2.9	2	1.2	3	1.8	.....	.....	.....	.....	9	5.3
11 years, under 12	.....	.....	4	3.4	.....	.....	1	.9	.....	.....	6	5.2
12 years, under 13	6	3.5	2	1.2	2	1.2	.....	.....	.....	.....	11	6.5
13 years, under 14	3	2.2	6	4.4	.....	.....	1	.7	.....	.....	9	6.6
14 years, under 15	1	.8	3	2.5	2	1.6	1	.8	1	.8	8	6.6
15 years, under 16	1	1.4	1	1.4	1	1.4	.....	.....	.....	.....	4	5.8

[1] Not shown where base is less than 50.
[2] Excludes 4 children under 6 years of age who worked in beet fields.

The farmer whose family works in the beet fields has usually only a small beet acreage and needs help for only 2 or 3 weeks, whereas a laborer will require the help of his children for from 6 to 12 weeks or even longer to take care of the acreage for which he has contracted. Three-fourths of the farm owners and three-fifths of the tenant farmers in the study cared for less than 30 acres of beets as compared with one-half the contract laborers, and half the farm owners had less than 20 acres of beets. Thus it was unnecessary for the children in farm owners' families to work either such long hours or so many weeks a season as the children of contract laborers did.

In addition to the work on the beet crop, it should be noted that many of the children did a variety of other farm work, adding to

the number of weeks spent in the fields. For example, both boys and girls took part in threshing and haying, helped cultivate various crops, tended stock, and, more rarely, loaded beet wagons. Some of the boys 12 years of age and older did heavier work, such as plowing. Many of the farmers' children who did such work as this had worked only a few weeks on the beet crop. Others, however, had spent as much time in the handwork as the laborers' children. In addition to 11 weeks' work "in beets" one farmer's boy had done cultivating, driven a team, mowed and stacked hay; and another had done cultivating and haying besides 9½ weeks' work in the beet fields. Although it was usually the farmers' children who had such tasks as these, it was not uncommon for the contract laborers' families to do other jobs in the intervals between the work on the beet crop. Among the many children who worked at gathering potatoes from the ground was a 7-year-old girl who had spent over 4 weeks in the beet fields. A number of the younger children weeded onions, and one 9-year-old boy with his older brothers topped them in addition to spending 11 hours a day for more than 7 weeks working in the beet fields. One 10-year-old girl cut corn and gathered potatoes besides spending 12 weeks on the beet crop. Three little boys hoed beans and gathered potatoes in the intervals between their handwork in the beet fields. Another 12-year-old boy did both cultivating and planting in addition to more than 11 weeks of work on his father's beet contract.

The number of weeks that the children work and the length of their working day,[19] like the age at which they begin to work, is in practice determined according to the judgment of the individual parent. Some of the parents included in the survey were careful about the amount and kind of work their children did. "Too hot; such work not for kids," they would say, or "So hard work not good for children." One mother helped with the thinning herself, though she was not well, because she was "sorry for Jacob," who at 8 years of age worked 6½ to 10½ hours a day for 7 weeks during the beet season. Some parents, on the other hand, usually the excessively thrifty ones, eager to "get ahead" at any cost, drove their children hard. A few accounts of the work done by individual families will make clear the attitude of different parents toward their children's work, besides illustrating conditions under which the work is done.

Four Russian-German children, ranging in age from 9 to 13 years, came to the beet fields with their family the 1st of June. They worked at thinning and blocking for more than 3 weeks, 14½ hours a day, beginning at 4.30 a. m. They

[19] The Colorado child labor law provides a maximum of 8 hours per day at "any gainful occupation" for children under 16, with exemptions limited to children of 12 years of age and over, on special permit granted by the county school superintendent or his deputy. (Mills' Annotated Statutes, Revised Edition, 1912, secs. 657, 671.)

took 5 minutes in the morning and again in the afternoon for a lunch when, as they said, they "just got chunks in." They took 20 minutes for dinner. About July 1 they went home, remaining until the middle of the month, when the hoeing began. They spent 5 weeks, 14½ hours a day, hoeing, and again went home, returning September 21 for the harvest, which lasted 4 weeks. During the harvest their working day lasted 10 hours only. On October 25 they returned to town for the winter, having spent a total of 12⅓ weeks at work. These four children and their father and mother cared for 51 acres. Ten acres was the generally accepted average for an adult, according to statements made to the Children's Bureau by the sugar companies. The family owned a car and their town house was being repapered and repaired; two men were working on it at the time of the agent's visit.

"Healthful work for children," said one father, "if they don't work too long hours or in the heat of the day." His 15-year-old girl and 12-year-old boy never worked longer than 7½ hours, taking about 5 hours off during the middle of the day. His 9-year-old girl worked irregularly. These three children with two adults cared for 12 acres.

Another father, who owned a small farm, declared that the work was good for children "providing they don't begin too young, don't work too long hours, and don't lose their schooling." His 13- and 11-year-old children worked from 7 a. m. to 5.30 p. m., taking 2 hours off in the middle of the day and spending only about 2 weeks at the work. They did no hoeing. These children had begun to work in the beet fields when 10 years of age.

How hard Sam and John, two boys 10 and 12 years of age, worked is indicated by the fact that they, with their parents and one other adult, worked 65 acres of beets. If each adult cared for 15 acres, which is half as much again as the average, each child would have had to care for 10 acres, the average amount supposed to be cared for by a full-grown worker. These boys worked 8½ hours a day during the hoeing season and 10 hours daily during the fall and spring processes, covering about 11 weeks. Sam, the 12-year-old, also worked between the beet processes at cultivating and planting.

In a family in which the girls of 11 and 13 years preferred work in the beet fields to housework the statement was made that the girls worked steadily but not fast—which is evidenced by the fact that they, with three other children and two adults, took care of only 12 acres of beets, an average of less than 2 acres per person.

A Mexican family that came to Colorado from Texas about the middle of May had only 1 child at work, a girl of 12 years. She had spent over 14 weeks working in the beet fields—almost 9 weeks thinning, 3½ weeks hoeing, and more than 2 weeks pulling and topping. The family remained in the country throughout the season, and the girl had picked beans and gathered potatoes during the interval between the completion of hoeing and the beginning of the beet harvest. She had completed only the first grade, despite the fact that the family had moved much less frequently than was customary among Mexican beet-field laborers. This family, consisting of father, mother, and 12-year-old girl, had cared for 27 acres, a fact which indicated that their work must have been fairly steady.

Three little boys of 8, 10, and 12 years, with their 15-year-old sister and their mother and father, worked on contract for more than 14 weeks 11 and 12 hours daily, caring for 53 acres of beets. This family owned a car and a new house.

Fourteen-year-old Lizzie, the daughter of a contract laborer, worked 10½ weeks "in beets"—a little over 4 weeks in June, a little over 4 weeks in October, and 2 weeks in the summer. Her working day in hoeing and in the fall work was about 12 hours, but during the thinning and blocking process she worked between 14 and 15 hours a day. During the summer she had also gathered poatoes. This was her seventh year in the beet fields. She had completed only the fourth grade in school. Lizzie had lost a good deal of time each year, her father said, for the beet-field work. School, he explained, had been compulsory for only a few years.

A little Mexican girl, aged 8 years, worked at thinning 10 hours a day for 4 weeks in June. She did no hoeing. Up to the time of the agent's visit she had spent 3½ weeks on the beet harvest, working, as in the spring, 10 hours a day. Altogether she had worked 9½ weeks in the beet fields in addition to 3 weeks' work gathering potatoes before the pulling and topping began.

In one native American family 4 boys, aged 7, 10, 12, and 15 years, spent 3 weeks at the spring process, working an 11-hour day. They were in the field from 7 in the morning until 7 at night, but took 1 hour off for dinner. They spent 1 week at hoeing, working 10½ hours a day, with 1½ hours off in the middle of the day. The topping was not finished when the agent saw the family. They had been working at it 10 hours a day for 1½ weeks and expected to complete the job in 2 weeks more. The 4 boys had spent a total of about 5½ weeks at the work. The 15-year-old boy also hired out with his father to do haying and threshing work which lasted 5 weeks. The 12-year-old boy did some haying also. This family had had 4 years' experience in beet-field work. The 4 children and 2 adults, however, cared for only 28 acres of beets. The children probably worked in a very leisurely way (if the 2 adults cared for 20 acres the children averaged only 2 acres each), and it is not surprising that they considered it "a great treat to be out on a farm," and preferred it to staying in town.

Five children and two grown persons in another American family cared for 20 acres—all working 11 hours a day for 2½ weeks in the spring, 11 hours a day for 2 weeks at hoeing, and 9½ hours a day for a little over 1 week in the fall—about 6 weeks in all. These children, aged from 10 to 14 "didn't mind working in the beets," though their parents said that they sometimes had to be bribed to keep at it.

A Russian-German family came out from town March 22. In this family were 3 children working, 12-year-old Frieda, 9-year-old Willie, and Jim, aged 7, who worked irregularly. They spent 3 weeks at the spring work, putting in a 12½-hour day; 2 weeks at hoeing for 11 hours a day, and up to the time of the agent's visit had spent about 3 weeks at the harvest, which was not yet finished. Altogether they had worked about 9 weeks, probably very hard, since the 3 children, one working irregularly, and 3 adults had cared for 50 acres.

Somewhat similar working conditions were found in a family in which 2 little girls, aged 12 and 13 years, with 3 adults, took care of 50 acres of beets. The children had worked altogether more than 11 weeks, 10 and 12½ hours a day.

A Russian-German family, with 4 working children ranging in age from 8 to 15, arrived at the beet field on May 25 and remained throughout the season. All the children worked almost 12 hours a day for 4 weeks at thinning. All except the youngest, who did no hoeing, worked 2 weeks, almost 12 hours daily, at hoeing. All of them had been working 3 weeks at pulling and topping at the time of the agent's visit and expected to spend another 2 weeks at it. The

8-year-old boy worked irregularly at this process, but the 12- and 15-year-old boys and the 13-year-old girl spent 11 hours a day at the work. Altogether they had worked more than 9 weeks, with the two adults caring for 43 acres. This family said that the work was profitable because the children could help. The family owned a car.

The 7-year-old daughter of a Russian-German farm laborer who owned a car and had a well-furnished house with a piano worked 9½ hours a day thinning for 3 weeks and irregularly at pulling and topping for 4 weeks. This father had no winter occupation.

One Russian-German father said that with the help of his wife and his 4 children, one of whom was over 16 years of age, he made enough ($1,400) on his beet contract of 40 acres to live on all the year round. He did no other work throughout the year. The children, aged 8, 9, and 11 years, averaged 11 hours a day in thinning and hoeing, and 10 in pulling and topping, working over 10 weeks in all.

Five children of a Russian-German laborer, ranging from 8-year-old Henry to 15-year-old Katie, arrived at the beet fields the last of May. All the children worked at thinning for 4 weeks, putting in more than a 13-hour day, from 6 in the morning until 8 at night. After the thinning they returned to their town home for about 1 week, coming out to the field again July 7 for the hoeing. Their hours during the hoeing were the same as in the spring process, and again all the children worked, this time, however, for 7 days only. They again returned to town, remaining there until the end of August. They spent a little over 4 weeks at pulling and topping, working during that process 10 hours a day. They worked in all 9½ weeks, the 5 of them with their father caring for 50 acres. The youngest boy was reported to have begun work in the beet fields at the age of 4. This family owned a car. The father did no work in the winter.

Those who did not find the work hard were usually families caring for only a few acres, and able to take their own time. A family consisting of mother and three children, one of whom was over 16 years of age, who "took the work easily and had so much fun" working 18 acres in nine weeks is typical of this relatively small group of workers.

A great many families, on the other hand, spoke of the hardships of the work on the beet crop, especially for women and children. "We all get backaches," was a common complaint. "Hardest work there is," said others. One mother "couldn't sleep nights" because her "hands and arms hurt so." Although children being small do not have to bend over the plants as constantly as adults, and therefore may not suffer the same sort of hardship, yet the work is no doubt a strain. A little girl, 6 years old, told the Children's Bureau agent that her back was getting crooked from her work "in beets." One mother declared that the "children all get tired because the work is always in a hurry." A contract laborer with a large acreage said that his children "scream and cry" from fatigue, and another said "The children get so tired that they don't want to eat, and go right to bed. Beets are harder work than working in

a steel mill. The children don't get any fresh air as they have to lie in the dust and crawl on their knees all day."

Hours and duration of work in each process.

Blocking and thinning.—When the beet seedlings shoot a few inches above the ground about the 1st of June or a little earlier, the work of blocking and thinning begins. The blocker, usually an adult, walks down the long rows of beets chopping out the superfluous plants with his hoe. Close at his heels come the children, both boys and girls, most of them clad in overalls. Straddling the beet row, they kneel, and, bending over, crawl from plant to plant on hands and knees; they usually work at high speed, for thinning must be completed before the plants grow too large.

Of the children covered by the present study, 1,037 did blocking or thinning or both in the spring of 1920. The youngest working children can thin, and because they are active and their fingers are nimble, they are believed by some to be the most effective workers in this process. Less than a fifth of the children, including 16 per cent of the boys and 20 per cent of the girls in the survey who engaged in the spring work, had reached their fourteenth birthdays. About one-half of them, both boys and girls, were under 12, and 273 children, or more than a fourth, including 30 per cent of the boys, were under 10 years of age. In fact, 6 per cent of these child workers were less than 8 years old—15 of them only 6 years and 50 of them 7 years old. Undoubtedly these younger children worked less steadily than the older ones, but in some cases their hours were very long.

TABLE VIII.—*Daily hours thinning and blocking, by age of child; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours thinning and blocking.	Children between 6 and 16 years of age working in beet fields.										
		Age.									
	Total.	6 years, under 7.	7 years, under 8.	8 years, under 9.	9 years, under 10.	10 years, under 11.	11 years, under 12.	12 years, under 13.	13 years, under 14.	14 years, under 15.	15 years, under 16.
Total	1,073	15	56	91	127	171	116	170	136	122	69
Did not work thinning and blocking	36	.....	6	5	5	3	3	6	3	3	2
Worked thinning and blocking	1,037	15	50	86	122	168	113	164	133	119	67
Less than 4 hours	8	1	1	2	1	1	.....	1	1	.....	.....
5 hours, less than 6	5	.....	.....	1	2	1	1	.....	.....	.....	.....
6 hours, less than 7	7	.....	2	.....	.....	2	1	1	.....	1	.....
7 hours, less than 8	22	.....	2	5	2	4	1	3	2	1	2
8 hours, less than 9	61	1	4	5	9	12	9	6	6	6	3
9 hours, less than 10	214	1	5	9	29	30	26	44	27	30	13
10 hours, less than 11	327	3	8	27	32	55	45	50	52	36	19
11 hours, less than 12	213	1	12	16	27	32	17	38	26	25	19
12 hours, less than 13	82	1	2	5	8	16	6	14	13	9	8
13 hours, less than 14	24	.....	3	4	2	2	3	3	2	4	1
14 hours and over	25	.....	.....	3	4	3	2	3	4	4	2
Not reported and irregular	49	7	11	9	6	10	2	1	.....	3	.....

THINNING BEETS.

A working day of 11 or 12 hours was not uncommon.

HOEING BEETS.

Four-fifths of the working children hoed—the majority 9 hours or more a day.

TOPPING BEETS.

A sharp heavy knife with a hook at the end is used in this operation.

MOTHERS AND CHILDREN WORK SIDE BY SIDE.

The 9-year-old boy (left) had worked 11 hours a day for over three weeks at pulling and topping.

The usual hours for agricultural work prevailed—that is, "from sunup to sundown." Six o'clock was reported as the usual hour for beginning work, but some families started as early as 4.30 or 5 o'clock. "The old man chases us down to the field early in the morning [4 o'clock]," said one boy, adding, "But we get even with him; whenever he leaves the field we stall." After a hasty breakfast, eaten in some cases in the field, work was practically continuous until midday, when the majority of the families went home to a hot dinner. There was not a general lay off, as in some kinds of farm work, during the heat of the day. Only an hour was usually allowed for dinner. A few of the families reported their "dinner hour" as lasting only 10 minutes. Work continued until 6 or 7 o'clock. About half the laborers' families said that they took a rest of 15 minutes or half an hour in the morning or afternoon, or both, often eating a slice of bread at that time, but some regarded such a practice as "all foolishness."

The net working day, exclusive of meals and rest periods, was, according to statements made by parents, 9 hours for 85 per cent of the children, both boys and girls, of whom 36 were children only 6 or 7 years of age. One-third of the children, however, reported 11 hours or more and one-eighth of them 12 to 15 hours as constituting a regular working day. Six children under 8 years of age worked 12 hours or more, and all except 6 of the 65 working children aged 6 and 7 years were reported as putting in a working day of at least 8 hours. With such long hours, it is hardly surprising that, as one boy said, "Your back gets awfully tired from thinning. Sometimes you get such headaches you can't hardly stand it." Children in families owning or even renting their farms worked somewhat shorter hours than did the children of laborers. Nevertheless, almost nine-tenths of the farm owners' children who did thinning and blocking worked 9 hours or more a day, and approximately one-fourth of them were reported as working from 11 to 14 or more hours daily. These long working days continued in some cases for weeks. A number of the children included in the study, somewhat over one-tenth of the total number, had worked practically throughout the spring process; that is, 5 or 6 weeks or more. One 12-year-old Mexican child had had to work at thinning almost 9 weeks in order to complete with the aid of his father and mother a 27-acre contract.

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TABLE IX.—*Daily hours thinning and blocking, by economic status of family; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours thinning and blocking.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	1,073	.....	774	.....	164	.....	135	.....
Did not work thinning and blocking	36	.....	23	.....	6	.....	7	.....
Worked thinning and blocking	1,037	100.0	751	100.0	158	100.0	128	100.0
Less than 4 hours	8	.8	5	.7	1	.6	2	1.6
4 hours, less than 6	5	.5	4	.5	1	.6	.....	.....
6 hours, less than 7	7	.7	5	.7	2	1.3	.....	.....
7 hours, less than 8	22	2.1	10	1.3	6	3.8	6	4.7
8 hours, less than 9	61	5.9	47	6.3	8	5.1	6	4.7
9 hours, less than 10	214	20.6	131	17.4	50	31.6	33	25.8
10 hours, less than 11	327	31.5	239	31.8	40	25.3	48	37.5
11 hours, less than 12	213	20.5	154	20.5	31	19.6	28	21.9
12 hours, less than 13	82	7.9	73	9.7	9	5.7	.....	.....
13 hours, less than 14	24	2.3	22	2.9	.....	.....	2	1.6
14 hours and over	25	2.4	24	3.2	1	.6	.....	.....
Not reported and irregular	49	4.7	37	4.9	9	5.7	3	2.3

Half the children worked 4 weeks or longer. These included 399, or more than one-half of the laborers' children and two-fifths and slightly over one-third, respectively, of the tenants' and farm owners' children.

Hoeing.—Hoeing requires more physical strength than the thinning process, and many of the small children who work at thinning, or at pulling and topping, do not hoe. By thorough cultivation between the rows the farmer can make the work of hoeing much easier, but, even when the land is "clean," hand hoeing between the plants involves considerable exertion. The time over which the work can be extended is longer, also, than that allowed for any other process, so that there is not the same need of pressing into service every available worker. One-fifth of the children who worked did not hoe. A slightly larger proportion of the farm owners' and tenants' children than of the laborers' did this work, as might be expected from the nature of the process, and the fact that they were on the average a little older.

Nevertheless many young children hoed. More than one-fifth of the children in the study who did this work, though not quite one-fifth of the girls, were under 10 years of age, and 42 of the workers were 6- or 7-year-old children. The majority, in the case of both boys and girls, were from 10 to 13 years of age. Among the children of contract laborers one-fourth of the hoers were under 10, but the

majority among these children, as among the group as a whole, were children from 10 to 13 years of age.

TABLE X.—*Daily hours hoeing, by age of child; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours hoeing.	Children between 6 and 16 years of age working in beet fields.										
	Total.	Age.									
		6 years, under 7.	7 years, under 8.	8 years, under 9.	9 years, under 10.	10 years, under 11.	11 years, under 12.	12 years, under 13.	13 years, under 14.	14 years, under 15.	15 years, under 16.
Total	1,073	15	56	91	127	171	116	170	136	122	69
Did not work hoeing	213	8	21	35	28	32	24	29	16	13	7
Worked hoeing	860	7	35	56	99	139	92	141	120	109	62
Less than 4 hours	21	1	.....	2	2	5	1	3	3	4	.....
4 hours, less than 5	14	.....	1	3	1	2	2	3	1	1	.....
5 hours, less than 6	9	.....	.....	.....	2	4	1	.....	1	1	.....
6 hours, less than 7	24	.....	2	2	1	5	3	4	3	3	1
7 hours, less than 8	54	1	2	3	7	4	8	7	14	4	4
8 hours, less than 9	90	.....	2	2	9	14	11	21	10	13	8
9 hours, less than 10	197	1	5	12	19	35	26	32	23	27	17
10 hours, less than 11	209	.....	5	13	24	34	21	30	39	27	16
11 hours, less than 12	115	.....	7	6	12	17	9	24	12	17	11
12 hours, less than 13	41	.....	2	2	4	8	2	8	8	4	3
13 hours, less than 14	15	.....	1	4	.....	2	1	3	1	2	1
14 hours and over	12	.....	.....	1	3	1	1	2	1	2	1
Not reported and irregular	59	4	8	6	15	8	6	4	4	4	.....

The working-day was slightly shorter in hoeing than in blocking and thinning, and was of approximately the same length for both sexes. The hour of starting work was later, being usually 7 a. m., and the working-day usually ended at 6 p. m. The time for the mid-day meal, too, was longer and in general the workers took the work more easily. Nevertheless, 589 children, or 69 per cent, worked 9 hours or more daily; 21 per cent, 11 hours or more; and 8 per cent, 12 hours or longer.

A larger proportion of the children in farm owners' families who hoed than of either laborers' or tenant farmers' children, reported that they worked 9 hours or more, possibly because the group included proportionately more older children; that is, children from 12 to 15 years of age. But no beet grower's child, even in families that rented their land, worked at hoeing as much as 13 hours, whereas 27 of the contract laborers' children—14 of them from 7 to 11 years of age—were reported as having had a working-day of 13 hours or even longer.

TABLE XI.—*Daily hours hoeing, by economic status of family; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours hoeing.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	1,073	.....	774	.....	164	.....	135	.....
Did not work hoeing	213	.....	159	.....	30	.....	24	.....
Worked hoeing	860	100.0	615	100.0	134	100.0	111	100.0
Less than 4 hours	21	2.4	17	2.8	4	3.0	.....	.....
4 hours, less than 5	14	1.6	14	2.3	.....	.....	.....	.....
5 hours, less than 6	9	1.0	5	0.8	4	3.0	.....	.....
6 hours, less than 7	24	2.8	17	2.8	4	3.0	3	2.7
7 hours, less than 8	54	6.3	35	5.7	16	11.9	3	2.7
8 hours, less than 9	90	10.5	69	11.2	15	11.2	6	5.4
9 hours, less than 10	197	22.9	128	20.8	32	23.9	37	33.3
10 hours, less than 11	209	24.3	153	24.9	28	20.9	28	25.2
11 hours, less than 12	115	13.4	84	13.7	17	12.7	14	12.6
12 hours, less than 13	41	4.8	34	5.5	3	2.2	4	3.6
13 hours, less than 14	15	1.7	15	2.4	.....	.....	.....	.....
14 hours and over	12	1.4	12	2.0	.....	.....	.....	.....
Not reported and irregular	59	6.9	32	5.2	11	8.2	16	14.4

Hoeing has to be done twice, and sometimes three times, a season, during a period of about four weeks after blocking and thinning are completed. Practically two-fifths of all the children who hoed reported that they had worked between two and three weeks on this process. The largest group among the laborers' children, and among the children of tenant farmers and of farm owners as well, was that comprised of children who had worked between two and three weeks. Nevertheless, one-third of the tenants' children, one-fourth of the laborers', and one-tenth of the farm owners' children had worked three weeks or more. Rarely, however, had a family "just hoed along all summer," as the members of one family said they had done.

Pulling and topping.—When the word goes out from the factory to begin the harvest, the farmer with a horse-drawn machine loosens the beets and lifts them to the surface. They must then be pulled up from the loose soil, struck together in order to knock off the dirt caked upon them, and thrown into piles. The smaller children usually pull up the beets and throw them into piles for the adults or larger children to top, but this division of the work depends on the working force, and occupations are shifted as the occasion demands.

The use of topping knives by children involves a certain amount of danger. Cuts on the legs or knees were rather common, and occasionally a serious hurt—sometimes the loss of a finger—was reported by a member of the family, though none of the children

visited had up to the time of the visit suffered in that season a serious permanent injury.

Steady stooping and lifting along the beet rows day in and day out for several weeks is heavy work, and it is probably this work of pulling and topping that requires the greatest amount of physical effort on the children's part. The father of three children who had worked in the spring and summer processes said that he was not going to top as it was "too hard on the kids." Although the average beet with its top on weighs only a little over 2 pounds,[20] the child lifts a considerable load in the course of his long day's work.

For 138 of the children included in this study a definite report was secured as to the acreage harvested daily. The acreage so reported averaged one-fourth of an acre per child. Inasmuch as the average beet yield in Colorado was about 11 tons an acre in 1920[21] for the section studied, if a child pulled or topped one-fourth of an acre in a day he would handle daily about $2\frac{3}{4}$ tons, or, allowing one-third extra weight for tops and dirt, almost 4 tons of beets. A little girl of 10 said that she did not have the backaches complained of by many workers, but that "pulling and topping hurts awfully at the back of your neck." One mother, who described pulling as very hard, complained of "tearing pains like rheumatism after a day's work," and others, even after years of experience, said that their arms were so sore from pulling and topping that they could hardly use them.

Serious discomfort is experienced by the worker in that often the thick, rank beet tops, heavy with frost, which comes early in the mountain regions, soon soak the workers from the knees down, unless, as is rarely the case, they wear high rubber boots. "Fall is the meanest time," declared one of the fathers. "Women are wet up to their waists and have ice in their laps and on their underwear. Women and children have rheumatism. Jacob [13 years old] is big and strong but already feels rheumatism, so he has to kneel while topping. Can't stand all day." Often the clothing freezes stiff in the frosty air and only by midday does the warm sun dry off the cotton skirts or overalls. In wet years the workers say that they "get muddy to the skin." During the last weeks of the harvest, light falls of snow frequently add to the discomfort. The children's hands are chapped and cracked from the cold, and their fingers are often sore and bleeding.

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[20] Careful records kept by the sugar factories for a number of years, for the purpose of showing farmers that large beets were not necessary for large yields, showed the average weight of the beets without tops to be 1.58 pounds. Estimates worked out for average yield, number of beet plants to the acre, and average stand, from figures secured from the United States Department of Agriculture sugar-beet investigations, show the average weight, without tops, to be 1.59 pounds, almost exactly the figure of the sugar factories.

[21] U. S. Department of Agriculture, Monthly Crop Reporter, Dec., 1920, p. 148.

While not quite so many children take part in the harvest as in the spring work, practically nine-tenths of the working children reported that they had worked at pulling and topping. Those who can do nothing else can throw the beets loosened by the lifter into piles ready for the topper. The labor of the younger children is again utilized. Sixty workers in this process, 18 of whom were girls, were less than 8 years of age, as compared with 42 workers of this age reported as hoeing and 65 as blocking and thinning. As in blocking and thinning, over four-fifths of the children were under 14 years of age. One-fourth, including 28 per cent of the boys but only 21 per cent of the girls, were under 10 years of age. On the other hand, the largest single age group instead of being composed of children 10 years of age, as among children engaged in thinning, was 12 years of age. Those 10 years of age formed the next largest group. In these families by far the greatest number of children who did harvest work, both girls and boys, were between 9 and 13 years of age.

TABLE XII.—*Daily hours pulling and topping, by age of child; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours pulling and topping.	Children between 6 and 16 years of age working in beet fields.										
	Total.	Age.									
		6 years, under 7.	7 years, under 8.	8 years, under 9.	9 years, under 10.	10 years, under 11.	11 years, under 12.	12 years, under 13.	13 years, under 14.	14 years, under 15.	15 years, under 16.
Total	1,073	15	56	91	127	171	116	170	136	122	69
Did not work pulling and topping	114	2	9	18	19	25	7	12	7	13	2
Worked pulling and topping	959	13	47	73	108	146	109	158	129	109	67
Less than 4 hours	31	2	.....	7	6	3	2	5	3	2	1
4 hours, less than 5	5	.....	1	.....	.....	1	1	.....	2	.....	.....
5 hours, less than 6	3	.....	.....	.....	1	1	.....	.....	1	.....	.....
6 hours, less than 7	10	.....	2	1	.....	3	2	1	.....	1	.....
7 hours, less than 8	36	.....	2	3	4	6	5	6	4	4	2
8 hours, less than 9	71	.....	2	5	6	10	12	8	15	7	6
9 hours, less than 10	233	2	9	13	27	38	30	39	27	36	12
10 hours, less than 11	330	2	12	23	36	51	39	61	50	33	23
11 hours, less than 12	121	.....	5	6	15	16	8	24	15	12	20
12 hours, less than 13	23	.....	.....	3	2	1	2	4	6	4	1
13 hours, less than 14	3	.....	1	.....	1	1	.....	.....	.....	.....	.....
Not reported and irregular	93	7	13	12	10	15	8	10	6	10	2

Owing to the fact that the beet harvest comes at a season of the year when the days are getting short, there is to some extent a daylight limitation to working hours. On the other hand, because of the danger from freezing, all possible haste must be used in harvesting the beets, for if left too long in the ground they may be caught by a hard frost so that they can not even be pulled. It is not uncommon for laborers' families to work by moonlight when the nights are fine and clear, and at times the lanterns of the "beeters" are seen in the fields in the evening. Usually, however, the day ends

by 6 p. m. The hour of beginning, as in thinning, was generally reported as 6 a. m., though in October daylight comes late. The increased pressure of work is shown by the fact that in spite of shortened daylight three-fourths of the children reported 9 hours or more in the field, as compared with the 69 per cent who reported such hours in connection with hoeing. Thirty-one children under 8 years of age reported working at pulling and topping for 9 hours or more a day. The largest single group, one-third of all the children working at the process, reported 10 hours; about one-eighth reported 11 hours; and a few—between 2 and 3 per cent—reported 12 to 13 hours a day.

A somewhat larger proportion of the farm owners' children who worked at this process spent 9 hours or more a day pulling and topping than did the children of laborers or of farm renters, 81 per cent, as compared with 73 and 71 per cent, respectively. But again, as in both spring and summer work, it was contract laborers' children who worked the longest day. Four per cent of them reported working 12 hours or more, whereas only 1 owner's child worked as long as 12 hours. Some of the children who were reported as working short hours worked before and after school. Two children, a 13-year-old boy and an 11-year-old girl topped beets from 5.30 to 7.45 in the morning, and after school from 4.45 to 6 o'clock. They expected to spend a little over 7 weeks at the harvest work.

Since pulling and topping were in progress at the time the Children's Bureau study was made, it is impossible to give any exact figures on the length of time during that season spent by the children at the process. The work began the 1st of October and lasted until the middle of November, though most of it was finished by the end of the first week in November. It is probable, therefore, that for most of the laborers' children the duration of work was from 4 to 5 weeks. The children of men who rented or owned farms were likely to work less time than the children of contract laborers.

TABLE XIII.—*Daily hours pulling and topping, by economic status of family; children between 6 and 16 years of age working in beet fields: Colorado group.*

Daily hours pulling and topping.	Children between 6 and 16 years of age working in beet fields.							
	Total		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	1,073	.....	774	.....	164	.....	135	.....
Did not work pulling and topping	114	.....	78	.....	21	.....	15	.....
Worked pulling and topping	959	100.0	696	100.0	143	100.0	120	100.0
Less than 4 hours	31	3.2	18	2.6	8	5.6	5	4.2
4 hours, less than 5	5	.5	4	.6	.....	.....	1	.8
5 hours, less than 6	3	.3	2	.3	1	.7	.....	.....
6 hours, less than 7	10	1.0	8	1.0	2	1.4	.....	.....
7 hours, less than 8	36	3.8	28	4.0	4	2.8	4	3.3
8 hours, less than 9	71	7.4	55	7.9	11	7.7	5	4.2
9 hours, less than 10	233	24.3	165	23.7	30	21.0	38	31.7
10 hours, less than 11	330	34.4	230	33.0	57	39.9	43	35.8
11 hours, less than 12	121	12.6	91	13.1	15	10.5	15	12.5
12 hours, less than 13	23	2.4	22	3.2	.....	.....	1	.8
13 hours, less than 14	3	.3	3	.4	.....	.....	.....	.....
Not reported and irregular	93	9.7	70	10.1	15	10.5	8	6.6

Number of seasons at work.

Under the strain of long hours at exacting physical labor, extending over a period of weeks, many of the children in these families worked season after season during some of the most formative years of their lives. Table XIV shows the number of seasons which the children of different ages had worked.

TABLE XIV.—*Number of seasons in beet fields,*[1] *by age of child; children between 6 and 16 years of age: Colorado group.*

Age of child.	Children between 6 and 16 years of age.						
	Total.	Did not work in beet fields.		Number of seasons in beet fields.[1]			
				1		2	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	1,400	327	23.4	305	21.8	327	23.4
6 years, under 7	148	133	89.9	12	8.1	3	2.0
7 years, under 8	148	92	62.2	44	29.7	10	6.8
8 years, under 9	145	54	37.2	58	40.0	27	18.6
9 years, under 10	149	22	14.8	55	36.9	66	44.3
10 years, under 11	183	12	6.6	52	28.4	86	47.0
11 years, under 12	124	8	6.5	22	17.7	48	38.7
12 years, under 13	171	1	.6	33	19.3	38	22.2
13 years, under 14	137	1	.7	13	9.5	28	20.4
14 years, under 15	126	4	3.2	11	8.7	15	11.9
15 years, under 16	69	.....	.....	5	7.2	6	8.7

[1] Includes season of 1920.

TABLE XIV.—*Number of seasons in beet fields, etc.*—Continued.

Age of child.	Children between 6 and 16 years of age.							
	Number of seasons in beet fields.							
	3		4		5		6	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	159	11.4	119	8.5	86	6.1	37	2.6
6 years, under 7								
7 years, under 8	1	.7	1	.7				
8 years, under 9	2	1.4	2	1.4	2	1.4		
9 years, under 10	5	3.4					1	.7
10 years, under 11	22	12.0	8	4.4	3	1.6		
11 years, under 12	30	24.2	9	7.3	5	4.0	1	.8
12 years, under 13	44	25.7	29	17.0	19	11.1	6	3.5
13 years, under 14	28	20.4	28	20.4	21	15.3	9	6.6
14 years, under 15	22	17.5	27	21.4	21	16.7	11	8.7
15 years, under 16	5	7.2	15	21.7	15	21.7	9	13.0

Age of child.	Children between 6 and 16 years of age.							
	Number of seasons in beet fields.							
	7		8		9		Not reported.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	25	1.8	9	0.6	3	0.2	3	0.2
6 years, under 7								
7 years, under 8								
8 years, under 9								
9 years, under 10								
10 years, under 11								
11 years, under 12							1	.8
12 years, under 13	1	.6						
13 years, under 14	7	5.1			1	.7	1	.7
14 years, under 15	11	8.7	4	3.2				
15 years, under 16	6	8.7	5	7.2	2	2.9	1	1.4

One-third of the working children had begun to work when they were 8 years of age or younger—4 per cent of them when only 6 years of age. It was not surprising, therefore, to find that, although the oldest children included in the study had not reached their sixteenth birthday, a large number of them were reported as having worked in the beet fields at least 5 seasons, some of them as many as 6, 7, 8, or even 9. Comparatively few were doing their first season's work—only 28 per cent, even when the youngest working children are included. Fewer still among those from 10 to 15 years of age, in fact only 17 per cent, were working in the beet fields for the first time. The majority of the children of these ages had been working at least 3 years and one-fifth of them had worked for 5 seasons or more, including 3 of the 171 10-year-old children, but well over half of the 15-year-old group.

Amount of work per child.

It was impossible to estimate satisfactorily how much work a child did in a day. Parents and children worked together, and the acreages completed at the end of the day represented the labor of adults and children of different ages and working ability. In families where the parents were able to give what seemed to be a careful and intelligent estimate of their children's work the average amount blocked and thinned in a day per child was about one-third of an acre;[22] the amount hoed daily averaged two-thirds of an acre;[23] while on the average only one-fourth of an acre could be pulled and topped by a child in a day.[24]

One little Russian-German girl gave the following account of her family's fall work. The working members of this family besides the father and the mother (who left the field early to do the cooking) were Amelia, aged 9, her sister Mina, aged 12, and 7-year-old Albert. Working together they pulled and topped 37½ acres in 28 working days. The father working alone, the mother aided by Mina, and Amelia with the help of Albert arrived at the same time at the end of their respective beet rows, so that the daily acreage of 1.3 acres was divided equally among three teams, the little girl and the boy of 7 between them doing the work on something over two-fifths of an acre.

The statement made by local observers that when a child arrives at the age of 7 the family may contract for 5 additional acres is borne out to some extent by the average amount of work per child during the season as calculated on the basis of the acreage worked and the number of workers in the families covered in the present study.[25]

In 291 families of beet-field laborers whose acreage was the same throughout the season each working child cared for an average of 5.9 acres, or over three-fourths of the average amount taken care of by an adult, which, for these families, was 7.6 acres.[26] It is not known whether or not each adult and each child in these families worked in all the processes, but the figures represent the average number of acres on which a child and an adult, respectively, did all the handwork during the season. For the comparatively few (72) laborers' families reporting that at least the mother and all the children under 16 who worked had actually worked on all the processes, it was found that the average acreage cared for by a child during the season was 5.5, while that cared for by an adult was 7.9. It may

[22] The reports of 73 families were used in this estimate.

[23] The reports of 142 families were used in this estimate.

[24] The reports of 138 families were used in this estimate.

[25] The average acreage worked by children and adults is calculated by the method of least squares from data giving the total acreage, and the number of adults and children at work upon it. For this purpose only those cases are taken in which, so far as information was available, all those who worked had worked at all processes.

[26] The average acreage per adult is usually estimated as 10. The fact that many of the working adults in these families were mothers who on account of housework and cooking may have worked shorter hours than other adults has the effect of lowering the average.

have taken a child considerably longer to do the work, acre for acre, than a man or woman, but his record of accomplishment at the end of the season compares favorably with that of an adult.

EDUCATION OF CHILDREN.

The compulsory school attendance law and its enforcement.

Difficulty had been experienced in Weld and Larimer Counties in enforcing the compulsory school attendance law in cases in which parents wished to keep their children out of school for work in the beet fields. The Colorado law[27] provides that every child between the ages of 8 and 16, unless mentally or physically incapacitated, must attend school, but that a child may leave school at 14 years of age if he has completed the eighth grade, or he may leave at 14 without completing the eighth grade if his earnings are necessary to his own or his parents' support, or if it is for his own "best interests."[28] Attendance is required during the entire school session. The spring work on the beet crop does not usually necessitate loss of time from school, at least if the families are resident in the beet-growing area, for the schools are ordinarily closed by the 1st of June. Children in nonresident families, however, especially those from more or less distant cities, have to leave school some time before the end of the term in order to get settled in the beet-growing district before the actual work begins. The fall process obliges all the children who work at it, whether resident in the district or not, to be absent from school from four to six weeks in October and early November.

In Colorado, the entire responsibility for the enforcement of the school attendance law is lodged in a local board in each district. The county court may be appealed to on failure of persons to comply with the law, but the court may not act to compel the attendance of a truant unless the local officers have acted without avail. Under this system there are likely to be as many different standards of enforcement in the county as there are school districts. Especially in rural districts the small unit of administration makes trouble. Everyone is acquainted with everyone else in the community, so that members of the school board honestly desirous of enforcing the law to the letter find themselves in an embarrassing position when their friends and neighbors are the offenders. When the members of the board and the attendance officer are, as in the beet-growing counties, beet farmers themselves, in some cases keeping their own children out of school for work on the beet crop or hiring the families of beet laborers

[27] Mills' Annotated Statutes, Revised Edition, 1912, secs. 639, 640.

[28] The local or county school superintendent on application of the parent may excuse the child for his own "best interests."

to do their handwork, it is exceedingly difficult to get any action on reports of truancy made by teachers and school officials. One attendance officer was reported to have kept notices to be served on parents in his pocket until the beet harvest was over. In another district no attendance officer had been appointed. Unless some member of the community filed a complaint against the school board no action to provide an attendance officer could be taken. In one county the warnings of local attendance officers had proved so ineffectual that the teachers reported cases directly to the county superintendent, who in turn reported them to the sheriff. If the sheriff's notice was not heeded, the parent was brought into court and fined.

Advantage was also taken of the provision in the law requiring a parent to return a truant child to school within five days of the notice served by the attendance officer. It frequently happened that parents would not send their children back to school until the fifth day; would take them out again after a few days; and would not return them until notice had been served again and five days had again elapsed, repeating the subterfuge throughout the harvest. One judge did in a measure curb this scheme by allowing only five days of grace in all, not five for each offense.

So far as the law itself is concerned, such changes as are needed to prevent evasions of this sort should be made. It is beginning to be recognized also that a larger unit of administration, in which the personal element does not play so large a part, is necessary for the effective enforcement of the school attendance law in agricultural areas.

Adapting the school program to the demands of the local crop has also been advocated as a means of meeting the problem, and in a number of districts in Weld and Larimer Counties this expedient had been adopted to permit children to aid their parents in the beet harvest and at the same time to receive a normal amount of schooling. Some of the schools, in rural districts gave a "beet vacation" during the harvest season, beginning the fall term earlier than the customary September 1, and dismissing the entire school during the vacation, which lasted two or three, and occasionally four, weeks. In three of the largest beet-sugar centers of Weld County, each having a sugar factory and a large settlement of resident beet-field workers, the experiment of holding an extra session during the summer had been tried, with the understanding that those who had attended the summer term (which was not obligatory) could be excused in the fall season for a corresponding period, which was in one town, eight weeks; in another seven; and in a third, six weeks. This plan had been in effect three years in one Weld County town and several years in another, so that in those towns it had become

customary for children who expected to be out in the fall for the beet harvest to attend the summer session. A third town in Weld County had experimented with the summer session in 1919, but had given it up after one season. In Larimer County only one town had tried the summer school, having held a six weeks' session each summer for three years.

Probably the problem of school attendance—undoubtedly a perplexing one to local officials in all beet-raising districts—has nowhere been more earnestly considered than in these two Colorado counties. Hence, the findings in the present study may be regarded as representing conditions above the average rather than those typical of beet-growing sections throughout the country.

School attendance of children in the families visited.

The great majority of the children included in the study had entered school at 6 years of age, the usual age for beginning even when attendance is not required, as by the Colorado school attendance law, until the child is 8 years of age. Only 184 of the 1,400 children visited who had reached their sixth birthday but were not yet 16 years old were not enrolled in school, and all except 19 of these were under 8 or were 14 years of age or over. Even of the 15-year-old children five-sixths were still in school. No doubt both inability to get winter work in the vicinity and slow progress in school, which makes it impossible for many children to complete the grammar grades in the standard number of years, are contributing factors in keeping children in school after they are 14 years of age, in spite of the exemptions permitted by the law.

To secure records of school attendance even for the children of resident families covered by the study was difficult and often impossible, especially in cases where children had attended more than one school during the term. Complete records from teachers' registers for the school year preceding the inquiry were finally secured for 796 children. None of these were migratory laborers' children, whose school attendance is likely to be of even shorter duration than that of the resident beet-field workers.

Even among this group of resident children, however, more than two-fifths of those who had attended schools that had neither a "beet vacation" nor a summer session had been in school less than 80 per cent of the term, and the average attendance was only 79.3 per cent of the total possible days. They had therefore lost on an average one-fifth of their schooling for the year. Children of contract laborers had decidedly less schooling than beet-growers' children. Considerably over half the former had been present less than 80 per cent of the session, and one-fifth of them had not been in attendance so much as three-fifths of the time, whereas only one-fourth of the growers' children had missed as much as a fifth and only 6 per cent as much as

three-fifths of the term. In other words, contract laborers' children attended school on an average of only 74 per cent of the term, losing one-quarter of their school year, while the tenants' children attended on an average 91.5 per cent of the term, and owners' children 88.7 per cent, these two groups losing only about one-tenth of the school year. As the average school term in the schools attended by these children was 163 days, exclusive of holidays, the contract laborers' children had on an average only 120 days of schooling during the year.

TABLE XV.—*Per cent of attendance, by economic status of family and type of school attended; resident children between 6 and 16 years of age attending school: Colorado group.*

Economic status of family and type of school attended.	Children between 6 and 16 years of age attending school specified per cent of school term.						
	Total.	Less than 50.		50 less than 60.		60 less than 70.	
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Children who attended neither summer school nor beet-vacation school	[2] 312	27	8.7	19	6.1	36	11.5
Laborer	[2] 194	23	11.9	16	8.2	32	16.5
Tenant farmer	55	3	5.5	3	5.5	1	1.8
Farm owner	63	1	1.6	.....	.....	3	4.8
Children who attended summer school:[3]	381	.....	.....	5	1.3	12	3.1
Laborer	307	.....	.....	3	1.0	7	2.3
Tenant farmer	48	.....	.....	.....	.....	1	.....
Farm owner	26	.....	.....	2	.....	4	.....
Children who attended beet-vacation school [4]	103	2	1.9	7	6.8	13	12.6
Laborer	76	2	2.6	6	7.9	13	17.1
Tenant farmer	11	.....	.....	.....	.....	.....	.....
Farm owner	16	.....	.....	1	.....	.....	.....

Economic status of family and type of school attended.	Children between 6 and 16 years of age attending school specified per cent of school term.							
	70 less than 80.		80 less than 90.		90 less than 100.		100 and over.[5]	
	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Children who attended neither summer school nor beet-vacation school	54	17.3	78	25.0	90	28.8	7	2.2
Laborer	36	18.6	44	22.7	39	20.1	3	1.5
Tenant farmer	12	21.8	19	34.5	16	29.1	1	1.8
Farm owner	6	9.5	15	23.8	35	55.6	3	4.8
Children who attended summer school:[3]	25	6.6	95	24.9	185	48.6	59	15.5
Laborer	19	6.2	75	24.4	153	49.8	50	16.3
Tenant farmer	4	.....	14	.....	23	.....	6	.....
Farm owner	2	.....	6	.....	9	.....	3	.....
Children who attended beet-vacation school [4]	27	26.2	19	18.4	33	32.0	2	1.9
Laborer	24	31.6	16	21.1	13	17.1	2	2.6
Tenant farmer	3	.....	1	.....	7	.....	.....	.....
Farm owner	.....	.....	2	.....	13	.....	.....	.....

[1] Not shown where base is less than 50.
[2] Includes 1 child for whom per cent of attendance was not reported.
[3] Excludes 93 children attending summer school for whom the number of days attended was not reported.
[4] Excludes 6 children who also attended summer school. These were classed with those attending summer school.
[5] See p. 42. Excludes 171 children who were never in school, 13 who had left school, and 327 for whom no information in regard to school attendance was secured.

Not all this absence is due to the work which the children do in the beet fields. It is significant, however, that according to their parents' statements almost one-fourth of the school children included in the survey for whom absence was reported had missed more than four school weeks from the regular school session during the school year preceding the inquiry in order to help with the beet crop.[29] Three times as many contract laborers' as beet farmers' children in proportion to their numbers had stayed away from school more than four school weeks for work in the beet fields. The larger acreages worked by the contract laborers lead to heavier demands upon the school time of the children. Not only do farmers' children work exclusively on the home farms, so that their work is more quickly completed, but since all the harvest work comes during the regular school session, their parents find it more difficult than do contract laborers to keep them out of school for the work unless the school is one which has made some special arrangement for the children who expect to work in the beet harvest. Laborers' children, coming as a rule from outside the school district, are able in most cases to escape the vigilance of school authorities.

As mentioned above, one of the compromises adopted in some districts to improve school attendance and at the same time to allow children to work during the beet harvest was the "beet vacation," lasting from two to four weeks, the time being compensated for by the earlier opening of school. The vacation, however, was seldom long enough to allow the children of the laborers as much time as they needed for their contract work, and school officials in the areas studied complained that attendance was very small for a week or more before and after the vacation. Judged also by the school records of the 103 children included in the study who attended schools giving the "beet vacation," the expedient was not a satisfactory one in improving school attendance. The average percentages of attendance for the children attending schools giving "beet vacations"—90 per cent for owners' children, 88.6 per cent for farm renters', and 76.8 per cent for the children of contract laborers—show practically no improvement over those for children attending schools with only the regular session, though many of the latter also stayed out for harvest work. (See Table XV.) Almost half (47.5 per cent) the children attending schools giving "beet vacations" missed a fifth or more of the education provided for them in the public schools of the two counties.

[29] Judge Herbert M. Baker, of Weld County, in "The farm and the school," Colorado State Teachers College Bulletin, September, 1918, p. 24, makes the following statement: "The greatest causation of irregular attendance among children of all nationalities (in Weld County) is the withdrawal of children to work upon the farm."

Schools holding a summer session showed a decided improvement in the percentage of total attendance for the year over schools making no provision for beet-field work or those which closed for only a brief period during the height of the harvest. In the families included in the study, 474 children had availed themselves of this opportunity for increased schooling. Complete attendance records, however, were secured for only 381 children. For these the percentage of attendance was 90 or more for over three-fifths and less than 80 for only 11 per cent. A number of children who had not taken their full allowance of days out in the fall had an attendance record of more than 100 per cent. Only 4 per cent of the children going to summer school, in contrast to the 33 and 23 per cent, respectively, of children having only the regular term, or a regular term which allowed a "beet vacation," had received not more than 120 days of schooling during the year preceding the inquiry. Laborers' children attending summer schools, moreover, had attendance records quite as good as those of the beet farmers' children. In striking contrast, proportionately more than twice as many of the laborers' children who had not attended summer schools, as compared with farm owners' children who had not done so, had been in school less than four-fifths of the term.

Retardation of children in the families visited.

Irregular attendance is one of the most important factors in causing slow progress in school. An effort was made to ascertain to what extent the children in the families visited had reached the grades regarded as normal for their years in spite of the handicap which their frequent absences imposed or to what extent they had failed to do so and might be considered retarded. A statement of the age and grade of each child was secured from the families.

A child usually enters the first grade when he is 6 years of age and is expected to advance a grade each year, being 7 when he enters the second grade, 8 when he enters the third, and so on. In determining retardation, however, a more conservative standard has been generally adopted, according to which a child is regarded as having made "normal" progress if he is 6 or 7 years of age in the first grade, 7 or 8 in the second, and 8 or 9 in the third; and is retarded only if he is 8 years of age or older when he enters the first grade, 9 when he enters the second, and so on.

Measured by even this standard, approximately three-fifths of the 778 resident children between 8 and 16 years of age for whom records were secured were retarded in school.[30]

[30] The records of children less than 8 years of age were excluded, since, according to the standard adopted, a child younger than 8 is not considered retarded.

Of those who had attended rural schools during the school year preceding the study, 62 per cent were over age for their grade; of those attending city [31] schools, 57 per cent were retarded.

TABLE XVI.—*Comparison of retardation of resident children between 8 and 16 years of age in beet-field workers' families, with the average rate of retardation [1] of children in 80 cities.*

Age of child.	Resident children between 8 and 16 years of age whose school attendance was reported.						Average rate of retardation for specified age in 80 cities.
	Attending city schools.			Attending rural schools.			
	Total.	Retarded.		Total.	Retarded.		
		Number.	Per cent.[2]		Number.	Per cent.[2]	
Total	394	224	56.9	384	240	62.5	.....
8 years, under 9	53	15	28.3	46	7	.....	10.53
9 years, under 10	65	24	36.9	48	20	.....	15.52
10 years, under 11	62	30	48.4	64	37	57.8	21.57
11 years, under 12	47	29	.....	47	30	.....	26.88
12 years, under 13	59	41	69.5	59	39	66.1	32.35
13 years, under 14	55	39	70.9	50	42	84.0	36.54
14 years, under 15	35	28	.....	49	45	.....	37.78
15 years, under 16	18	18	.....	21	20	.....	37.27

[1] Proportions of retarded children from a distribution of 1,142,179 pupils in 80 cities, 1917–18. Unpublished figures furnished by the U. S. Bureau of Education.
[2] Not shown where base is less than 50.

TABLE XVII.—*Retardation, by economic status of family and type of school attended; resident children between 8 and 16 years of age in beet-field workers' families: Colorado group.*

Economic status of family.	Resident children between 8 and 16 years of age whose school attendance was reported.					
	Attending city schools.			Attending rural schools.		
	Total.	Retarded.		Total.	Retarded.	
		Number.	Per cent.[1]		Number.	Per cent.
Total	394	224	56.9	384	240	62.5
Laborer	329	189	57.4	222	157	70.7
Tenant farmer	40	18	.....	81	37	45.7
Farm owner	25	17	.....	81	46	56.8

[1] Not shown where base is less than 50.

The proportion of laborers' children retarded was higher than that of beet growers' children, more than seven-tenths of those attending rural schools being below normal grades as compared with 46 and 57

[31] The definition of city—a community with a population of 2,500 or more—used in "Statistics of City School Systems," U. S. Bureau of Education Bulletin, 1920, No. 24, p. 7, was adopted in classifying the schools in this study in order that the retardation figures for city schools might be comparable with figures furnished by the U. S. Bureau of Education.

per cent, respectively, of tenant farmers' and farm owners' children. Even those laborers' children who had had the advantage of city schools had as large a percentage of retardation as had the farm owners' children in rural schools. The social background of the Colorado beet-field laborers' children is not essentially different from that of the farm owners' and tenant farmers' children who work in the beet fields, the chief difference among the economic groups affecting school progress being the less regular school attendance of the laborers' children.

TABLE XVIII.—*Retardation, by age and type of school attended; resident children between 8 and 16 years of age in beet-field workers' families: Colorado group.*

Age of child and type of school attended.	Resident children between 8 and 16 years of age whose school attendance was reported.		
	Total.	Retarded.	
		Number.	Per cent.[1]
Total	778	464	59.6
8 years, under 9	99	22	22.2
9 years, under 10	113	44	38.9
10 years, under 11	126	67	53.2
11 years, under 12	94	59	62.8
12 years, under 13	118	80	67.8
13 years, under 14	105	81	77.1
14 years, under 15	84	73	86.9
15 years, under 16	39	38	.....
Attended schools having neither summer sessions nor beet vacation	247	151	61.1
8 years, under 9	43	12	.....
9 years, under 10	35	15	.....
10 years, under 11	42	24	.....
11 years, under 12	23	14	.....
12 years, under 13	38	29	.....
13 years, under 14	28	23	.....
14 years, under 15	26	23	.....
15 years, under 16	12	11	.....
Attended schools having a summer session	439	248	56.5
8 years, under 9	40	5	.....
9 years, under 10	65	22	33.8
10 years, under 11	70	31	44.3
11 years, under 12	58	34	58.6
12 years, under 13	69	42	60.9
13 years, under 14	67	51	76.1
14 years, under 15	46	39	.....
15 years, under 16	24	24	.....
Attended schools having a beet vacation	92	65	70.7
8 years, under 9	16	5	.....
9 years, under 10	13	7	.....
10 years, under 11	14	12	.....
11 years, under 12	13	11	.....
12 years, under 13	11	9	.....
13 years, under 14	10	7	.....
14 years, under 15	12	11	.....
15 years, under 16	3	3	.....

[1] Not shown where base is less than 50

No retardation figures for children attending rural schools are available which would be strictly comparable with the figures secured for the children in the present study who attended rural schools.

More than half the child beet-field workers in resident families attended city schools, however, and for these 394 children it is possible to make comparisons, showing that the proportion below the grades which were normal for their ages was considerably larger than the average. At average rates of retardation [32] only 100 instead of 224 children would have been retarded—that is, approximately only one-fourth—instead of considerably more than one-half. At every age period the proportion of retarded children in these families is strikingly higher than the average. At the age of 15 every child was retarded, whereas the average rate of retardation for 15-year-old school children is 37 per cent. Possibly the provision of the Colorado school attendance law which keeps children in school until they are 16 unless they have completed the eighth grade may account for some of this difference, since in some States children are permitted to leave school at 14 without completing the elementary grades, and the duller pupils, those most likely to be retarded, are likely to drop out as early as the law allows, leaving only the brighter 15-year-old children in school. But further explanation of the high rate is probably to be found in the fact that the older children have been kept out of school year after year to help on the beet farms.

Weld and Larimer County schools, it will be recalled, had for several years been giving especial consideration to the problem of the beet-field worker, and high as the proportion of retarded pupils was found to be among the children included in the present study, it was lower than that found in other beet-growing counties in the State. In a city school in another northern county, for example, 40 children between 8 and 16 years of age were reported as beet-field workers. All except 5 of these children, most of whom—like the Weld and Larimer County beet-field workers—were Russian-Germans, were below the grades which, according to their years, they should have reached. In a city school in a southern county attended chiefly by Mexican children, who constitute an especially difficult problem, 46 out of the 49 children between 8 and 16 years of age had fallen behind in their school work from 1 to 8 years.

Whether or not the provision of summer sessions for beet-field workers in lieu of exacting attendance throughout the regular school session has succeeded in reducing retardation in Weld and Larimer County schools is impossible to determine. According to Table XVIII, the proportion of retarded children attending schools having a summer session is indeed somewhat smaller than that of children who attended schools having only the regular session; but the difference, only 5 per cent, is hardly significant.

[32] Average rates of retardation for children of each age between 8 and 16 based on the proportions of retarded children from distribution of 1,142,179 pupils in 80 cities, 1917–18. Unpublished figures furnished by the U. S. Bureau of Education.

The summer session has been in existence too short a time to prove whether or not it may be successful as an expedient permitting children to help on the beet crop and at the same time secure a normal amount of schooling. The opinions of local school authorities differ on this point. Whether or not the summer session can ultimately enable the "beeter's" child to make progress in school comparable with that of the child whose school session is not interrupted by work in the beet field seems to depend to a great extent on how carefully the school holding the summer session is organized. A child, together with other children who expect to work on the beet harvest in the fall, takes in the summer session the first six or seven weeks' work of the regular school term. He then enters school in September with all the children, for he does not need to stay out for the beet-field work until October. Unless he is to repeat the work which he has done in the summer session, an obvious waste of time, he must be put in a special class and there given the same instruction that the nonworking children will receive while he is out for the pulling and topping, so that when he returns to school he may enter the class with them. This arrangement requires extra teachers for the beet-field workers, thereby increasing greatly the cost per pupil. Moreover, it is difficult, according to some local school officials, to secure teachers who are willing to work during the summer and take a vacation in October. In addition to administrative difficulties, the plan has other drawbacks. The beet-field worker is separated from the children in the school who do not work on the beet farms for fully a third of the school term. Such a segregation emphasizes social and economic differences between the children of American and those of foreign parentage whose isolation is great under the best of circumstances, and who are particularly in need of association in the schools with children from English-speaking families and families in which American standards prevail. Finally, in thus adapting the school session to meet the needs of the sugar-beet industry there is always the danger that the claims of the industry will come to be considered superior to those of the children.

Even though the sentiment of a community may be in favor of the summer school, until summer sessions are actually available there rests upon the community the responsibility of enforcing the present school attendance law to the letter. Lax enforcement is costly to the community as well as to the child. Many school districts fail to get the returns on the money expended for educational purposes because absences result in school equipment and school buildings not being used to their full capacity. Thus, in the school year 1917–18, Colorado virtually lost $3,036,765, almost a third of its entire school

appropriation, because the average attendance for the year was one-third less than the average school term provided.[33]

Supplementary studies of school attendance and retardation.

Study of records of resident beet-field workers in rural schools.—Since the majority of the children covered in the schedule study attended city schools and the total number moreover was small, a further study of school attendance and retardation among children working in the beet fields was made through questionnaires[34] sent to teachers of rural and village schools in beet-growing districts. Ninety-seven of the 147 school districts in Weld and Larimer Counties and 7 districts in Logan, an adjoining county, were canvassed.

The teachers were asked for attendance records for the period covering the beet harvest, including every child whose name appeared on their registers from the opening of school in 1920 to November 15 of the same year. This date was selected as marking the close of the harvest season. Unfortunately, as it appeared later from statements sent in by the teachers, a good many beet-field workers did not enter school at all until after November 15. While it is impossible to state the number of these children, those mentioned by the teachers on their own initiative amounted to nearly 6 per cent of the total number of child workers on the registers, and it seems probable that there were more. The attendance figures for the children working on beets may be considered conservative, therefore, as the late entrants, had they been included, would have reduced the attendance percentage considerably.

Table XIX shows the number of children in all three counties for whom records were received, classified according to whether or not they worked on the beet crop. Children who worked before and after school hours only were not considered beet-field workers and are not included, though evidence indicates that there were numbers of such children doing a considerable amount of beet-field work.[35]

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[33] Statistics of State School Systems, 1917–1918, U. S. Bureau of Education, Bulletin 1920, No. 11, pp. 14, 16. Washington, 1920.

[34] See p. 102.

[35] Teachers told, for instance, of children rushing in as the bell rang saying that they had had to top a certain number of rows of beets before they could come to school and had had to run to get there on time, and of others, who, wakened early and sent out to the beet fields to work until school time, would sometimes fall asleep at their desks.

TABLE XIX.—*Comparison of school attendance of children working in beet fields with that of children not working in beet fields during the autumn of 1920 (up to November 15), by county; pupils in schools in Weld, Larimer, and Logan counties, Colo.*[1]

County.	Total number of children reporting days present and days absent.	Total possible days.	Children working in beet fields.	
			Number reporting.	Possible days.
Weld	2,346	110,898	444	21,201.5
Larimer	1,338	62,092	277	12,960.0
Logan	397	19,937	156	7,750.0

County.	Children working in beet fields.					
	Days present.		Days absent.		Days absent for beet work.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent of total absence.
Weld	13,418.5	63.3	7,783.0	36.7	6,613.5	85.0
Larimer	9,220.5	71.1	3,739.5	28.9	3,283.0	87.8
Logan	2,825.0	36.5	4,925.0	63.5	4,546.5	92.3

County.	Children not working in beet fields.					
	Number reporting.	Possible days.	Days present.		Days absent.	
			Number.	Per cent.	Number.	Per cent.
Weld	1,902	89,696.5	82,968.5	92.5	6,728.0	7.5
Larimer	1,061	49,132.0	46,067.5	93.8	3,064.5	6.2
Logan	241	12,187.0	10,796.5	88.6	1,390.5	11.4

[1] Includes the pupils from 30 schools in Weld, 18 in Larimer, and 7 in Logan County for whom school attendance was reported.

In the 30 rural school districts in Weld County which returned questionnaires, sufficiently complete attendance records were furnished for 2,346 children who had enrolled up to November 15.[36] The attendance of the children working in the beet fields, as Table XIX shows, was strikingly less than that of those who did not work. The percentage of absence for the former was five times as great as for the latter group. The beet-field workers in these school districts had been absent from school from 1 to 40 days. Up to November 15 they had missed, on an average, 17½ days out of a possible 45, and in 9 districts they had been absent more often than they had been present. Eighty-five per cent of the absence of beet-field working children in these schools was reported as due to work in the beet harvest, and only 15 per cent had resulted from miscellaneous causes. That

[36] In each case in which there was any doubt as to the completeness or accuracy of the attendance record the attendance was counted as "not reported."

is, 15 out of the average 17½ days of absence were directly chargeable to the exigencies of the beet harvest. Five of the schools had, in addition, been closed for a "beet vacation" of from 2 to 4 weeks, which had affected 18 per cent of the children. But a large proportion (37.3 per cent) even of these children had had absences due to the beet harvest, showing, as did the records for the children in the schedule study who had attended schools giving "beet vacations," that the time permitted was too short for the fall work. The great majority (two-thirds) of the beet-field workers who had enrolled in these schools were residents of the district; about three-tenths had come from near-by towns for the harvest work; only a few were from outside the county.

In Larimer County the situation was similar. Eighteen school districts sent in attendance records for 1,338 children, approximately one-fourth of whom were children who worked in the beet fields. As in Weld County, the workers were reported absent almost five times as often as the children who had not helped with the beet harvest, and again, the greater part of the absence among the workers, amounting to 88 per cent of the total, was explicitly stated to have been due to work on the beet crop; this, too, in spite of the fact that well over a third of the children had had "beet vacations." In Larimer County, as in Weld, approximately two-thirds of the workers thus avoiding school attendance were residents of the district where they had enrolled in school, while the others with few exceptions came from other school districts in the county.

The records for Logan County but add to the evidence that children working in the beet fields are not enjoying the same opportunity to receive a common-school education as the children in the same localities who are not helping in the beet fields. An even larger proportion of the children in the seven school districts located in beet-raising areas in Logan County were beet-field workers than in the other two counties, amounting to 40 per cent of the children for whom information was furnished. These children were out of school practically two-thirds of the time up to November 15, and more than 9 absences out of 10 among them were due to harvest work. As Table XIX indicates, in the schools reporting they had been absent over five times as much as children who did not help with the beet harvest. Less than a fifth of them were not permanent residents of the district where they were supposed to be going to school.

Among more than 3,000 children between 8 and 16 years of age in these rural and semirural schools almost two-fifths were below the grades which children of their years should have reached.[37] Many were from 2 to 7 years below the very conservative standard regarded as normal.

[37] See Table XX, p. 50.

TABLE XX.—*Comparison of retardation of children working in beet fields with that of children not working in beet fields, by county; children between 8 and 16 years of age in schools in Weld, Larimer, and Logan Counties, Colo.*

Employment of child, and county.	Children between 8 and 16 years of age.										
	Total.	Retarded.						Normal.		Advanced.	
		Total.		1 year.		2 years and over.					
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	3,122	1,203	38.5	679	21.7	524	16.8	1,714	54.9	203	6.5
Worked in beet fields	[1] 829	534	64.4	238	28.7	296	35.7	286	34.5	8	1.0
Did not work in beet fields	[1] 2,293	669	29.2	441	19.2	228	9.9	1,428	62.3	195	8.5
Weld	1,794	603	33.6	353	19.7	250	13.9	1,055	58.8	136	7.6
Worked in beet fields	426	245	57.5	101	23.7	144	33.8	175	41.1	6	1.4
Did not work in beet fields	1,368	358	26.2	252	18.4	106	7.7	880	64.3	130	9.5
Larimer	1,030	476	46.2	255	24.8	221	21.5	510	49.5	42	4.1
Worked in beet beet fields	[1] 280	202	72.1	95	33.9	107	38.2	75	26.8	2	0.7
Did not work in beet fields	[1] 750	274	36.5	160	21.3	114	15.2	435	58.0	40	5.3
Logan	298	124	41.6	71	23.8	53	17.8	149	50.0	25	8.4
Worked in beet fields	123	87	70.7	42	34.1	45	36.6	36	29.3	.....	.....
Did not work in beet fields	175	37	21.1	29	16.6	8	4.6	113	64.6	25	14.3

[1] Includes 1 child for whom grade was not reported.

The beet-field workers of every age,[38] as Table XXI shows, were more retarded than the children who did not work on the beet crop. From one and a third times to considerably more than twice as many workers as nonworkers in proportion to their numbers were over age for their grades.

[38] It is not practicable to compare the retardation for workers and nonworkers of all ages between 8 and 16 years, since the proportion of older children (among whom retardation is invariably greater than among the younger) is larger in the workers' group. For the purpose of comparisons between workers in the different counties and nonworkers in the different counties, however, the totals for retarded, normal, and advanced children, classified by counties and according to whether or not they worked, are given in Table XX. It should be noted that the totals for the different counties, including both workers and nonworkers, are not comparable, since the proportion of workers is different in each county.

TABLE XXI.—*Comparison of retardation of children working in beet fields with that of children not working in beet fields, by age of child; children between 8 and 16 years of age in schools in Weld, Larimer, and Logan counties, Colo.*

Age of child.	Children between 8 and 16 years of age.							
	Total.	Not working in beet fields.						
		Total.	Retarded.		Normal.		Advanced.	
			Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	3,122	[1] 2,293	669	29.2	1,428	62.3	195	8.5
8 years, under 9	476	395	61	15.4	298	75.4	36	9.1
9 years, under 10	489	390	65	16.7	276	70.8	49	12.6
10 years, under 11	476	356	86	24.2	234	65.7	36	10.1
11 years, under 12	440	337	97	28.8	205	60.8	35	10.4
12 years, under 13	436	286	98	34.3	164	57.3	24	8.4
13 years, under 14	360	246	104	42.3	131	53.3	11	4.5
14 years, under 15	293	183	86	47.0	96	52.4	1	0.5
15 years, under 16	152	[1] 100	72	72.0	24	24.0	3	3.0

Age of child.	Children between 8 and 16 years of age.							
	Total.	Working in beet fields.						
		Retarded.		Normal.		Advanced.		
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
Total	[1] 829	534	64.4	286	34.5	8	1.0	
8 years, under 9	81	30	37.0	49	60.5	2	2.5	
9 years, under 10	99	46	46.5	50	50.5	3	3.0	
10 years, under 11	120	67	55.8	52	43.3	1	0.8	
11 years, under 12	103	66	64.1	36	35.0	1	1.0	
12 years, under 13	150	99	66.0	51	34.0	.....	.....	
13 years, under 14	114	84	73.7	29	25.4	1	0.9	
14 years, under 15	110	92	83.6	18	16.4	.....	.....	
15 years, under 16	[1] 52	50	96.2	1	1.9	.....	.....	

[1] Includes 1 child for whom grade was not reported.

Part of this difference may be due perhaps to the fact that the majority of those who did the handwork on the beet crop were of foreign parentage, whereas among the school children who did not work in the beet fields Americans predominated. In Weld County, for example, almost three-fifths of the working children were Russian-German and almost three-fifths of those not working on the beet crop were American. In the absence of figures for workers and nonworkers of similar cultural background it can not be determined to what extent the slow school progress of those who worked in the beet fields is due to the difficulties which children of foreign-born parents may have in using English, and to other unfavorable social and economic conditions surrounding the foreign born; and to what extent it is due to irregular school attendance resulting from field work. If, however, the child of foreign parentage is handicapped to an unusual degree from the beginning, it becomes all the

more imperative that his schooling should not be interrupted. No matter how favorable to the child's progress other conditions may be, he can not be expected to do standard work if he loses, as these children working in the beet fields were losing, a considerable part of the instruction given in the classroom. When other conditions are unfavorable, irregular attendance constitutes an additional obstacle. The result is that many reach the age of 16 before they have completed the elementary grades and leave school without having received from it what it aims to provide, not only in personal equipment, but also in an understanding of the duties of citizenship.

Study of school records of migratory beet-field workers.—Unsatisfactory as the school progress of resident laborers' children is, that of the migratory worker's children is even less satisfactory. Work in the beet fields cuts into the school attendance of children in migratory families much more deeply than into that of resident children. They leave the classroom in April or May, to go into the beet fields. As they do not return to the city until after the harvest, they do not enter school until late November, and in some cases December or January. Some families do not even return to the same city which they left in the spring. As one father whose children were included in the schedule study remarked, "The children's grades are bad for their years, but we move around so much they can not pass up."

It was impossible to secure school-attendance records for the individual children in the nonresident families visited in the course of the Children's Bureau study. Moreover, as in these families there were only 80 children between 8 and 16 years of age who were in school and reported their grades, it was necessary to obtain additional data upon which to base conclusions as to the school progress made by children in migratory beet-field laborers' families. A study was therefore made of the attendance and age and grade records for the school year 1919–20 in 3 schools attended by migratory beet-field workers when in their winter homes. One was in Denver, Colo., and 2 were in Lincoln, Nebr.—a city from which many laborers go to the beet fields of Colorado.

Records[39] were taken for 412 children who the teachers said were beet-field workers. In these 3 schools 67 per cent of the entries were in November or later, and 93 per cent of the pupils enrolled withdrew before the close of the term, the majority of them 4 or 5 weeks before school closed. It was found that the average days attended by beet-field workers ranged from 74 to 112, though the school terms were from 165 to 177 days. In the 2 Nebraska schools the percent-

[39] These records in each case cover the attendance in one school only, and it is possible that some of the children may have had some attendance in another school. But wherever a child was known to have come from another school or to have left to go to another, he was excluded from the study.

ages of attendance were 56 and 68; in the Denver school, where the workers were Mexicans, the percentage of attendance was only 42.

Children who are absent from school almost as many days as they are present can not pass from grade to grade at the normal rate. Of the 335 children in these schools between the ages of 8 and 16 years, over three-fourths (78 per cent) were retarded. The lowest proportion of children who had failed to make their grades was in one of the Nebraska schools, but even that was 66 per cent of the 91 children aged 9 to 15.[40] In the other Nebraska school and in the Denver school the proportion of retarded pupils among those who helped cultivate beets was four-fifths or more; in the one it was 84 per cent of 106 children, and in the other, 80 per cent of 138 children.

In every one of the schools for which records of children in migratory beet-field laborers' families were obtained the number of retarded children was proportionately even greater than that found among the transient laborers' children in the Children's Bureau study. Of the 80 nonresident children between 8 and 16 years of age scheduled in the course of the study who reported their grade in school, 50 (63 per cent) were retarded. Even this proportion, however, is over twice as great as it would have been had these children been retarded no more than the average retardation rate for city school children of their ages.[41]

Although some of the children of migratory laborers enter the local schools in the districts covered by the Children's Bureau survey, in many districts they are overlooked or are not held strictly to the compulsory attendance law. Finding them is not always easy, inasmuch as the school census is taken before March 1,[42] when the migratory families are not in the district. In some cases, no doubt, attendance officers do not consider it worth while to get them into school for a "few weeks." Often, however, their residence in the beet-growing area is of 10 or 12 weeks' duration, and as it usually occurs at a time when school is in session they miss practically a third of a standard school year unless they are in school during this period. Under pressure of work beet growers are tempted to ignore the law so far as it applies to foreign-born migratory labor and to use the children's labor in the fields whether school is in session or not. And school officials do not always welcome these children, especially when the schools are already overcrowded.

WORK OF MOTHERS IN THE BEET FIELDS.

In families where the children work in the beet fields it is customary for the mother to work also. A few fathers were apologetic

[40] In this school no 8-year-old children were reported as working in the beet fields.
[41] At average rates (Table XVI) 21 children would have been retarded.
[42] Mills' Annotated Statutes, 1912, sec. 6668.

over the fact that in order to make both ends meet their wives were obliged to help in the beet fields, but for the most part field work for women was regarded in Colorado as a matter of course. In the 542 families studied were 454 mothers who were beet-field workers. The proportion of working mothers is influenced to some extent by the fact that some of the families were included in the study because the mother worked. By excluding families in which the mother but no children worked, the bias caused by the method of selection is corrected. Considering, therefore, only mothers in families in which children also worked in the beet fields, a total of 464 families, 395 mothers (85 per cent) worked on the beet crop. It would appear from the families studied that laborers' and tenants' wives were somewhat more likely to work in the beet fields than the wives of men owning their farms, inasmuch as only 77 per cent of the latter as compared with 86 per cent of the former had done so, but the difference is not striking. It should be remembered in this connection, however, that the Colorado farmer caring for his own beets has in most cases the same background and traditions as the contract laborer. Rather more marked are differences of practice in regard to field work for women among the different nationalities. For example, excluding families in which only the mother and not the children worked, 9 out of 10 of the Russian-German and German mothers were beet-field workers, whereas among native families—even though most of them were of foreign extraction—7 women out of 10, and among Mexicans born in Mexico, 6 out of 10, had worked in the beet fields.

Many of these women had worked for a number of years in the beet fields. The average number of seasons was about eight. The average for laborers' wives was not quite so high as for the women in the farm-renting or farm-owning families—approximately only seven seasons instead of nine or nine and a half. Farmers whose families take care of their own beet crop are usually those who have been the most ambitious and successful laborers, and those whose wives and children have worked hard for many years.

During the years when the mothers are bearing children they spend weeks at hard manual labor, working in some instances up to the very day of confinement. Some of them laughed at the question as to whether they quit work during pregnancy. One mother remarked that "Annie was almost born in the beet field," and another "topped until 6 a. m., and Lucy was born at 7 a. m."

Many of them complained that the work was very hard and that they suffered from backaches and sore or stiff muscles. One young woman who had been a beet-field worker for 13 years said that during topping she could not "sleep nights because her hands and arms hurt so." Another mother was "used up from beets." She was only

49 years old, but she had had to work so hard that she felt she could not last much longer. Those who reported, as a few did, that they "liked beet work better than housework," or found it "easier than haying," were almost invariably women who, with four or five others, worked a small acreage, many hands making light work. "Beet work is easy if you know how to do it," said one mother who, with five other workers, was caring for 15 acres.

As is usually the case with the mother who is gainfully employed, the day's work during the beet-growing season does not end with the end of the field day. During the period of their field work only 14 of the 454 working mothers were relieved by some other adult in the household of the burden of preparing food for the family, and only 42 had a child to help them. Where the meals were eaten at home, as was done in 9 out of 10 of the families, the mother left the field a little earlier than the other workers in order that the food might be ready for them on their arrival, and she remained at home somewhat longer than they in order to clear up after the meal, unless, as was sometimes the case, she left all the dishes to wash at night. When the meals were taken to the field they had to be prepared by the mother before she left home in the morning. Six families took their breakfasts to the field, and began work before eating, and three of these families also carried their dinners. Forty-seven other families took only their dinners to the field. That the usual rising time for the women was very early can be easily understood. Many said that they rose at daylight, and that Saturday night, when the family washing was done, became Sunday morning before they went to bed.

Hours of labor and duration of season.

Women's work in the beet fields was not a matter of helping out in the fields when household duties permitted. It was in these families a serious occupation, taking precedence over all others, and pursued in most cases throughout the season. "Our meal," declared one of the mothers, "stands on the table from one end of the beet work to the other. No time to clean house."

Nine-tenths of the working mothers did blocking and thinning. The daily hours reported by the greatest number of women were 10, exclusive of mealtime. Close to one-half of those who did the spring work had worked 10 hours or more, though proportionately fewer women in farm owners' or tenants' families worked so long a day. Forty-two mothers, all except one of whom was the wife of a laborer, reported an average working-day of 12 hours or longer.

TABLE XXII.—*Daily hours thinning and blocking by economic status of family; mothers working in beet fields: Colorado group.*

Daily hours thinning and blocking.	Mothers working in beet fields.						
	Total.		Economic status of family.				
			Laborer.		Tenant farmer.		Farm owner.[1]
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	454	.....	352	.....	61	.....	41
Did not work blocking and thinning	47	.....	39	.....	3	.....	5
Worked blocking and thinning	407	100.0	313	100.0	58	100.0	36
Less than 4 hours	3	.7	2	.6	1	1.7	.....
4 hours, less than 5	2	.5	1	.3	.....	.....	1
5 hours, less than 6	11	2.7	3	1.0	6	10.3	2
6 hours, less than 7	24	5.9	14	4.5	6	10.3	4
7 hours, less than 8	34	8.6	27	8.6	4	6.9	3
8 hours, less than 9	54	13.3	39	12.5	10	17.2	5
9 hours, less than 10	80	19.6	64	20.4	10	17.2	6
10 hours, less than 11	84	20.6	62	19.8	12	20.7	10
11 hours, less than 12	61	15.0	52	16.6	5	8.6	4
12 hours, less than 13	27	6.6	27	8.6	.....	.....	.....
13 hours, less than 14	9	2.2	9	2.9	.....	.....	.....
14 hours, and over	6	11.5	5	1.6	1	1.7	.....
Not reported and irregular	12	2.9	8	2.6	3	5.2	1

[1] Per cent distribution not shown where base is less than 50.

Half the mothers who did blocking and thinning spent four weeks or more at it. The largest group, comprising 155, or not quite two-fifths of those who worked at the process, worked between four and five weeks; the next largest number, 122, or three-tenths, worked between three and four weeks. But little difference appeared in the length of time worked at the process by wives of contract laborers and wives of beet growers.

Somewhat fewer mothers than did blocking and thinning—though still close to 90 per cent of those who worked—did hoeing. In this operation 8 to 10 hours was the working day for considerably more than half the women in every group, as Table XXIII shows; almost one-sixth of the women, chiefly the wives of contract laborers, had worked 11 hours or more a day.

TABLE XXIII.—*Daily hours hoeing, by economic status of family; mothers working in beet fields: Colorado group.*

Daily hours hoeing.	Mothers working in beet fields.						
	Total.		Economic status of family.				
			Laborer.		Tenant farmer.		
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Farm owner.[1]
Total	454	.....	352	.....	61	.....	41
Did not work hoeing	65	.....	49	.....	7	.....	9
Worked hoeing	389	100.0	303	100.0	54	100.0	32
Less than 4 hours	7	1.8	5	1.7	2	3.7	.....
4 hours, less than 5	6	1.5	4	1.3	1	1.9	1
5 hours, less than 6	14	3.6	8	2.6	5	9.3	1
6 hours, less than 7	32	8.2	26	8.6	5	9.3	1
7 hours, less than 8	41	10.5	35	11.6	4	7.4	2
8 hours, less than 9	65	16.7	45	14.9	14	25.9	6
9 hours, less than 10	82	21.1	64	21.1	8	14.8	10
10 hours, less than 11	64	16.5	53	17.5	8	14.8	3
11 hours, less than 12	40	10.3	35	11.6	3	5.6	2
12 hours, less than 13	10	2.6	9	3.0	.....	.....	1
13 hours, less than 14	6	1.5	6	2.0	.....	.....	.....
14 hours and over	4	1.0	4	1.3	.....	.....	.....
Not reported and irregular	18	4.6	9	3.0	4	7.4	5

[1] Per cent distribution not shown where base is less than 50.

From two to three weeks was reported by well over one-third of the mothers as the duration of their work in hoeing, but 99, or one-fourth of them, had worked three weeks or more. One mother whose fields were very weedy had "hoed every day all summer."

In the harvest work hours were long. Not quite one-fourth of the 404 mothers who worked at pulling and topping reported 9 to 10 hours in the field. More than one-fourth had worked 10 to 11 hours; and one-ninth had worked 11 or 12 hours daily. Only three-tenths of the mothers had worked less than 9 hours a day, proportionately fewer of the wives of laborers than of the wives of farm renters and owners. Table XXIV gives the daily hours spent at pulling and topping by the women in each of the three groups.

TABLE XXIV.—*Daily hours pulling and topping, by economic status of family; mothers working in beet fields: Colorado group.*

Daily hours pulling and topping.	Mothers working in beet fields.						
	Total.		Economic status of family.				
			Laborer.		Tenant farmer.		Farm owner.[1]
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	454	.....	352	.....	61	.....	41
Did not work pulling and topping	50	.....	39	.....	9	.....	2
Worked pulling and topping	404	100.0	313	100.0	52	100.0	.....
Less than 4 hours	7	1.7	6	1.9	1	1.9	.....
4 hours, less than 5	6	1.5	5	1.6	.....	.....	1
5 hours, less than 6	7	1.7	4	1.3	2	3.8	1
6 hours, less than 7	19	4.7	13	4.2	4	7.7	2
7 hours, less than 8	32	7.9	25	8.0	4	7.7	3
8 hours, less than 9	55	13.6	39	12.5	8	15.4	8
9 hours, less than 10	96	23.8	78	24.9	10	19.2	8
10 hours, less than 11	105	26.0	80	25.6	16	30.8	9
11 hours, less than 12	45	11.1	41	13.1	1	1.9	3
12 hours, less than 13	8	2.0	8	2.6	.....	.....	.....
13 hours, less than 14	.....	.....	.....	.....	.....	.....	.....
14 hours and over	.....	.....	.....	.....	.....	.....	.....
Not reported and irregular	24	5.9	14	4.5	6	11.5	4

[1] Per cent distribution not shown where base is less than 50.

For the largest number of mothers (106, or a little over one-fourth) pulling and topping had lasted between 2 and 3 weeks, but in many cases was not completed at the time the investigation was made. Two-fifths of them had spent more than 3 weeks at the harvest work. Those in families renting or owning farms, usually with small acreages in beets, did not work so many weeks, as a rule, as did the wives of contract laborers. Forty-five per cent of the latter pulled and topped for 3 weeks or more, whereas only 25 per cent of the growers' wives had spent as much time at the work in the fall.

Including all the handwork on beets, almost three-fourths of the working mothers had worked in the beet fields in the season of 1920 between 4 and 12 weeks, usually long hours each day. Almost 8 per cent, or 35, all except 6 of whom were wives of contract laborers, had worked between 12 and 18 weeks. More than half of all the mothers who worked spent 7 weeks or more in the beet fields. In many cases the fall work had not been concluded when the mother was interviewed so that at least for some of the women the season's work was several weeks longer than the time reported.

Care of young children.

Because of their mothers' work in the field, many young children were to a greater or less degree neglected during the beet season. The mother of 4 little children, the oldest of whom was 6 years,

said that she did not like to work in the beet fields, because her children "cried all the time and it made her nervous." In the families studied there were 715 children under 6 years of age, 561, or almost four-fifths, of whom were in the families of laborers. The mothers of 651, or more than nine-tenths, of these little children were beet-field workers. Sixty-one working mothers had 1 child under 1 year; 69 had 1 child between 1 and 2 years of age; 52 had 1 child between 2 and 3 years of age; 47 had 2 children and 1 had 3 children under 3 years of age. Altogether 230 mothers working in the beet fields had a total of 279 children under 3 years of age. Fifty of these mothers were the wives of men who owned or rented their farms and in many cases because of the greater amount of housework which they were obliged to do they worked harder than the laborers' wives.

Usually the babies were brought to the field and left in a box or basket within sight of their mothers. Occasionally a family would report that "the dog takes care of the children." Sometimes a small tent was put up as a shelter, as there was seldom any shade near the fields. If the mother came out early the baby had to come early, too, and stay until the mother went home. In some families a grandmother, aunt, or older sister cared for the children left at home, but in the majority of cases the mother had no adult on whom to depend.

Twenty-three children under 6 years of age were left at home with no one to care for them, and 7 were sometimes left at home, sometimes carried to the field and given only such attention as the mothers could give while working. Six of the 23 children left at home alone were less than 3 years old and 12 were less than 5.

In some families the little children were in charge of brothers or sisters, usually those too young to work. More than a tenth of them, some when even less than 1 year of age, were cared for by a child under 7 years of age, the children in many cases being kept away from school for the purpose. Some of the babies in the care of these young children were left at home and some were taken to the field where the parents and older children were at work.

One mother who because of cold weather had left her 3 little girls aged 5, 3, and 2 years at home in the afternoon instead of taking them with her to the beet field as usual returned to the house with the Children's Bureau agent about half past 4 in the afternoon to find that the fire had gone out and that the 2 older children had taken all the clothes off the baby and were feeding her an ear of corn. Stories told by other mothers regarding their inability to give their children adequate care had a more tragic aspect. One of the mothers told the bureau agent how on her return from work

in the fields she had found her baby, whom she left in the care of a neighbor's child, cold and unfed; at the end of 3 weeks it had fallen ill and died. Another mother said that her baby 1 year old had died through lack of care and cold while she was working at pulling and topping in the season of 1920, a statement confirmed by the head physician of the county hospital.

When children just old enough to run about were taken to the fields, with no one to take care of them, the irrigation ditches offered a special source of danger. In each of 2 families a child under 3 years of age had been drowned in an irrigation ditch.

FAMILY EARNINGS.

Rate of pay and earnings from beet contracts.

Laborers are engaged either by the sugar company or directly by the farmer whose beet crop they are to handle. The resident families in Colorado usually make their working agreements directly with the farmers. Most of them have lived in the locality a number of years and are thoroughly familiar with all conditions pertaining to the handwork. Many families return to the same farm to work year after year. They know the farms, their locations and the conditions of work, the rates paid, and, in short, are in a position to make their own bargains. Of 348 resident laborers' families included in the present study only 21 reported that they had secured employment through the sugar company whereas 318 had made their agreement directly with the farmer. The great majority of the migratory workers, on the other hand, were engaged by sugar-company agents, who apportioned them among the growers, the company paying their railroad fare to the beet fields. Forty-three of the 70 nonresident families studied had been engaged by the sugar company and only 19 had made their own agreements with the farmers.[43]

According to the terms of the contract made with the grower, which in many cases is only an oral one, the laborer undertakes the handwork on a specified number of acres at a specified rate per acre for each process, while the grower in addition to the money payment agrees to furnish living accommodations, water, and transportation between the railroad station and the farm. Over half the families covered in the study had signed no contract. This group included well over one-third even of the laborers whose agreement was made with the sugar company and three-sevenths of the migratory laborers. The terms as stated in the printed contracts drawn up by the sugar companies nevertheless formed the basis of all agreements.

[43] Two families were engaged through friends, two through an employment office, and two through other beet workers, one through a contractor, and one did not report the method of engagement.

The rate per acre to be paid for the handwork in beet raising is usually fixed at the beginning of the season, whether or not a contract is signed, and the same rate prevails quite generally among all workers, though in exceptional cases a different rate may be given. In the season of 1920, $35 an acre, including all processes, was the usual rate. Of the 388 laborers who did all the handwork, 203, or somewhat over one-half, received $35 an acre; only one man received more, $36, and the rest received from $30 to $34.[44] In this connection it may be said that the company agents when recruiting labor promised only $30 an acre. Some of the laborers, quick to discover the rate paid resident workers, demanded and obtained $35; still 38 per cent of the 70 transient families received only $30 per acre, while only 11 per cent of the residents were paid at this low rate, and three-fifths of the resident laborers received the top rates, whereas only three-tenths of the migratory workers had obtained it. Sometimes the farmers were obliged to increase the rates, if they had engaged workers at $30 who subsequently found out that others were getting $35, but in most cases the rate agreed upon was held to.

Twenty-one of the laborers had not done all the handwork. Where the hoeing had been omitted the rate was $27 in one case, and $29.50 in another. Where no pulling and topping were done $14.50 and $16.50 were paid; where pulling and topping alone were done rates ranged from $15 to $19 per acre. When a contract for pulling and topping is made after the beets are well grown it is possible to judge of the variation in the amount of work on different pieces of land, so that the price may fairly vary with the stand of beets. No payment is made until after the completion of a process, which may not be for as much as two months after the work has been begun.

What the earnings of a beet-field laborer's family amount to in a season varies with the acreage worked and the number of workers. With the same number of workers, moreover, the acreage undertaken and consequently the earnings vary according to the proportion of children and their ability. (Table XXV.) The largest group of laborers' families worked from 30 to 40 acres, and only half of those reporting had an acreage of less than 30. Among the 331 families in the present study that had worked all the season and that reported their earnings, the largest group was that whose earnings were between $800 and $1,000. Somewhat less than one-fifth of the families were in this group. They totaled 254 workers, two-fifths of whom were children, the most usual working combination being 2 adults and 2 children. Three-tenths of the laborers' families earned less than $800, 41 or one-eighth of them earning even less than $600. Nearly half these 41 families had, however, but 2 workers. About one-half the families earned $1,000 or over. Over one-seventh re-

[44] Twenty-three families did not report rate of pay.

ceived between $1,000 and $1,200 for their work on the beet crop, the combination of workers most often found being again 2 adults and 2 children, though there were 2 families where 1 adult and 2 children had brought in this amount, and others where there had been 7 workers. One-third earned from $1,200 to $2,000, including 34 families where there were but 2 adult workers (that is, workers over 16 years of age), and 2 families with but 1 adult. The number of children in a family varied from 1 to 6. Ten families, or 3 per cent, earned from $2,000 to $2,600, and there were in these families 71 workers, 37 of whom were children.

According to the average acreage cared for per child as found in the present study, the value of a child's work on the beet crop averaged approximately $200 if he worked in all the processes.[45]

TABLE XXV.—*Amount payable for work in beet fields, by number of persons working; families*[1] *working in beet fields on all operations: Colorado group.*

Amount payable for work in beet fields.	Families [1] working in beet fields on all operations.												
	Total.		Number of persons working.[2]										
			2	3	4		5		6		7	8	9–11
	Number.	Per cent distribution.			Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.			
Total	[3] 331	100.0	33	44	85	100.0	64	100.0	54	100.0	36	10	5
Under $400	10	3.0	6	1	2	2.4	.....	.....	.....	.....	1	.....	.....
$400–$599	31	9.4	13	9	5	5.9	.....	.....	3	5.6	1	.....	.....
$600–$799	57	17.2	8	13	20	23.5	10	15.6	3	5.6	3	.....	.....
$800–$999	61	18.4	6	13	23	27.1	8	12.5	8	14.8	2	.....	1
$1,000–$1,199	51	15.4	.....	7	19	22.4	16	25.0	5	9.3	4	.....	.....
$1,200–$1,399	26	7.9	.....	.....	6	7.1	11	17.2	7	13.0	1	.....	1
$1,400–$1,599	43	13.0	.....	1	8	9.4	13	20.3	8	14.8	7	6	.....
$1,600–$1,799	30	9.1	.....	.....	2	2.4	3	4.7	12	22.2	11	2	.....
$1,800–$1,999	11	3.3	.....	.....	.....	.....	1	1.6	7	13.0	2	1	.....
$2,000–$2,599	10	3.0	.....	.....	.....	.....	2	3.1	1	1.9	4	1	2
$3,000 and over	1	.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1

[1] Excludes tenant and farm-owning families.
[2] Per cent distribution not shown where base is less than 50.
[3] Excludes 40 families that did not report amount payable.

For the length of time actually worked, the handwork on the beet crop appears to bring in fairly high returns, though the method of delaying payment until after a process is completed makes it difficult, perhaps, for the laborers to spend their money to the best advantage.[46] The income from the work is further augmented for migratory families, if not for those resident within a few miles of

[45] See p. 36.

[46] Two hundred and forty-one, or almost three-fifths of the laborers' families, bought their supplies entirely on credit; 110 on credit and cash both; and only 59, that is, about one-seventh, had wholly cash dealings. Migratory families found it difficult to obtain credit. In some cases the farmer would establish credit with the storekeeper up to a fixed amount, if the laborers had no cash to pay; 12 such cases were reported, and in 9 of them the farmer himself paid the bills, deducting the amount from the beet-field laborer's pay, a practice which is obviously subject to certain abuses.

the beet fields, by the fact that shelter is provided and that in some cases it is possible to have a garden and a cow and chickens.[47] Some of the workers, in fact, maintained that there was "good money in beets," and among the more thrifty of the resident laborers there were evidences of prosperity, such as the owning of a small house or an automobile. One hundred and thirty-one laborers' families, or almost one-third, had purchased automobiles, presumably from the proceeds of the work in the beet fields, as most of them did little other work.

The income from beet-field labor, however, represents family earnings and not the earnings of the head of the household. Because the work of women and children could be depended upon to bring the family income up to a point where it was believed to be sufficient for family needs, as it did in many families, the necessity for work throughout the year on the father's part was not so urgent as it would have been had he borne the full responsibility for the support of wife and children. The attitude of one Russian-German father was not an uncommon one: "Too old to work—53 years old," he told the bureau agent. "Winter time rest, summer time work little mit kids."

Father's earnings in other work.

The income from the work in the beet fields represents in a large number of families included in the study the major part, if not all, of the annual income. About four-fifths of the fathers who were contract laborers did a little work during the summer in addition to their work on the beet crop, and about the same number had winter employment.

TABLE XXVI.—*Father's summer occupation, by amount of earnings; fathers with employment in summer other than in beet fields: Colorado group.*[a]

Father's summer occupation other than laborer in beet fields.	Fathers with employment in summer other than in beet fields.[a]												
	Total.		Amount of earnings.[b]										
	Number.	Per cent distribution.	Under $1.25.	$25–$49.	$50–$99.	$100–$149.	$150–$199.	$200–$249.	$250–$299.	$300–$399.	$400–$499.	$500 and over.	Not reported.
Total	[c] 314	100.0	19	44	48	42	29	16	11	14	7	3	81
Farm laborer	228	72.6	17	36	38	27	22	8	10	7	1	2	60
Factory employee	19	6.1	.....	3	.....	2	3	2	.....	3	2	.....	4
Sugar	17	5.4	.....	3	.....	2	3	2	.....	2	1	.....	4
Other	2	.6	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Skilled trades	25	8.0	.....	3	1	.....	.....	1	.....	2	3	1	14
Railroad laborer	24	7.6	.....	1	8	7	3	2	1	1	.....	.....	1
All other occupations	18	5.7	2	1	1	6	1	3	.....	1	1	.....	2

[a] Excludes fathers in tenant and farm-owning families.
[b] Farm laborers in addition to cash earnings usually received one or more meals and in some cases lodging.
[c] Includes 10 fathers who did not work in beet fields.

[47] Six of the 70 migratory laborers' families kept cows, 8 kept chickens, and about one-third had gardens, most frequently one-eighth or one-fourth of an acre in size.

A few fathers, after the thinning and blocking had been completed, left the hoeing to be done at a more leisurely pace by the mother and children, and engaged in other work until the beet harvest. Others worked during the period of six weeks or two months which elapsed between the completion of hoeing and the beginning of pulling and topping. Grain was being harvested at this time, and employment as a harvest hand was easy to obtain. Farm work, including harvesting, gave employment to 228, or almost three-fourths of the fathers who had had some summer occupation in addition to the work in the beet fields. Less than one-sixth of those who reported their earnings had made $250 or more, several as much as $500; but almost half had earned less than $100.

Between-seasons employment for the resident laborers did not amount to much. Eighty-six, or almost one-fourth, of the fathers in these families did no work beyond an odd job or two, perhaps, from the end of one beet season to the beginning of the next, and another fifth had worked less than six weeks in addition to beet-crop work. How much of this was due to inability to find work it is impossible to say. It was not easy to secure winter work in the beet-growing districts. "Everybody tries to get work in the sugar factory," said a number of fathers, "and the man who gets work there is lucky. There are so many men after the jobs, and there is almost nothing else to do." Stock raising had been advocated as a means of providing winter employment for farm hands and in some localities gave work to a few men. On the other hand, according to current report and to statements of the families themselves, a number of the men made no effort to find regular work during the winter. They remained idle for six months, supported to a considerable extent by the labor of wife and children during the other six. In many cases they were thus enabled not only to take their ease for half the year but also to put money in the bank.

The migratory laborers made more of a business of winter employment than did the resident workers. They were largely Mexicans, who, lacking the thrift of the Russian-Germans, rarely saved enough from the summer to last through the winter. Only six reported that they did no work in the winter. The majority were laborers in factories or mines or on railroads.

Of the 228 fathers, including both resident and migratory laborers, who had worked during the winter preceding the inquiry and who reported the amount which they had earned, 142, or more than three-fifths, had made less than $300 at their winter employment, covering a period of approximately six months from December 1 to the beginning of the spring work in the beet fields. Only 1 in 10 had made as much as $600.

TABLE XXVII.—*Father's winter*[1] *occupation, by amount of earnings; fathers*[2] *who were employed in winter: Colorado group.*

Father's winter occupation.[1]	Fathers[2] employed in winter.												
	Total.		Amount of earnings.[3]										
	Number.	Per cent distribution.	Less than $50.	$50–$99.	$100–$149.	$150–$199.	$200–$299.	$300–$399.	$400–$499.	$500–$599.	$600–$799.	$800 and over.	Not reported.
Total	306	100.0	20	34	23	16	49	32	19	11	21	3	78
Farm	65	21.2	7	6	3	4	6	5	5	3	4	.....	22
Farmer	9	2.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Laborer	56	18.3	7	6	3	4	6	5	5	3	4	.....	13
Factory employee	141	46.1	11	19	18	8	28	14	3	4	7	2	27
Sugar	125	40.8	10	18	17	7	25	11	3	4	6	.....	24
Other	16	5.2	1	1	1	1	3	3	.....	.....	1	2	3
Skilled trades	21	6.9	.....	1	2	.....	2	1	2	.....	5	.....	8
Railroad laborer	26	8.5	.....	5	.....	1	6	7	4	.....	.....	.....	3
Domestic and personal service	5	1.6	1	.....	.....	.....	.....	1	1	1	.....	.....	1
Mining	11	3.6	.....	1	.....	.....	1	3	1	1	.....	1	3
All other occupations	37	12.1	1	2	.....	3	6	1	3	2	5	.....	14

[1] From Dec. 1 to beginning of work in beet fields.
[2] Excludes fathers in tenant and farm-owning families.
[3] Farm laborers in addition to cash earnings usually received one or more meals and in some cases lodging

HOUSING AND SANITATION.

Houses.

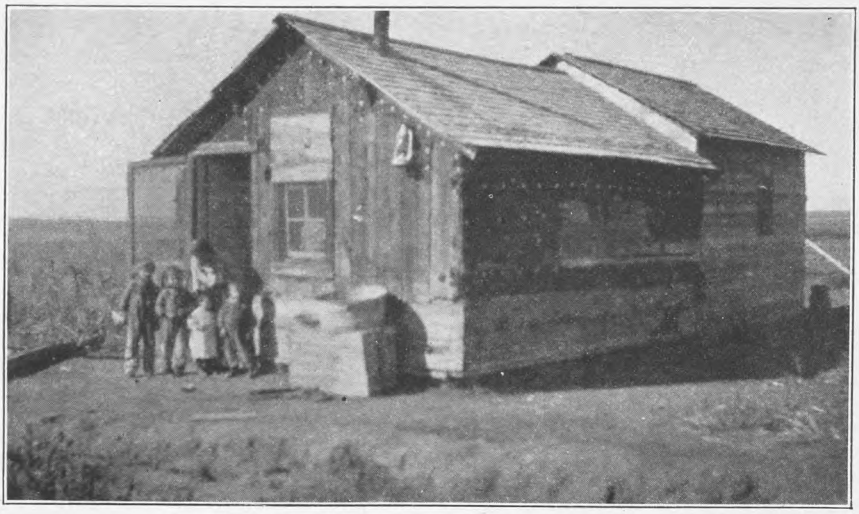
In the northern counties of Colorado, where the beet farms are so large that a beet-field laborer's family usually finds employment enough for the season on one farm, families being selected by the farmer with reference to their working capacity and his beet acreage, living accommodations are generally provided by the farmer. In only one case among the families studied did a laborer's family occupy quarters owned by the sugar company. In a few cases the farmer provided part of or all the furniture, which usually consisted of a bed, a stove, and a few boxes and cooking utensils, but almost all the families, including a large proportion of the migratory group, brought their household equipment, including the stove, with them.

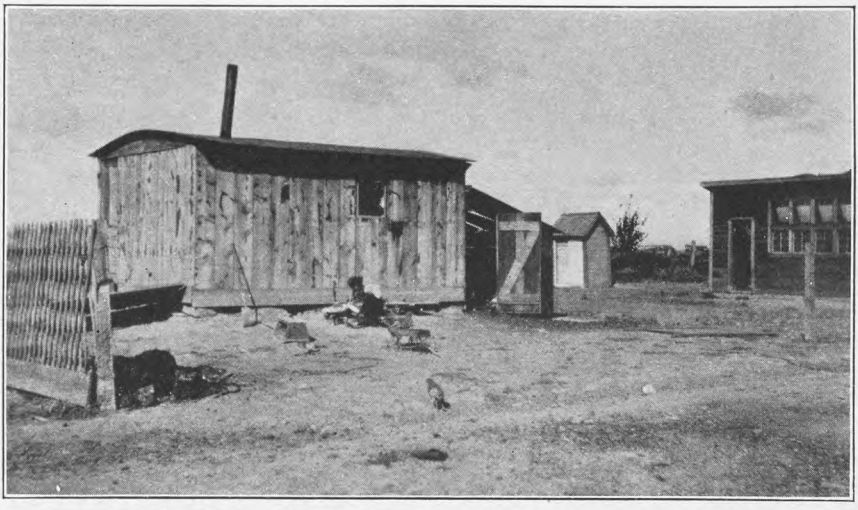
Some of the beet-field laborers, including 39 families in the present study, lived in their own houses on the outskirts of town in the Russian-German settlements and went out each day to work in the beet fields, in some cases in their own automobiles. The houses owned by the laborers, though seldom more than one story high and often containing only two or three rooms, were as a rule clean, well-kept little places, frequently very attractive, with good furniture, bright rugs or new linoleum, lace curtains, and plants in every corner.

The 90 per cent of the laborers who lived in houses provided by farmers did not usually fare so well as those who owned their own dwellings, although the districts studied are among the oldest beet-raising areas in the State, and housing for beet-field laborers in these

districts has probably reached a higher stage of development than the average. About 44 per cent were lodged in fairly new, little one- and two-room houses, usually in fair and often in good condition, reflecting a growing realization on the part of the farmer that the better class of laborers will not stay in the tumble-down shanties that used to be considered good enough for the "beeters." But over half the 378 families whose living quarters were furnished by the farmer occupied buildings which deserved the name "beet shack," by which they were generally known. A typical one is shown in the upper illustration. The shack was built of tar paper, or of corrugated iron, or was a roughly boarded shanty with, in some cases, only one window and one door. Sometimes it was only a caravan wagon, which, hung from end to end with pots, pans, washtubs, and clothes, was moved about from field to field as the work required. The tenants were entirely dependent on the good will of the farmer for the comfort and even the cleanliness of their quarters. Many families complained of bedbugs and other vermin left by previous tenants. Well over a third of the 143 shacks for which a report as to the condition of repair was secured were found to be in bad condition and not weatherproof. Leaking roofs, broken windows, and general dilapidation prevailed. Sometimes the farmer would "mend" a badly leaking roof by throwing an old piece of canvas over the worst part of it. One mother, who at the time of the agent's visit was scouring her kitchen and painting it because it was "full of bedbugs when we came," said that the previous year her shanty had been so bad that during a snowstorm she had to "crawl under the table" with her child, and "all the food in the house got wet." One family declared that their house was "nothing but a dog house." Another described theirs as "not fit for chickens to live in." Rain and snow came in and there were holes in the floor through which snakes, it was said, had several times come up into the room and had been found crawling around the floor. In one case, typical of many, rough unmatched boards with wide cracks between, one window frame with no glass, and one door, inclosed a small, square room which had no furniture except a bed, a stove, two boxes, and a trunk. A few rods away stood a new poultry house, clapboarded and shingled, the windows of which had not a single pane missing.

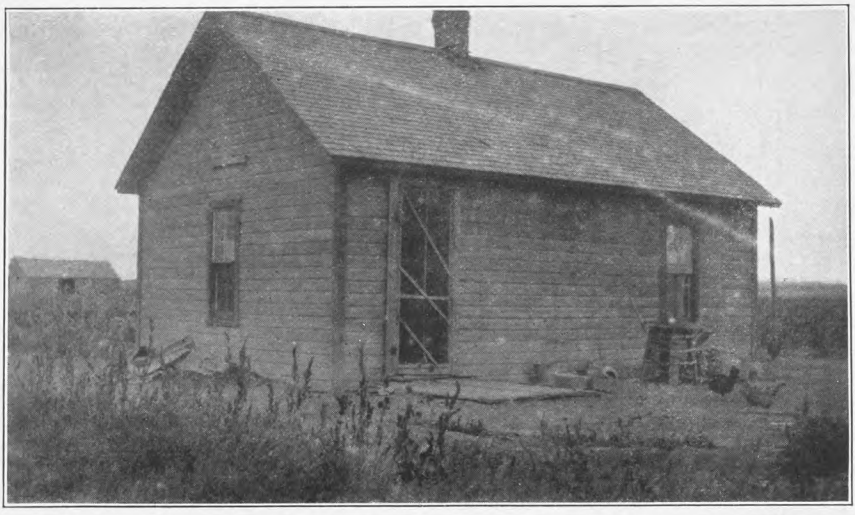
Even when in good condition, the shacks, thin-walled, without shade, and in most cases with no means of securing proper ventilation, were in summer exceedingly hot; when the chill nights and mornings of October and November came—and some families continued to occupy them even further into the winter—they were practically impossible to heat. The season of 1920 was very favorable, as far as weather was concerned, yet snow fell before the beets were all harvested and mornings when the temperature was well





SHACKS OCCUPIED BY COLORADO BEET-FIELD LABORERS.

66—1



ONE OF THE BETTER CLASS OF HOUSES PROVIDED FOR THE COLORADO BEET-FIELD LABORER.

A BABY TENT OF CANVAS.

A rare instance of careful provision for the baby's protection when taken to the field.

below freezing were not infrequent. Little children were sometimes found huddled together in the shanties, bundled up in coats trying to keep warm while they waited for their parents to return from work. According to one of the laborers, workers who came in from the fields with wet clothes found it impossible to get dry even when standing by the fire—so badly built were the shanties.

Toilet facilities were not always adequate. Though almost all families had an outside privy, 35 shared theirs with one other family and nine with two other families. Ten families had no toilet facilities whatever.

The beet-field laborers' quarters are regarded as merely temporary dwellings. Some of the families resident in towns near the beet fields stayed in the "field houses" only during the time they were actually engaged in each process. Others, however, occupied the "field houses" for approximately six months. The migratory families, if they engaged in all the processes, were obliged to spend practically six months in them.

Overcrowding.

Many of the beet-field laborers' families lived under such conditions of overcrowding that all comfort and convenience had to be sacrificed and no privacy was possible. Table XXVIII shows the number of persons in the household and the number of rooms in the house. To the left of the zigzag line are shown the number of families with two or more persons to a room. There were 320 of these families, amounting to 77 per cent of the total number. Only 21 per cent reported less than two persons per room.[48] Almost half were living with three or more persons to a room. One hundred and ninety-one families, averaging 6.6 persons per family occupied two-room dwellings. Among them were 94 households of more than 6 members each and 14 of 10 or more each; the latter included one household in which there were two families, and another consisting of three families. This means that from three to seven persons had to sleep in each of the two rooms, one of which had to be used as a kitchen and living room. Fifty families, consisting of from 3 to 11 persons per family, lived in one room. One of these households included a father, his son and daughter, each over 16 years of age, a younger child, and a girl over 16 who helped the family with the beet-field work.

[48] Twelve families did not report the number of rooms.

TABLE XXVIII.—*Number of persons in household, by number of rooms in house; families[1] working in beet fields: Colorado group.*

Number of persons in household.[2]	Families[1] occupying specified number of rooms.											
	Total.	1	2	3	4	5	6	7	8	9	17	Not reported.
Total	418	50	191	98	42	7	9	5	2	1	1	12
2	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	29	8	16	3	2	.....	.....	.....	.....	.....	.....	.....
4	36	6	17	5	5	.....	1	.....	.....	.....	.....	2
5	60	11	31	11	6	.....	.....	.....	.....	.....	.....	1
6	71	6	32	21	5	1	2	.....	.....	1	.....	3
7	62	8	23	15	8	4	3	1	.....	.....	.....	.....
8	72	5	32	19	8	1	1	1	.....	.....	.....	5
9	45	2	25	11	4	.....	1	2	.....	.....	.....	.....
10	19	3	6	5	2	.....	1	1	1	.....	.....	.....
11	12	1	5	3	1	1	.....	.....	.....	.....	1	.....
12	3	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
13	3	.....	.....	1	1	.....	.....	.....	1	.....	.....	.....
14	4	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....
15 and over	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1

[1] Excludes tenant and farm-owning families.
[2] There were 4 instances of 2 families each and 2 of 3 families each living together in complex households.

Water supply.

As most of the beet farms in Weld and Larimer Counties lie in irrigated lands to which water is brought from some distance, in many cases the supply of drinking water had to be hauled from the nearest town, distances varying from half a mile to 6 or 7 miles. Over half the contract laborer's families reported the use of water stored in cisterns, which were sometimes very dirty. Complaints of the water were frequently made. "They bring you water once in six weeks," said one father, "and dump it into that cistern. When it's warm it gets stale; and if you drink it, you get sick." Apart from the question of its being unpalatable or impure, water which must be brought from a distance is not likely to be plentiful. A scant water supply increases the work of the housewife and is bound to result in lower standards of cleanliness on the part of the family.

One-fifth of the laborers had the use of a drilled well. Seven per cent reported using a dug well, which, if not carefully protected, is liable to pollution from surface water. Two families reported the use of the irrigation-ditch water for all purposes, though commonly it was used only for washing. One of these families had formerly used the farmer's well, as was usually done when the shack was near the farm house, but the farmer and his wife were so disagreeable when they went for water, the father said, that the family preferred to use the water from the ditch. This water had, of course, drained land which was polluted by the refuse from barns and privies. One of

the families using it said that in wet weather it was too muddy to use, and that " dogs and ducks die in it and make it bad."

Only 11 households had water piped into the house. The others had to go outside for their water supply, which was at a distance of from several feet to a quarter of a mile from the house. In a majority of cases, however, it was less than 10 yards away.

HEALTH OF CHILDREN.

As a part of the present study, complete physical examinations were made of approximately 1,000 children in families employed in the beet fields.[49] A physician and nurse from the United States Children's Bureau visited the schools in Weld and Larimer Counties during October, November, and December, 1920, and examined all such children in each school until the desired number of records had been secured. There was no attempt to select groups, racial or otherwise, the children being examined as they presented themselves.

It was not difficult in Weld and Larimer Counties to find in school during school hours in October, November, and December, 1920, 1,022 children belonging to families employed in the beet fields, although the beet-harvest season was at its height and many schools in these two counties had been closed to allow the children to work in fields. These children may be considered a fairly typical group as far as working conditions are concerned—a disproportionately large number of them, however, belonged to farmer's families, so that in general their living conditions were better than those of the group included in the schedule study.

[49] See form used, p. 70.

C. B. [PHYSICAL EXAMINATION RECORD FORM.] S. N.

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU.

(Surname) (father) (child) (address)

School Examined by Date , 192

Sym. Sym.

CHILD: 1. M. F. 2. Born....192...3. Age..yrs..mos. 4. Entered (*a*) Kinderg't'n, N., at....yrs. (*b*) First grade, N., at....yrs.

PHYSICAL EXAMINATION.

GENERAL: 5. Weight....lbs.....oz. 6. Height..in. 7. Anemia, N....8. Nutrition: excel., G., P., VP.. 9. Temp...° 10. Vaccinated, N. (*a*) Age..yrs. (*b*) Scar, N.

HEAD: 11. Size: normal, large, small..... Circumference.....in..... 12. Shape: normal, abnorm. (spec.)..... 13. Fontanelle: closed, open.....cm..... 14. Craniotabes, N. 15. Abnormal condition, N.. 16. Diagnosis:.....

EYES: 17. Vision (*a*) R....(*b*) L....(*c*) Imposs. to test.

18. Diseases.	N	R	L	Diseases.	N	R	L
				(*f*) Conjunctivitis N.			
(*a*) Blepharitis				Acute			
(*b*) Style				Chronic			
(*c*) Ptosis				Phlyctenular			
(*d*) Corneal opacities.				(*g*) Strabismus			
(*e*) Corneal ulcer				19. Glasses, N.			

20. Other abnorm.....
21. Diagnosis of Sp.....

EARS: 22. Hearing: R.....ft. L.....ft.....
23. Otorrhea: (*a*) Acute, N., R., L. (*b*) Chronic, N., R., L.
24. Other abnorm.....
25. Diagnosis of Sp.....

MOUTH: 26. Teeth: (*a*) Temp. No. Decayed No. Filled No.
(*b*) Perm. No.. Decayed No.. Filled No.. 27. Malocclusion, N.
28. Alveolar abscess, N..... 29. Other abnorm....

NASOPHARYNX: 30. Mouth breathing, N. 31. Nasal discharge, N.
32. Nasal obstr., N. 33. High arch palate, N. 34. Adenoid facies, N.
35. Tonsils: Rem. (*a*) enlrg., N. (*b*) greatly enlrg., N. (*c*) dis. N.
36. Other abnorm.....
37. Diagnosis of Sp.....

GLANDS: 38	Palpable		Enlarged		Greatly enlarged		Associated infection (spec.)
(*a*) Occipital	Y	N	Y	N	Y	N	N
(*b*) Submaxillary	Y	N	Y	N	Y	N	N
(*c*) Cervical	Y	N	Y	N	Y	N	N
(*d*) Axillary	Y	N	Y	N	Y	N	N
(*e*) Epitrochlear	Y	N	Y	N	Y	N	N
(*f*) Inguinal	Y	N	Y	N	Y	N	N
(*g*) Thyroid			Y	N	Y	N	
(*h*) Other	Y	N	Y	N	Y	N	N

CIRCULATORY SYSTEM: 39. Heart.....
(*a*) Apex beat displ., N. (*b*) Enlarged, N.....
(*c*) Murmur, N. (loc.).....
Transmitted back, axilla, sternum, N.....
40. Heart disease, N., Diagnosis:

RESPIRATORY SYSTEM: 41. Chest: (*a*) Excursion: Normal, abnormal, (spec).....
(*b*) Fremitus: normal, decr., incr.....
(*c*) Dullness, N. (spec.).....
(*d*) Rales: N., kind.....loc.....
42. Other defects.....
43. Respiratory dis., N., Diagnosis:

SKIN: 44. Pediculosis: (*a*) body, N. (*b*) scalp, N. insects, N.; nits, N.
45. Eczema, N. (loc.).....46. Acne, N.
47. Hypertrichosis, N. 48. Impetigo, N. 49. Infected sores, N.
50. Scabies, N. 51. Ringworm: (*a*) scalp, N. (*b*) body, N.
52. Other conditions.....

ABDOMEN: 53. Distension, N.....
54. Tenderness, N. (loc.).....
55. Enlarged liver, N.....
56. Enlarged spleen, N.....
57. Hernia, N.; umbilical; inguinal, R., L., double; femoral, R., L., double. 58. Other defects.

BONEY and MUSCULAR SYSTEM: 59. Beaded ribs, N.
60. Harrison's groove, N. 61. Enlarged epiphyses, N.
62. Round shoulders, N. 63. Winged scapulae, N.
64. Scoliosis, N.
65. Lordosis, N. 66. Kyphosis, N. (loc.)
67. Knock-knee, N. 68. Bowlegs, N. 69. Flat foot, N.
70. Pigeon toe, N. 71. Clubfoot, N. (spec.).....
72. Arthritis, N. (spec.).....
73. Pronation, N. (*a*) R., N. (*b*) L., N.....
74. Paralysis, N. (spec.).....
75. Other defects (cong. and acq.).....

NERVOUS SYSTEM: 76. Speech defects, N. (*a*) Stuttering, N.
(*b*) Stammering, N. 77. Tic, N. (spec.).....
78. Chorea, N. (spec.).....
79. Other defects.....
80. Nervous dis., N., Diagnosis: (Over.)

[PHYSICAL EXAMINATION RECORD FORM (REVERSE).]

GENITALIA: 81. Male: prepuce adherent, contracted, normal.....

82. Female: vaginal discharge, N.....

MENTAL CONDITION: 83. (*a*) Normal, N. (*b*) Defect app. (spec.).....

(*c*) Abnormality susp. (spec.).....

84. LABORATORY FINDINGS:.....

.....

.....

.....

85. PREVIOUS ILLNESS: (*a*) Contagious.....

(*b*) Respiratory:.....

(*c*) Digestive:.....

(*d*) Other:.....

86. BAD HABITS:.....

87. SUMMARY of DEFECTS and DISEASES:.....

88. RECOMMENDATIONS:.....

.....

.....

.....

.....

89.	(*a*) N W N P	(*b*) N W FM P	(*c*) N B	(*d*) F W	(*e*) F O	(*f*) Country of birth	(*g*) National-ity	(*h*) Speak Eng-lish
M.								Y N
F.								Y N

90. OCCUPATION

M. Gain. emp. N. Home (spec.).....

Away (spec.).....

Ch. Brw.: (*a*) Fa. N. (dead, deserted, no occ.). Other (spec.).....

(*b*) Farmer: owner, tenant; Farm laborer. Other (spec.).....

Nationality, age, and sex of children examined.

Table XXIX presents the father's nationality for the entire group studied—a total of 1,022 children, of whom 838 (82 per cent) were of foreign white origin, 723 (86 per cent) being Russian-German. One hundred and seventy-seven (17.3 per cent) were native white.

TABLE XXIX.—*Nationality of father, by sex of child; children given physical examination: Colorado group.*

Nationality of father.	Children given physical examination.		
	Total.	Boys.	Girls.
Total	1,022	562	460
Native white	177	99	78
Foreign-born white	838	461	377
Russian-German	723	384	339
Mexican	51	35	16
Swedish	17	12	5
German	16	12	4
Other	31	18	13
Indian	1	1	.....
Japanese	2	1	1
Not reported	4	.....	4

The age of the children in the group studied is given in Table XXX and their maturity in Table XXXI.

TABLE XXX.—*Age, by sex; children given physical examination: Colorado group.*

Age.	Children given physical examination.		
	Total.	Boys.	Girls.
Total	1,022	562	460
4 years, under 5	5	3	2
5 years, under 6	19	13	6
6 years, under 7	80	39	41
7 years, under 8	113	53	60
8 years, under 9	114	47	67
9 years, under 10	115	63	52
10 years, under 11	141	86	55
11 years, under 12	114	70	44
12 years, under 13	115	65	50
13 years, under 14	96	60	36
14 years, under 15	70	40	30
15 years, under 16	34	21	13
16 years, under 17	3	2	1
17 years, under 18	3	.....	3

TABLE XXXI.—*Maturity, by sex; children given physical examination: Colorado group.*

Maturity.	Children given physical examination.		
	Total.	Boys.	Girls.
Total	1,022	562	460
Prepubescent	798	453	345
Pubescent	149	77	72
Postpubescent	75	32	43

It should be noted particularly that 912 of the entire group, or 89.2 per cent, were under the age of 14 years, and that 701, or 68.6 per cent, were under the age of 12 years. Moreover, 78.1 per cent of the children were prepubescent.

Findings of physical examinations.

Table XXXII summarizes the physical findings in the children examined. A discussion of significant facts follows:

Heights and weights.—The children examined were weighed on a scale which was capable of fine adjustments and exact control, and small enough so that it could be packed securely in a small trunk and carried about with the bureau staff. The children were measured against an architect's blue print marked off in inches, pasted on a jointed board which could be unfolded and fastened to the wall in exact apposition. Readings were made by sliding a carefully built wooden right angle down the surface of the blue print until it rested on the head of the child, whose feet were squarely on the floor against the wall, his erect body outlined against the measuring surface. Measurements of height and weight were taken without shoes and after the removal of sweaters and coats. The usual dress for the boys was an overall garment of cotton and the girls wore cotton or woolen dresses.

The weight table used as a standard in the Colorado study—the one which was in use by the Children's Bureau—is reproduced on page 75. It presents the average weights for boys and girls at the different ages up to 16 years. From this the average weight for the different inches of height were calculated and a table prepared giving the average weight for height and an estimated minimum weight for height which was figured by deducting 10 per cent from the average. Children were classified as underweight if their weights in proportion to their heights fell below this minimum; if their weights were 15 per cent or more above average, they were classed as overweight.

TABLE XXXII.—*Physical defect or disease, by sex of child; children given physical examination: Colorado group.*

Physical defect or disease.	Children given physical examination.					
	Total.		Boys.		Girls.	
	Number.	Per cent.	Number.	Per cent.	Number.[1]	Per cent.
Total	1,022	100.0	562	100.0	460	100.0
Without defect or disease	5	.5	1	.2	4	.9
With defect or disease	1,017	99.5	561	99.8	456	99.1
General—						
Poor or very poor nutrition[1]	150	14.7	74	13.2	76	16.5
Skin—						
Scabies	34	3.3	20	3.6	14	3.0
Pediculosis capitis	11	1.1	7	1.2	4	.9
Acne	8	.8	2	.4	6	1.3
Eczema	9	.9	5	.9	4	.9
Herpes	5	.5	3	.5	2	.4
Impetigo	3	.3	1	.2	2	.4
Xeroderma	7	.7	6	1.1	1	.2
Eyes—						
Vision defective	208	20.4	94	16.7	114	24.8
Eye diseases	98	9.6	61	10.9	37	8.0
Injected eyeball due to dust	49	4.8	32	5.7	17	3.7
Conjunctivitis (palpebral)	10	1.0	7	1.2	3	.7
Conjunctivitis (acute ocular)	15	1.5	11	2.0	4	.9
Trachoma	6	.6	1	.2	5	1.1
Blepharitis	8	.8	6	1.1	2	.4
Strabismus	6	.6	4	.7	2	.4
Ptosis	2	.2	----	----	2	.4
Corneal opacities	3	.3	1	.2	2	.4
Stye	2	.2	2	.4	----	----
Ears—						
Hearing defective	43	4.2	24	4.3	19	4.1
Mouth—						
Decayed teeth	624	61.1	348	61.9	276	60.0
Malocclusion	44	4.3	32	5.7	12	2.6
Gingivitis	20	2.0	17	3.0	3	.7
High-arch palate	19	1.9	14	2.5	5	1.1
Nasopharynx—						
Mouth breathing	357	34.9	237	42.2	120	26.1
Nasal obstruction	494	48.3	84	14.9	410	89.1
Defective tonsils	437	42.8	236	42.0	201	43.7
Enlarged only	12	1.2	11	2.0	1	.2
Enlarged and diseased	293	28.7	152	27.0	141	30.7
Diseased only	132	12.9	73	13.0	59	12.8
Glands—						
Hypertrophied	964	94.3	548	97.5	416	90.4
Goiter (simple)	35	3.4	2	.4	33	7.2
Respiratory system—						
Respiratory diseases	16	1.6	10	1.8	6	1.3
Circulatory system—						
Heart disease	8	.8	3	.5	5	1.1
Abdomen—						
Hernia (umbilical)	6	.6	2	.4	4	.9
Nervous system—						
Chorea	5	.5	2	.4	3	.7
Tic	3	.3	1	.2	2	.4
Orthopedic—						
Winged scapulae	676	66.1	386	68.7	290	63.0
Other functional malpositions affecting the spine and shoulders	58	5.7	47	4.6	11	2.4
Flat foot	221	21.6	113	20.1	108	23.5
Other malpositions of the ankles	5	.5	1	.2	4	.9
Asymmetry of sternum, ribs and skull (resulting from rickets or nasophary ngeal obstruction)	111	10.8	75	13.3	36	7.8
Other defects (resulting from trauma, organic diseases, other than rickets or congenital malformations)	18	1.8	12	2.1	6	1.3

[1] Includes Grades III and IV (the Dunfermline scale).

TABLE XXXIII.—*Table of heights and weights of children.*[1]

[*Directions for using table of heights and weights.*—Heights and weights are given separately for boys and girls. Averages are given for births, for 3 months, for every month from 6 to 48, and thereafter for every year up to 16. The heights and weights of the children examined are to be compared with these average heights and weights. No heights and weights are given for the separate months after 48 months. With a child over 4 years of age, use the age at his last birthday.]

Age.	Boys.		Girls.		Age.	Boys.		Girls.	
	Height.	Weight.	Height.	Weight.		Height.	Weight.	Height.	Weight.
	Inches.	*Lbs.*[2]	*Inches.*	*Lbs.*[2]		*Inches.*	*Lbs.*[2]	*Inches.*	*Lbs.*[2]
Birth	20.6	7.6	20.5	7.16	33 months	36⅛	30⅝	35⅝	29⅛
3 months	23½	13	.....	.....	34 months	36¼	31⅛	36¼	30⅛
6 months	26½	[3] 18	25⅝	[3] 16¾	35 months	36⅜	31⅞	36½	30½
7 months	27¼	[3] 19⅛	26½	[3] 17⅞	36 months	37¼	32⅛	36¾	30½
8 months	27⅝	[3] 19½	27	[3] 18¼	37 months	37⅜	32¼	36¾	30¾
9 months	28⅛	[3] 20⅜	27⅝	[3] 19¼	38 months	37⅞	32⅜	37	31
10 months	28½	[3] 20⅞	27⅞	[3] 19½	39 months	37⅞	33⅛	37¼	31⅝
11 months	29	[3] 21⅜	28⅜	[3] 20⅛	40 months	38½	33⅛	37½	32
12 months	29⅜	[3] 21⅞	28⅝	[3] 20¾	41 months	38⅝	33⅝	37¾	32¼
13 months	29⅝	[3] 22⅝	29⅜	[3] 21	42 months	38⅞	33¾	38	32½
14 months	30¼	[3] 23	29½	[3] 21⅝	43 months	38¾	33¾	38¼	32¾
15 months	30¾	[3] 23⅜	30⅛	[3] 21⅞	44 months	38⅞	34⅛	38½	33
16 months	31⅛	[3] 24⅛	30½	[3] 22⅜	45 months	39	34½	38⅝	33¼
17 months	31⅜	[3] 24½	30⅝	[3] 22⅞	46 months	39	34⅝	38¾	33½
18 months	31¾	[3] 24⅝	31⅛	[3] 23⅜	47 months	39¼	35⅛	38⅞	33¾
19 months	32⅛	[3] 25½	31½	[3] 23¾	48 months	39½	35⅝	39	33¾
20 months	32⅜	[3] 25¾	32	[3] 24⅛	5 years	41.6	41.1	41.3	39.7
21 months	32⅝	[3] 25¾	32½	[3] 24½	6 years	43.8	45.2	43.4	43.3
22 months	33⅛	[3] 26⅞	32⅝	[3] 25½	7 years	45.7	49.1	45.5	47.5
23 months	33⅜	[3] 27	32⅞	[3] 25⅝	8 years	47.8	53.9	47.6	52.0
24 months	33¾	[3] 27⅛	33⅜	[3] 26⅜	9 years	49.7	59.2	49.4	57.1
25 months	34	27⅝	33⅞	26⅝	10 years	51.7	65.3	51.3	62.4
26 months	34⅛	28¼	33⅞	27¼	11 years	53.3	70.2	53.4	68.8
27 months	34⅛	29	33⅞	27½	12 years	55.1	76.9	55.9	78.3
28 months	35⅛	29⅛	34⅜	27⅞	13 years	57.2	84.8	58.2	88.7
29 months	35⅜	29½	34⅜	27⅞	14 years	59.9	94.9	59.9	98.4
30 months	35⅜	29⅞	34⅞	28¼	15 years	62.3	107.1	61.1	106.1
31 months	35½	30⅛	35⅛	28¾	16 years	65.0	121.0	61.6	112.0
32 months	36	30⅝	35⅜	29					

[1] The figures for height and weight at birth are from L. Emmett Holt (Diseases of Infancy and Childhood, 1916, p. 20) and are based on original observations. Those for boys at 3 months were given in a personal communication by Dr. Holt. The figures for height and weight from 6 to 48 months are from the Anthropometric Table compiled for the American Medical Association by F. S. Crum, and are based on the measurements of 10,423 normal babies (5,602 boys and 4,821 girls) examined at baby-health conferences in 31 States and possibly represent measurements slightly above the average, especially in weight. The figures for height and weight from 5 to 16 years are quoted from Bowditch (8th Annual Report of the State Board of Health of Massachusetts, 1877, p. 275) and are based on the measurements of 23,931 Boston school children of American and foreign parentage (13,415 boys and 10,516 girls). They agree very closely with the table of average American height calculated by Boas from the data of 45,151 boys and 43,298 girls in the cities of Boston, St. Louis, Milwaukee, Worcester, Toronto, and Oakland; and the table of average American weight calculated from the data of about 68,000 children in the cities of Boston, St. Louis, and Milwaukee. (See Baldwin, B. T., Physical Growth and School Progress, U. S. Bureau of Education Bulletin, 1914, No. 10. Whole No. 581, p. 150.)

[2] Approximate equivalents of decimal fractions of a pound in ounces: 0.1, 1½; 0.2, 3; 0.3, 4½; 0.4, 6; 0.5, 8; 0.6, 9½; 0.7, 11; 0.8, 12½; 0.9, 14; 1.0, 16.

[3] The weights given in this table for children under 2 years are somewhat higher than those given by L. Emmett Holt (Diseases of Infancy and Childhood, 1916, p. 20). These are: 6 months, boys 16 pounds, girls 15.5 pounds; 12 months, boys 21 pounds, girls 20.5 pounds; 18 months, boys 24 pounds, girls 23.5 pounds; 24 months, boys 27 pounds, girls 26 pounds. A variation of from 1 to 2 pounds from the averages given in the table above should therefore not be considered abnormal. The heights given in the above table correspond very closely to those given by Holt.

TABLE XXXIV.—*Average weight for height, by sex; children given physical examination: Colorado group.*

Height (inches).	Boys.		Girls.		Height (inches).	Boys.		Girls.	
	Number.	Average weight (pounds).	Number.	Average weight (pounds).		Number.	Average weight (pounds).	Number.	Average weight (pounds).
40	1	35.75	2	39.19	55	43	71.74	10	71.05
41	2	40.53	5	37.93	56	35	76.73	22	75.50
42	8	41.28	6	38.65	57	20	81.40	21	79.98
43	11	43.27	16	40.95	58	22	86.11	16	86.05
44	9	42.87	10	42.53	59	23	88.02	20	88.15
45	21	46.98	17	43.49	60	20	93.93	27	99.60
46	28	47.81	28	46.27	61	13	92.66	21	98.96
47	22	51.85	20	49.46	62	9	98.85	10	102.40
48	27	52.95	30	50.67	63	1	106.56	4	110.06
49	25	56.68	39	52.43	64	8	109.93	6	106.09
50	37	57.71	24	57.43	65	3	120.00	3	141.54
51	39	60.80	31	58.65	66	5	125.19	.....	.....
52	32	62.90	28	60.67	67	4	122.38	.....	.....
53	49	66.69	26	64.89	68	2	130.50	.....	.....
54	41	67.83	18	67.32	71	2	141.41	.....	.....

Rating the cases on the basis of the Dunfermline scale for estimating nutrition,[50] 150 cases of malnutrition among 1,022 children were found—a percentage of 14.7 (Grades III and IV, Table XXXV).

Orthopedic defects.—A high percentage of orthopedic defects was found among the children examined. A total of 676 cases of winged scapulae were found among the 1,022 children, 66.1 per cent of the entire group having this defect; hence 2 children in 3 were taxing the muscles of an undeveloped shoulder girdle in this period of their growth. In normal development the scapulae swing round on the back and lie flat on the rear wall of the chest, but when the shoulder blades lie obliquely on the sides of the chest, protruding behind, the weight of the arms and the entire shoulder girdle is thrust too far forward, and marked deformity results. The back is high and bowed over, the chest is dragged downward, and free action in breathing is interfered with. This high percentage of winged scapulae suggests that the steady stooping in the kneeling and crouching position which blocking and thinning necessitate and the intermittent stooping to handle and lift the very considerable weights involved in the harvest has an effect on the outline and posture of the growing child's body.

[50] The Dunfermline scale distinguishes four groups, as follows: Grade I, "Excellent" means the nutrition of a healthy child. Grade II, Children whose nutrition falls just short of this standard are "good." Grade III, Children "requiring supervision" are on the border line of serious impairment. Grade IV, Children "requiring medical treatment" are those whose nutrition is seriously impaired.

TABLE XXXV.—*Grade of nutrition, by sex; children given physical examination: Colorado group.*

Grade of nutrition.	Per cent distribution of children given physical examination.		
	Total.	Boys.	Girls.
Total	100.0	100.0	100.0
Grade I	72.0	75.4	67.8
Grade II	12.8	11.4	14.6
Grade III	13.9	12.3	15.9
Grade IV	.8	.9	.7
Overweight	.2	.....	.4
Not reported	.3	.....	.7

Cases of flat foot were noted in 221 instances. The normal foot has a natural arch in its structure, and the cause of flat foot in so considerable a number of the cases (21.6 per cent) in the present study may again be laid to undue strain on immature muscles. Growth which is accompanied by rapid increases in weight, and exhausting field labor in the period of growth undoubtedly create a disproportion between the weight which the foot is called upon to bear and the ability of the muscles to sustain it, accompanied by a breakdown of the arch from overwork. The condition may not cause pain. Frequently individuals do not know they have fallen arches until their attention is called to it in the course of physical examinations, and this is particularly true of children, though some of the children described a typical flat-foot pain in the muscles of the leg. The existence of left flat foot only, or the presence of a more marked collapse of the arch on the left side in case both feet were affected, was noted, which recalled the fact that children often support the weight of the body on the left foot and raise the right knee in topping beets.

The occurrence of flat foot in 6 per cent of 245 well children in a Boston institution, and 9 per cent of 357 children in attendance in the out-patient [51] department of the Massachusetts General Hospital was reported by Dr. W. R. P. Emerson, as contrasted with its appearance in 21.6 per cent of the children in this study; stoop shoulders occurred in 42 per cent of the well children and in 65 per cent of the children applying for clinical care, as compared with the occurrence of winged scapulae in 66.1 per cent of the working and presumably healthy children in the present study.

The mouth and nasopharynx.—Decayed teeth were noted in 624 of the children examined (61.1 per cent), indicating striking neglect of mouth hygiene.

[51] American Journal of Diseases of Children, March, 1921, p. 285.

Children having diseased tonsils or tonsils sufficiently enlarged to be obstructive, numbered 437 (42.8 per cent) and 357 children (34.9 per cent) were mouth breathers. There is a possible association of cause and effect between overcrowded living conditions;[52] exposure during the harvest to dampness, soaking the workers from the knees down;[53] and the large percentage of nasopharyngeal disorders. Free nasal respiration is requisite for normal physical development in childhood, and the unobstructed use of the air channels should be regarded as of equal importance with the proper kind of diet.

The eyes.—Beet harvesting is a dusty occupation; moreover, the farmers' wagons cut up roads on their way to the dumps with the beets, so that the children travel to school through clouds of irritating dust. The 49 cases of subacute and chronic vascular injection, a sort of inactive "pink eye," may be an occupational disorder, the result of abnormal exposure to clouds of dust.

There were 208 cases of defective vision, as classified in Table XXXII, a percentage of 20.4.

Tests of vision indicate, of course, the visual acuity of the child at the time of the test. Normal visual acuity may, however, be accompanied by eyestrain as the child may strain his eyes in order to see clearly for the purposes of the test.

Hearing.—Hearing defects were likewise high in the Colorado children, a result to be expected wherever infections and defects of the nasopharynx are neglected. There were 43 cases of defective hearing (4.2 per cent).

Diseases of the skin.—The bodies and clothing of children examined were in general notably clean. The presence of 34 cases of scabies in several schools where special attention had not been directed to the contagion and the treatment essential to its cure, is responsible for the high percentage of parasitic diseases of the skin.

Smallpox vaccination.—Smallpox protection in rural districts is frequently low. Only 325 of the 1,022 children bore the evidence of a successful vaccination against smallpox, and the protected children were in general either foreign-born children who had been vaccinated as a quarantine requirement, or children recently vaccinated in a district where smallpox had been prevalent, or children who had moved into the country from a community where there was better law enforcement.

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[52] See pp. 67–68.
[53] See p. 31.

FAMILIES WORKING IN THE MICHIGAN BEET FIELDS.

SCOPE AND METHOD OF STUDY.

Michigan ranks second among the States in the acreage of sugar beets harvested and third in tons of sugar produced. In 1920, 17 factories were in operation and reported a beet acreage of 149,559.[54] Although beet fields and sugar factories are found in almost every part of Michigan, beets are grown for the most part in the central portion of the State, particularly in the region surrounding Saginaw and Bay City.

The district selected for study centered in Gratiot County, and extended into Isabella County on the north and Saginaw County on the east. It was chosen, after consultation with public officials and representatives of the leading sugar companies, as typical of the beet-raising areas not only of Michigan but also of the entire Middle Western beet-growing section. It had the additional advantage of being a district which supplied beets to the factories of three different companies, so that any difference among them in arrangements with laborers could be noted.

Three factories were located in the districts included in the study—one at Alma, one at St. Louis, and one at Mount Pleasant. One other factory at Owosso, though outside the district, took the beets of some of the farmers in the section visited. Three of these four factories reported to the Children's Bureau that they held contracts for about 37,000 acres of beets.[55]

Three of the factories reported that an average of only 30 per cent of their laborers were resident. The fourth factory had an even smaller proportion of resident labor, as it had been more recently established. The bulk of the handwork in Michigan, in contrast to the situation in Colorado, was done by nonresident laborers, but in Michigan, as in Colorado, a great majority of the workers, both resident and nonresident, were in family groups. The proportion of single men engaged in the work was even smaller in Michigan than in Colorado. Michigan sugar companies reported only 1,045 per-

[54] See Table I, p. 2.

[55] The acreage supplying the fourth factory was not separately reported but was included in a total acreage of 31,000 acres reported by the sugar company owning the fourth factory as supplying three factories, two of which were outside the districts included in the study.

sons outside family groups brought into the entire State for the work in 1920 and few or no resident single men engaged for the work in the beet fields. Inasmuch as practically all laborers brought into the State for the work are brought in by the sugar companies, approximately 90 per cent of the beet acreage in the State was probably taken care of by family groups.

In order to locate families in which either a child under 16 or the mother of a child under 6 years of age had worked in the beet fields at least one week during the season of 1920, lists of the beet-field laborers and of the farmers doing their own handwork were secured from the sugar company's agent in each section. As many as possible of the families, both those of farmers and those of laborers, were visited.

ECONOMIC STATUS OF FAMILIES.

A comparatively large number of beet growers in Michigan do their own handwork. Usually the average acreage planted in sugar beets is small.[56] Even on farms where beets are planted as one of the regular farm crops, the average number of acres in beets was said by factory managers to be only about 10, as compared with an average of 21 acres in Colorado. It was said that the average number of acres per grower was still further reduced by the fact that many farmers and even residents of towns and villages had been induced by the high price of sugar during several years preceding 1920 to plant in sugar beets a small tract of land, from 1 to 5 acres, in order to get the privilege granted by the sugar companies to all growers, irrespective of acreage planted, of buying at factory prices 50 pounds of sugar for each member of the family. These holdings reduced the average number of acres per grower to 5.6. Thus, though Michigan, according to estimates furnished the Children's Bureau by the sugar companies, had but 144,593 acres of beets as compared with the 223,201 acres in Colorado, there were 26,000 growers in the State, two and one-half times the number in Colorado, and 35 per cent of them did their own handwork, as compared with 15 per cent in Colorado.

The fact, too, that securing sufficient satisfactory labor for the beet fields in the season of 1920 seems to have been very difficult, very probably caused many growers who ordinarily hired contract labor to do their own handwork. Labor agents of the sugar companies in the spring of 1920 had had to go far to secure labor. They had been obliged to bring in workers not only from Detroit, Chicago, and the larger cities of Ohio, but also from the mining districts of West Virginia and from small towns in Texas and

[56] One of the sugar companies, however, operated a farm of 10,000 acres, 860 of which were planted in beets.

even Mexico. There was no large resident population of "beeters" like the Russian-Germans in Colorado. Belgian labor, which had been the prevailing beet-field labor in earlier years, had practically disappeared since the war, and the supply of Central Europeans also had fallen off. The labor turnover was high. In a number of cases cited by the sugar companies' agents 15 or 20 families brought in for the spring work had all disappeared by midsummer, and it was expected that an entire new lot would have to be brought in for the fall work. Inability to secure labor had led in some places to the formation of crews of day workers, usually boys, but occasionally girls, from 10 to 16 years of age or over. The children generally lived in the towns where the factories were located and were taken out by the sugar-company agent to the fields each day. They were paid a day or piece rate, worked usually about eight hours, and earned from $2 to $5 a day. One company reported that their work was not as satisfactory as that of the regular laborers.

In view of the difficulty experienced in securing labor, it is not surprising that many farmers who were accustomed to hiring contract labor for their work had decided to do their own.

Among the 511 families interviewed because either the mother or the children worked in the beet fields, 150, or 29 per cent, were living on their own farms; 72, or 14 per cent, were renting farms, and 289, or 57 per cent, were the families of contract laborers. Of the children in these families, 1,005 were laborers' children; 245 were the children of tenants, and 560 were the children of men who owned farms.

TABLE XXXVI.—*Economic status of family, by age of child; children under 16 years of age in families that worked in beet fields: Michigan group.*

Age of child.	Children under 16 years of age.						
	Economic status of family.						
	Total.	Laborer.		Tenant farmer.		Farm owner.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	1,810	1,005	55.5	245	13.5	560	30.9
Under 6 years	679	423	62.3	97	14.3	159	23.4
6 years, under 16	1,131	582	51.5	148	13.1	401	35.5

Of the 289 laborers' families only 96 were resident and 193 were nonresident. The fathers in migratory families were usually men who, during the winter, worked in factories, in mines, or on railroads. A few said that they had come to the beet fields because of the high cost of living in the city or because they were out of work, others had wanted to spend the summer in the country, and still others

wanted to settle permanently in the country. The prospects held out by the recruiting agents looked good to city laborers. Seventeen migratory workers said that the representations of the company agent regarding the attractiveness of the work had been their principal reason for coming. The opportunity, always emphasized, of utilizing the labor of the entire family was undoubtedly an inducement also.

The resident laborers were chiefly agricultural workers or factory hands during the winter. They belonged to one of two groups. The first was composed of one-time migratory laborers who had little ambition or initiative and no great earning capacity, and who found it easier to stay on after the beet harvest in their "beet shacks" at a nominal rent and subsist, even though meagerly, on their beet-contract earnings till the spring work began, than to go back to the city and find work for the winter. The other group included a few American families—most of whom had lived in the country all their lives without becoming successful farmers—and former migratory families who had come to work in the beet fields, had liked living in the country better than in the city, and had elected to stay there in the hope that they would sometime own a farm. The father in families of the latter type got work, if he could, in the beet districts or in near-by towns. In some cases for a few months in the winter he left his family in the country and went to the city to earn money. These were the families that would eventually, if things went well, become first tenant farmers and then farm owners. Of the 150 farm owners included in the study, 41 had been beet-field laborers, averaging 4 years at the work in the United States before owning their own land, and 25 others had rented, averaging 3½ years as tenants. Of the 72 tenant farmers included in the study, 52 had worked as laborers before renting farms.

NATIONALITY.

Nativity.

Although well over one-fourth of the children included in the study were of native parentage, the parents were not, save in exceptional cases, from English-speaking stock. Usually they were of Slavic origin, the family having been in this country but one or two generations. Among the foreign born the range of nationalities was much greater than was found in Colorado. Bohemians were the most numerous of the foreign-born groups, with Poles a close second. Mexican labor had but recently appeared in the Michigan beet fields, but 10 per cent of all the laborers' families interviewed in the course of the study were Mexican. There was little difference found between the nationality of resident and of nonresident labor in the Michigan beet fields, except that only one resident

family was Mexican. For the rest Bohemians, Poles and other Slavs, Germans, and Magyars appeared among both transient and resident families.

More Bohemians were in the position of farm owners and tenant farmers than persons of any other nationality, except the American born, but some of each nationality save Mexican were found among farm owners and tenants. The Mexicans did not seem ambitious to become land owners or farm tenants in the beet-growing districts, and in the rare instances in which they were saving money for a definite purpose, they were usually planning to buy a little place in Mexico. Although almost two-thirds of the farm owners and over one-fourth of those renting farms were natives, more than one-third of the farm owners and 70 per cent of the tenants were men of foreign birth who had, as a rule, worked their way up into the landowning and renting class. Most of their children were born in the United States. Of the 679 children under 6, only 25, or 4 per cent, were born outside the United States, and only 17 per cent of those 6 years of age or over were foreign born.

TABLE XXXVII.—*Nationality of father, by economic status of family; children under 16 years of age in families that worked in beet fields: Michigan group.*

Nationality of father.	Children under 16 years of age.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	1,810	100.0	1,005	100.0	245	100.0	560	100.0
Native	501	27.7	85	8.5	68	27.8	348	62.1
Foreign born	1,300	71.8	920	91.5	171	69.8	209	37.3
Other Slavic	416	23.0	292	29.1	62	25.3	62	11.1
Bohemian	252	13.9	132	13.1	39	15.9	81	14.5
Polish	210	11.6	189	18.8	21	8.6	.....	.....
Magyar	131	7.2	114	11.3	12	4.9	5	.9
Mexican	79	4.4	79	7.9	.....	.....	.....	.....
German	77	4.3	50	5.0	5	2.0	22	3.9
Belgian	24	1.3	3	0.3	21	8.6	.....	.....
All other	111	6.1	61	6.1	11	4.5	39	7.0
Not reported	9	.5	.....	.....	6	2.4	3	.5

Knowledge of English.

Most of the fathers had acquired a speaking knowledge of English, but 49 (13 per cent) of the foreign born, 15 of whom were Mexicans, did not speak the language in spite of the fact that most of them had been in the United States 5 years or more. No very great difference was noted among the various Slavic peoples in their ability to use English. Among the Mexicans less than one-half could speak the language. Comparatively few of the latter had been in the United

States more than a few years, whereas the average for all the nationalities was about 10 years. The mothers in the families visited, as is usually the case with immigrants, were less well acquainted than the fathers with the English tongue. Only 56 per cent of all the foreign-born mothers could speak English, the proportion being greatest (63 per cent) among Polish women. Only 1 of the 28 Mexican mothers could speak English; she had been in the United States between 10 and 15 years. The majority of the Mexican mothers, however, had immigrated within 3 years. Only 7 mothers in other groups had been in the country less than 5 years, and the average for all foreign-born mothers was about 10 years.

TABLE XXXVIII.—*Literacy and ability of father to speak English, by number of years in the United States and nationality; fathers in families that worked in beet fields: Michigan group.*

Years in the United States and nationality of father.	Fathers—				
	Total.	Unable to speak English.		Unable to read and write in any language.	
		Number.	Per cent.[1]	Number.	Per cent.[1]
Total	[2] 502	49	9.8	36	7.2
Native	136	.....	.....	1	.7
Foreign born	366	49	13.4	35	9.6
Less than 3 years	19	12	.....	7	.....
3 years, less than 5	1	1	.....	.....	.....
5 years, less than 10	78	10	12.8	5	6.4
10 years, less than 15	116	11	9.5	11	9.5
15 and over	100	9	9.0	8	8.0
Not reported	52	6	11.5	4	7.7

[1] Not shown where base is less than 50.
[2] Excludes 7 fathers who were dead or had deserted, and 2 for whom nationality, years in the United States, ability to speak English, and literacy were not reported.

TABLE XXXIX.—*Literacy and ability of mother to speak English, by number of years in the United States and nationality; mothers in families that worked in beet fields: Michigan group.*

Years in the United States and nationality of mother.	Mothers—				
	Total.	Unable to speak English.		Unable to read and write in any language.	
		Number.	Per cent.[1]	Number.	Per cent.[1]
Total	[2] 506	158	31.2	65	12.8
Native	144	.....	.....	1	.7
Foreign born	362	158	43.6	64	17.7
Less than 3 years	25	24	.....	11	.....
3 years, less than 5	1	1	.....	.....	.....
5 years, less than 10	120	58	48.3	14	11.7
10 years, less than 15	86	35	40.7	19	22.1
15 years and over	78	18	23.1	12	15.4
Not reported	52	22	42.3	8	15.4

[1] Not shown where base is less than 50.
[2] Excludes 4 mothers who were dead or had deserted, and 1 for whom nationality, years in the United States, ability to speak English, and literacy were not reported.

Whereas practically all the native-born fathers and mothers were literate, 35 foreign-born fathers and 64 foreign-born mothers were not able to read or write in any language, the largest proportion of illiterates, both of fathers and mothers being found among the Mexicans. These men and women are even more helpless, of course, than those parents who, while they speak no English, can read and write their own language. Both are at a disadvantage not only in transacting their business and safeguarding their interests, but also in rearing their children. Instruction in English is the first step in putting them in touch with forces which will assist them to overcome some of the handicaps of a defective early education, especially in regard to the intelligent care and training of their children.

CHILD LABOR.

Number and ages of children and duration of work.

In the 511 families visited were 763 children between 6 and 16 years of age who had worked in the beet fields in 1920. Only 1 in 5 had reached the age of 14 or 15, while 1 in 4 was less than 10 years of age. Over one-half were from 10 to 13 years of age. In some families no child was considered too young to count as a beet-field worker. One Hungarian father, a miner from West Virginia, who said that he had come to the beet-growing country because his children were too young to work in the mines but could help "in beets," had all 4 of his children at work in the fields, the oldest 12, the youngest only 5 years of age. Four children under the age of 6 years were reported by their parents as working. In most families, however, the tendency was to spare the very youngest children. A Polish laborer, for example, whose boys of 11 and 13 years helped with his beet crop, would not let his 5- and 6-year-old boys work, saying, "Children have to be careful of and beets is too hard for little ones." Nevertheless, in families in which it appeared to be customary for children to work, judging by the fact that at least one older child was a beet-field worker,[57] almost one-fifth of the 6-year-old children and two-fifths of those who were 7 years of age were at work. At 8 three-fifths of the children in these families and at 11 practically all, had begun working in the beet fields.

Both girls and boys work in the beet fields, but in the families studied there were somewhat fewer workers among the girls in proportion to their numbers than among the boys. Only one-fourth of the boys, but almost two-fifths of the girls, between 6 and 16 years of age were reported as not working. Not only the youngest

[57] The totals on which are based this proportion and the following proportions of children of different ages at work exclude 187 children: (1) The eldest working child in each family and (2) children who were the only child workers in their respective families. For an explanation of these exclusions see p. 19, note 18.

girls but those of all ages, with the possible exception of 11- and 12-year-old children appeared to be less likely to be set at field work than boys of the same age. This may be due partly to custom. In some families, no doubt, at least one girl is kept at home to care for younger children and to help with the housework or, as in the case of one 13-year-old girl, to do all the housework while the mother works in the fields.

With few exceptions the children work for their own parents, either on the acreage for which the father has contracted or on the home farm. Seventeen children in the present study had hired out to work, usually after the work on the family acreage was completed.

TABLE XL.—*Age of child, by economic status of family; children between 6 and 16 years of age working in beet fields: Michigan group.*

Age of child.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	763	100.0	361	100.0	105	100.0	297	100.0
6 years, under 7	16	2.1	9	2.5	2	1.9	5	1.7
7 years, under 8	38	5.0	23	6.4	5	4.8	10	3.4
8 years, under 9	52	6.8	28	7.8	6	5.7	18	6.1
9 years, under 10	91	11.9	39	10.8	13	12.4	39	13.1
10 years, under 11	93	12.2	43	11.9	12	11.4	38	12.8
11 years, under 12	105	13.8	57	15.8	14	13.3	34	11.4
12 years, under 13	114	14.9	58	16.1	13	12.4	43	14.5
13 years, under 14	101	13.2	41	11.4	18	17.1	42	14.1
14 years, under 15	76	10.0	40	11.1	6	5.7	30	10.1
15 years, under 16	77	10.1	23	6.4	16	15.2	38	12.8

The handwork on the beet crop in Michigan as in Colorado spreads over a period of between 5 and 6 months, beginning about the last of May. At the time the study was made, during the month of August, the beet harvest, which would add from 1 or 2 to 6 weeks to the work, had not begun, so that it is not possible to state how many weeks during the season of 1920 the children covered by the study worked. On only the first 2 processes—blocking and thinning, and hoeing—more than half of the 763 working children had worked at least 4 weeks, 35 per cent from 6 to 13 weeks, and about one-tenth between 9 and 13 weeks. It would appear that the younger children were almost as likely as the older ones to be kept at the work for a number of weeks, since the proportions of those under 10 years of age working at least 4 weeks and working from 6 to 13 weeks were practically the same as for all the children. Whether a child was in a laborer's,

a tenant's, or a farm owner's family made considerably more difference than did his age in the number of weeks that he worked. Thus, four-fifths of the laborers' children had worked 4 weeks or more, whereas only two-fifths of the tenants' children and one-fourth of the farm owners' had worked so long; and while three-fifths of the children whose fathers had contract work had spent from 6 to 13 weeks in the beet fields, less than one-fourth of the farm renters' children, and only 7 per cent of the children of farmers owning their own land had done so. Because of the small beet farms in the districts visited there is no comparison between the tax on the strength and endurance in working on the home beet acreage and in working throughout the season as contract laborers. Almost half the farmers owning their land worked less than 5 acres, and only 5 took care of as many as 20 acres, whereas more than half the laborers reporting acreage had contracted for at least 25 acres. Thus, work on the beet crop for farmers' children seldom lasted long or necessitated extreme hours. Only 8 per cent of the farm owners' children and 23 per cent of the tenants' children had worked 6 weeks or more, whereas 61 per cent of the laborers' children had worked at least 6 weeks.

TABLE XLI.—*Number of weeks worked, by age of child; children between 6 and 16 years of age working in beet fields: Michigan group.*

Age of child.	Children between 6 and 16 years of age working in beet fields.															
	Total.	Number of weeks worked.[1]														
		Less than 1.		1		2		3		4		5		6		
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	763	10	1.3	114	14.9	85	11.1	91	11.9	66	8.7	71	9.3	93	12.2
6 years, under 7	16	2	.....	1	.....	1	.....	2	.....	2	.....	.....	.....	1	.....
7 years, under 8	38	.....	.....	4	.....	3	.....	3	.....	2	.....	4	.....	6	.....
8 years, under 9	52	.....	.....	10	19.2	5	9.6	8	15.4	4	7.7	4	7.7	8	15.4
9 years, under 10	91	1	1.1	17	18.7	10	11.0	9	9.9	7	7.7	9	9.9	7	7.7
10 years, under 11	93	1	1.1	12	12.9	13	14.0	13	14.0	8	8.6	8	8.6	10	10.8
11 years, under 12	105	2	1.9	11	10.5	19	18.1	9	8.6	11	10.5	10	9.5	11	10.5
12 years, under 13	114	2	1.8	21	18.4	10	8.8	14	12.3	4	3.5	11	9.6	17	14.9
13 years, under 14	101	1	1.0	14	13.9	9	8.9	11	10.9	13	12.9	8	7.9	14	13.9
14 years, under 15	76	1	1.3	6	7.9	9	11.8	10	13.2	7	9.2	7	9.2	8	10.5
15 years, under 16	77	.....	.....	18	23.4	6	7.8	12	15.6	8	10.4	10	13.0	11	14.3

[1] Not shown where base is less than 50.

TABLE XLI.—*Number of weeks worked, by age of child, etc.*—Continued.

Age of child.	Children between 6 and 16 years of age working in beet fields.															
	Number of weeks worked.[1]															
	7		8		9		10		11		12		13		Not reported.	
	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Numb	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	45	5.9	64	8.4	27	3.5	28	3.7	7	0.9	2	0.3	2	0.3	58	7.6
6 years, under 7	2	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
7 years, under 8	5	.....	7	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3	.....
8 years, under 9	4	7.7	1	1.9	2	3.8	1	1.9	1	1.9	.....	.....	.....	.....	4	7.7
9 years, under 10	6	6.6	10	11.0	6	6.6	2	2.2	2	2.2	.....	.....	.....	.....	5	5.5
10 years, under 11	7	7.5	5	5.4	4	4.3	4	4.3	1	1.1	.....	.....	.....	.....	7	7.5
11 years, under 12	4	3.8	11	10.5	4	3.8	3	2.9	.....	.....	.....	.....	1	1.0	9	8.6
12 years, under 13	7	6.1	7	6.1	5	4.4	5	4.4	2	1.8	2	1.8	.....	.....	7	6.1
13 years, under 14	4	4.0	9	8.9	2	2.0	4	4.0	.....	.....	.....	.....	.....	.....	12	11.9
14 years, under 15	6	7.9	7	9.2	3	3.9	6	7.9	1	1.3	.....	.....	1	1.3	4	5.3
15 years, under 16	.....	.....	4	5.2	1	1.3	2	2.6	.....	.....	.....	.....	.....	.....	5	6.5

[1] Not shown where base is less than 50.

In the absence of any legal restrictions on agricultural work other than those imposed by the compulsory school attendance law, the children work as many hours a day as the parents wish or as the crop seems to require, and there is the greatest variety in the conditions under which the work is done. In one farmer's family, the 13- and 15-year-old girls averaged only 4 hours daily in the beet fields, working in the cool of the day, morning and evening, and completing the spring and summer work in 3 weeks. Brothers 10 and 14 years of age in a native family were reported as working "3 or 4 hours a day during several weeks, but not nearly every day." A tenant farmer said that he had not wanted his children to work, but had been obliged to have them help because contract labor was so unsatisfactory. His 13-year-old daughter and twin boys of 11 had worked 7 hours a day for 2 weeks. But instances of very long hours were much more common. Thus Anna, the 11-year-old child of a Polish laborer, began her field work at 5 o'clock in the morning, leaving the field at 8 at night, with only 1 hour out for dinner. Her work in thinning and hoeing had lasted 7 weeks. The children of another Polish laborer, Helen, aged 14, Stevie, 12, and Julia, 10, worked from 5 a. m. until 8.30 p. m., with one-half hour for breakfast and one-half hour for dinner. At the time of the agent's visit all the members of this family were working very hard. They had spent over 9 weeks on the beet crop, and had not begun pulling and topping. Another example of a 14-hour day is found in the case of a Hungarian boy of 13 years, whose work "in the beets" had lasted 4 weeks. His was a tenant family renting its land for the first season after

8 years as beet-field laborers. Even more extreme conditions of work were occasionally encountered in the course of the survey. Thus the 7-year-old child of a Mexican laborer had worked more than 8 weeks 11½ hours a day; the daughter of a Slovenian laborer, aged 6 years, had worked 9 weeks, from 8 to 11 hours a day, besides helping with the housework and gardening, and carrying water; 5-year-old Manuel with his 2 brothers aged 7 and 10, respectively, spent an 11½-hour day in the beet fields, their work continuing between 8 and 9 weeks. The effort put into the work differed also from family to family. Thus one group of workers, consisting of father, mother, and 3 children from 10 to 13 years of age, reported that they had worked 10½ hours a day for 10 weeks, caring for only 12½ acres; whereas another family, in which the workers were the father and 4 children, the oldest 12 and the youngest 7, cared for 50 acres, working 12½ hours a day for a little over 6 weeks. A child of 11, with his parents, working 13 hours a day for 9 weeks cared for 41 acres.

These varying conditions of work give rise to widely varying differences of opinion as to the difficulties of the work. One father found it "much easier than work in a steel mill"; another, who had worked in the cotton fields of Texas and whose maximum working day in the beet fields was 7 hours, thought it "not so hard as cotton"; one family reported that the children did not get very tired, as they worked only every other day, and then not longer than 8 hours. A 13-year-old girl and her two younger brothers, who had thinned 7 hours a day, said that they did not mind the work, except that it took away their play time. These families were usually working small acreages and were able to take their own time in doing the work. One mother stated that the work was no harder than other field work, if it was not too prolonged; she and her children never worked, however, more than 6 hours a day. Several maintained that it was impossible to work more than 4 or 5 hours a day without being exhausted. A mother, who worked 10 hours a day, said that she was so tired at night that she "could hardly stand it," though she was only 29 years old and an experienced worker. One mother said that her hands became so sore that she could cry, and the work made her "feel sick all over." Several fathers, who had been miners, declared that the work in the beet fields was much harder than mining. Swollen arms and aching backs were often complained of, especially among those doing the work for the first time. A Serbian mother, whose 14-year-old boy worked 14 hours in the field, told the agent that "the children cried this year when their father told them we would do beet work again."

Hours and duration of work in each process.

Blocking and thinning.—All except 4 of the 763 children in the study who worked took part in the spring process, about one-

fifth of them doing only the thinning. The youngest working children were engaged in thinning. One-fourth of those who did the work—whether they were the children of contract laborers or worked on their parents' farms, and proportionately as many girls as boys—were less than 10 years old, more than half were under 12, and only one-fifth were as much as 14 years of age. Seven per cent of the workers were under 8 years of age—ten 6-year-old boys and 26 who were 7 years of age, and 18 girls of 6 and 7 years.

TABLE XLII.—*Daily hours thinning and blocking, by age of child; children between 6 and 16 years of age working in beet fields: Michigan group.*

Daily hours thinning and blocking.	Children between 6 and 16 years of age working in beet fields.										
		Age.									
	Total.	6 years, under 7.	7 years, under 8.	8 years, under 9.	9 years, under 10.	10 years, under 11.	11 years, under 12.	12 years, under 13.	13 years, under 14.	14 years, under 15.	15 years, under 16.
Total	763	16	38	526	91	93	105	114	101	76	77
Did not work thinning and blocking	4	.....	.....	1	.....	1	1	.....	1	.....	.....
Worked thinning and blocking	759	16	38	51	91	92	104	114	100	76	77
Less than 4 hours	14	2	1	.....	2	3	1	4	1	.....	.....
4 hours, less than 5	20	.....	.....	1	4	4	1	2	4	.....	4
5 hours, less than 6	15	1	.....	1	2	4	.....	4	.....	.....	3
6 hours, less than 7	26	.....	3	.....	4	3	5	2	5	1	3
7 hours, less than 8	48	.....	1	4	4	5	9	5	8	6	6
8 hours, less than 9	76	.....	3	5	12	9	10	12	7	10	8
9 hours, less than 10	112	1	3	6	16	11	16	19	16	13	11
10 hours, less than 11	186	4	11	8	19	21	24	24	33	16	26
11 hours, less than 12	90	1	8	8	5	12	14	16	9	9	8
12 hours, less than 13	67	3	2	8	11	6	9	12	6	8	2
13 hours, less than 14	33	1	1	2	3	5	4	8	2	5	2
14 hours and over	20	.....	.....	.....	1	3	3	3	3	5	2
Not reported and irregular	52	3	5	8	8	6	8	3	6	3	2

The early summer days are long, the work pressing, and the working day is extended accordingly. For the laborers' families work usually started at 6 a. m., though 5 or 5.30 was sometimes given as the hour of beginning, and even 4 o'clock was reported. The laborers' families usually took the shortest possible time for meals, and worked till 6, 7, and sometimes 8 p. m., or later. Even when meal time is excluded these hours indicate a long working day. Almost two-thirds of the children, only slightly fewer girls than boys in proportion to their numbers, were reported as working 9 hours or more a day. The largest group, both boys and girls, amounting to a little over one-fourth of the boys and one-fifth of the girls, reported 10 hours daily; 26 per cent of the boys and 29 per cent of the girls reported from 11 to 15 hours' daily work in the fields.

It was the children of contract laborers who worked the longest hours—practically 9 out of 10 of them reported a working day of 9

hours or more and 5 out of 10 had worked from 11 to 15 hours. But while fewer farmers' children spent so long a day at field work, less than 5 per cent reporting as much as 11 hours a day, almost half had worked 9 hours or more.

TABLE XLIII.—*Daily hours thinning and blocking, by economic status of family; children between 6 and 16 years of age working in beet fields: Michigan group.*

Daily hours thinning and blocking.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	763	.....	361	.....	105	.....	297	.....
Did not work thinning and blocking	4	.....	.....	.....	.....	.....	4	.....
Worked thinning and blocking	759	100.0	361	100.0	105	100.0	293	100.0
Less than 4 hours	14	1.8	3	.8	1	1.0	10	3.4
4 hours, less than 5	20	2.6	1	.3	7	6.7	12	4.1
5 hours, less than 6	15	2.0	3	.8	.....	.....	12	4.1
6 hours, less than 7	26	3.4	2	.6	4	3.8	20	6.8
7 hours, less than 8	48	6.3	11	3.1	11	10.5	26	8.9
8 hours, less than 9	76	10.0	10	2.8	22	21.0	44	15.0
9 hours, less than 10	112	14.8	46	12.7	10	9.5	56	19.1
10 hours, less than 11	186	24.5	81	22.4	33	31.4	72	24.6
11 hours, less than 12	90	11.9	84	23.3	1	1.0	5	1.7
12 hours, less than 13	67	8.8	59	16.3	6	5.7	2	.7
13 hours, less than 14	33	4.4	33	9.1	.....	.....	.....	.....
14 hours and over	20	2.6	15	4.2	2	1.9	3	1.0
Not reported and irregular	52	6.9	13	3.6	8	7.6	31	10.6

The farmers' children spent only a few weeks at the work. Seven-tenths of the farm owners' children, and almost half the children of the tenant farmers, reported that their spring work had taken less than three weeks. Less than one-seventh of the laborers' children, on the other hand, had spent less than three weeks blocking and thinning, and more than one-fourth had worked throughout the duration of the process, that is, for six weeks or more, passing on to a new field as soon as the work on one was completed. A few farmers' children had hired out to other farmers when the work on their own acreage was completed, adding to the number of weeks worked, but only 19 had worked as much as six weeks in the spring process.

Crawling along in the dirt for nine hours or more a day for several weeks is hard work for children, even if they do only the thinning. Four-fifths of the children engaged in the spring work did blocking also. A girl-mother of 17 years, who had worked in the beet fields since she was 14, related how her "arms used to get so tired with the blocking that after going to bed they wouldn't stay still—they'd just

move backwards and forwards as if they still held the hoe." Another experienced worker, a young Bohemian woman, said that after a day of thinning she was so tired at night that she could hardly stand it, and added, "If you don't wear gloves you wear your fingers down to the quick."

Hoeing.—Almost one-fifth of the working children were not required to do hoeing, which is heavier work than thinning. Nevertheless, 623 children between 6 and 16 years of age had hoed and 3 other children, only 5 years of age, were reported by their parents as working in the process for 10 or 11 hours a day. About one-fourth of both girls and boys doing this work were under 10 years of age, including 26 boys and 8 girls who were only 6 or 7 years of age; and well over half the workers, both girls and boys, were from 10 to 13 years of age.

TABLE XLIV.—*Daily hours hoeing, by age of child; children between 6 and 16 years of age working in beet fields: Michigan group.*

Daily hours hoeing.	Children between 6 and 16 years of age working in beet fields.										
		Age.									
	Total.	6 years, under 7.	7 years, under 8.	8 years, under 9.	9 years, under 10.	10 years, under 11.	11 years, under 12.	12 years, under 13.	13 years, under 14.	14 years, under 15.	15 years, under 16.
Total	763	16	38	52	91	93	105	114	101	76	77
Did not work hoeing	140	10	10	9	20	21	25	15	11	10	9
Worked hoeing	623	6	28	43	71	72	80	99	90	66	68
Less than 4 hours	11	.....	1	.....	1	3	1	3	1	1	.....
4 hours, less than 5	19	.....	.....	1	3	4	1	4	2	2	2
5 hours, less than 6	13	.....	.....	1	2	3	.....	4	.....	.....	3
6 hours, less than 7	27	.....	2	.....	4	4	6	1	6	1	3
7 hours, less than 8	38	2	2	3	4	4	5	5	5	3	5
8 hours, less than 9	64	.....	3	4	8	6	9	9	8	8	9
9 hours, less than 10	106	1	.....	8	13	10	13	21	17	14	9
10 hours, less than 11	145	.....	9	7	15	17	16	19	26	15	21
11 hours, less than 12	63	.....	6	5	3	10	7	13	7	6	6
12 hours, less than 13	63	2	3	5	12	6	7	14	4	8	2
13 hours, less than 14	15	.....	.....	1	1	2	3	3	2	2	1
14 hours, and over	16	.....	.....	.....	1	2	3	1	3	4	2
Not reported and irregular	43	1	2	8	4	1	9	2	9	2	5

The hours did not differ greatly from those that were customary in the spring work. Four hundred and eight children, including 63 per cent of the girls and 67 per cent of the boys, had hoed for 9 hours or more a day; and about one-fourth, slightly more girls than boys proportionately, reported that their average working day had been 11 hours or more.

More laborers' children than the children of farmers had a very long working day, though many of the latter also spent long hours at the field work. For example, over four-fifths of the laborers' children reported that they had averaged from 9 to 14 hours or

more a day in hoeing, while 56 per cent of the tenants' and 47 per cent of the farm owners' children spent 9 or more hours a day at the work. Rarely did any farmer's child report that he had hoed more than 10 hours a day.

TABLE XLV.—*Daily hours hoeing, by economic status of family; children between 6 and 16 years of age working in beet fields: Michigan group.*

Daily hours hoeing.	Children between 6 and 16 years of age working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	763	.....	361	.....	105	.....	297	.....
Did not work hoeing	140	.....	60	.....	34	.....	46	.....
Worked hoeing	623	100.0	301	100.0	71	100.0	251	100.0
Less than 4 hours	11	1.8	1	.3	1	1.4	9	3.6
4 hours, less than 5	19	3.1	2	.7	5	7.0	12	4.8
5 hours, less than 6	13	2.1	3	1.0	.....	.....	10	4.0
6 hours, less than 7	27	4.3	2	.7	4	5.6	21	8.4
7 hours, less than 8	38	6.1	15	5.0	6	8.5	17	6.8
8 hours, less than 9	64	10.3	17	5.7	12	16.9	35	13.9
9 hours, less than 10	106	17.0	47	15.6	10	14.1	49	19.5
10 hours, less than 11	145	23.3	59	19.6	25	35.2	61	24.3
11 hours, less than 12	63	10.1	57	18.9	1	1.4	5	2.0
12 hours, less than 13	63	10.1	57	18.9	2	2.8	4	1.6
13 hours, less than 14	15	2.4	15	5.0	.....	.....	.....	.....
14 hours and over	16	2.6	14	4.7	2	2.8	.....	.....
Not reported and irregular	43	6.9	12	4.0	3	4.2	28	11.2

The duration of the hoeing was, like that of the blocking and thinning, much longer for the children of laborers than for the children of tenant farmers and farm owners. The largest number in each of the three groups had worked between 2 and 3 weeks, but almost one-third of the laborers' children had worked 3 weeks or more, while only one-ninth of the children of tenants and only 4 per cent of the children of farm owners reported spending 3 weeks or more hoeing. Moreover, two-fifths of the farm owners' children as compared with only 5 per cent of the laborers' children had worked less than 1 week.

The length of time spent in hoeing does not depend entirely on the acreage. The time spent at the work as well as the ease with which it may be done, depends upon how thoroughly the farmer cultivates. Thus one family reported that a 5-acre field in good condition was hoed in a day, whereas another field containing only 6 acres required 10 days for the hoeing, because it was so weedy and hard to work. Numerous complaints were made by the families visited regarding the poor cultivating that was done, and it was said that the hoeing had been particularly hard that season on most of the farms because the weeds had been so bad. One father and mother reported that the

ground was so hard that they and their 2 children had had to start early and work hard to "make three-fourths of an acre a day." Another father had refused to hoe, he said, until the farmer cultivated, declaring "I'm not going to kill my children with weeds."

The study in Michigan was completed before the pulling and topping began, but it is probable that in essential details conditions did not differ greatly from those in Colorado.

Number of seasons at work.

The children in Michigan were much less experienced workers than those in the Colorado families visited. Well over two-fifths of those who worked in the beet fields were spending their first season at the work; even when the children under 10 are excluded, 35 per cent were doing their first season's work. The majority of those over 10 years of age had been working at most but 2 seasons, and only about one-tenth had been working 5 seasons or more. Those who had been working 5 seasons or more constituted, however, almost three-tenths of the 15-year-old, one-fifth of the 14-year-old, and one-tenth of the 13-year-old children. One 13-year-old boy had been working ever since he was 6; similarly four 14-year-old children—3 girls and 1 boy—had worked 8 seasons; and six 15-year-old children, all except 1 of whom were boys, had worked since they were 8 years of age. The majority of the children had begun to work in the beet fields before they were 10 years of age. About one-fourth had begun before they were 8 years old, about 4 per cent when only 6. One boy told the agent that he had begun to do thinning when only 5 years of age, "but," he said, "they had to lick me a lot to make me do it."

TABLE XLVI.—*Number of seasons in beet fields,*[1] *by age of child; children between 6 and 16 years of age: Michigan group.*

Age of child.	Children between 6 and 16 years of age.								
	Total.	Did not work in beet fields.		Number of seasons in beet fields.[1]					
				1		2		3	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	1,131	368	32.5	332	29.4	245	21.7	81	7.2
6 years, under 7	150	134	89.3	16	10.7	.....	.....	.....	.....
7 years, under 8	124	86	69.4	28	22.6	10	8.1	.....	.....
8 years, under 9	115	63	54.8	39	33.9	10	8.7	2	1.7
9 years, under 10	119	28	23.5	50	42.0	32	26.9	3	2.5
10 years, under 11	118	25	21.2	49	41.5	34	28.8	9	7.6
11 years, under 12	117	12	10.3	44	37.6	43	36.8	11	9.4
12 years, under 13	121	7	5.8	43	35.5	41	33.9	17	14.0
13 years, under 14	108	7	6.5	33	30.6	30	27.8	21	19.4
14 years, under 15	80	4	5.0	17	21.3	22	27.5	12	15.0
15 years, under 16	79	2	2.5	13	16.5	23	29.1	6	7.6

[1] Includes season of 1920.

TABLE XLVI.—*Number of seasons in beet fields,*[1] *by age of child, etc.*—Con.

Age of child.	Children between 6 and 16 years of age.											
	Number of seasons in beet fields.[1]											
	4		5		6		7		8		Not reported.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	46	4.1	19	1.7	13	1.1	10	0.9	11	1.0	6	0.5
6 years, under 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7 years, under 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8 years, under 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.9
9 years, under 10	4	3.4	.....	.....	.....	.....	.....	.....	.....	.....	2	1.7
10 years, under 11	1	.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11 years, under 12	5	4.3	1	.9	.....	.....	.....	.....	.....	.....	1	.9
12 years, under 13	5	4.1	3	2.5	2	1.7	1	.8	.....	.....	2	1.7
13 years, under 14	8	7.4	4	3.7	2	1.9	2	1.9	1	.9	.....	.....
14 years, under 15	10	12.5	4	5.0	3	3.8	4	5.0	4	5.0	.....	.....
15 years, under 16	13	16.5	7	8.9	6	7.6	3	3.8	6	7.6	.....	.....

[1] Includes season of 1920.

Amount of work per child.

It was even more difficult in Michigan than in Colorado to secure estimates as to the amount of work children could do. The families had had less experience as laborers—the average number of years in the work was less than three in Michigan, while it was seven in Colorado—and they could not gauge their children's capacity so well. But according to the statements of the 113 families making an estimate, children averaged about one-fourth of an acre a day in blocking and thinning, or one-half of an acre for thinning alone, while in hoeing they could cover one-half of an acre in a day's work.

In 244 families of contract laborers included in the present study, each working child during the season had cared for an average of 4.1 acres, somewhat less than one-half the number of acres—9—cared for on the average by each adult in these families.[57a] That is, each worker did all the blocking and thinning and hoeing during the season on the specified number of acres, though some workers may have taken longer to do the same amount of work. The average number of acres cared for per child is less for the Michigan than for the Colorado workers, both actually and in proportion to the average acreage per adult, a fact which may be due to the relative inexperience of many of the Michigan workers and possibly to the fact that the Colorado resident beet-field workers are unusually thrifty and perhaps keep their children at the work more steadily.

[57a] See footnote 25, p. 36.

EDUCATION OF THE CHILDREN.

The compulsory school attendance law and its enforcement.

Work in the beet fields had resulted in loss of schooling for a majority of the school children covered by the survey, including children in resident as well as nonresident families. According to the compulsory attendance law of Michigan, every child between the ages of 7 and 16 years who is physically able to do so must attend school during the entire school session unless he has been excused to go to work, which he may be when he has completed the eighth grade.[58] For most employments, but not including agriculture, the child must obtain a permit which can not be secured for work during school hours until he is 15. A child over 14 years of age, however, who has completed the sixth grade may be excused from school attendance by the county commissioner of schools or city superintendent of schools, on recommendation of the district board, if his "services are essential to the support" of his parents.

Practically all the children included in the survey who legally should have been in school had attended school for some time during the school year preceding the survey but during the beet season attendance was in most cases unsatisfactory. As in many rural areas, there were too few attendance officers to insure adequate enforcement of the law. In fact each of the counties in which were located the districts studied had but one truant officer. No one man, even though constantly on duty, can handle the rural school population of an entire county. While the system in Michigan, under which the truant officer is appointed by the county commissioner of schools[59] and is responsible to him, has decided advantages over the district system, such as that found in Colorado,[60] the advantages to be gained by the larger unit are not enjoyed if the force is inadequate. Prompt action is impossible unless the number of attendance officers is sufficient, and the lack of such action results in situations like that described by one farmer who told the bureau agent that he had kept his boy out of school to help with the beet harvest and that by the time he was notified that the child must be sent to school the work was all done, "So I didn't care."

The county commissioner of schools in one of the counties included in the survey, asks, "What can one truant officer do with 162 school boards, 200 teachers, and 7,000 children scattered over 900 square miles of territory?" He further states:

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[58] Howell's Annotated Statutes, 1913, sec. 10110, as amended by Acts of 1917, Act No. 109. A child under 9 years of age living more than 2½ miles from a schoolhouse is not required to attend unless free transportation is provided, and pages or messengers in either house of the legislature are also exempted.

[59] Graded districts and cities may have their own attendance officers, responsible to the graded district or city superintendent of schools.

[60] See p. 37.

* * * Children who are over 14 and have passed the sixth grade may be excused by the county commissioner to help at home if the local school board will recommend it and if such help is absolutely necessary. Some boards have told me naively that they dislike refusing a favor to a neighbor, so they sign the recommendation for the sake of peace. That puts it up to the county school office to try to determine the real necessity of the case. Fortunately this office is not anxious for peace at the price of a child's future. Some parents not only overemphasize their need, but willfully misrepresent the child's age or grade. If it is a transient family, it is practically impossible to get records and we must accept the statement of the parents. We are often asked to excuse children as young as 7 years. When permits are refused, the children are sometimes kept out anyway, and the young, timid, untrained teacher, to whom the law and the procedure are new, usually fails to report them promptly as truants, and by the time we hear of it the work for which they were wanted is done. Too much local influence brought to bear on teacher and board, the very limited horizon of some teachers, boards, and parents, long distances and poor roads, uncertain rural mail and telephone service, and an inadequate force of attendance officers in the county office are the conditions which are loading the burden of the shortage of farm labor onto the youthful shoulders of the children. * * * The executive committee of our county farm bureau has stated as its official opinion that the demand for child labor is more a habit than a need.

By requiring a parent who wished to have his child excused from school attendance on the ground of necessity to appear at the office of the county school commissioner before the request was acted upon—in the meantime insisting that the child must be kept in school every day—and through close cooperation with the teachers in rural schools, the school commissioner in this county was making a special effort to keep in school children who would have been withdrawn unnecessarily for farm work.

In the case of migratory families, or even those of resident laborers newly settled in the district, it was even less difficult than in farmers' families for the parents to keep their children out of school if they wished to do so. Families were often not included in the school census, even if living in the district at the time of the census taking, unless they were known to be permanently settled. Thus it was quite possible for a family of beet-field laborers, who had come to live in a rural neighborhood, to keep the children out of school not only during the beet season but also during the entire school year without receiving any notification that the children must be sent to school.

In one family, for example, three little girls, all of school age, worked throughout the beet harvest, and on a snowy day in December started to the nearest school for the first time. Getting wet and cold on the way, they turned back, and, bad colds resulting from the exposure, they made no further attempt to enter school. When visited the following August they had lived for over 16 months in the same house without having had any notice whatever taken of them by the school authorities.

According to the statements made by parents three-fourths of all the children of school age in the study, including four-fifths of the

children of contract laborers and two-thirds of the children of farmers, had had absences from school on account of their work on the beet crop; almost half the children for whom duration of absence was reported and three-fourths of those in contract laborers' families had been absent for this purpose more than 4 school weeks. A few—27 laborers' and 10 farmers' children—had been absent 10 weeks or more because of their beet-field work.

When absences for field work are added to the inevitable absences for illness and for stormy weather and bad roads the result is a school attendance so brief and so interrupted as to make it almost impossible for the children to receive an elementary education by the time they reach the age of 14, or even 16.

School attendance of children in the families visited.

School-attendance records for children in the families visited were secured in as many cases as possible. Owing to the fact that the schools were not in session during the survey, and teachers' records were therefore not accessible, it was necessary to postpone securing school data until late November and early December, and at this time, besides the usual difficulty of tracing down the complete record for a year, the roads to the rural schools were in many cases impassable for automobiles. As a result only 461 records were secured, almost all of which were for resident children. The effort made in half a dozen cities to trace the families of migratory workers met with little success.

The school attendance of resident workers' children is undoubtedly more satisfactory than that of nonresident children. Nevertheless the records for these relatively favorably situated children show that the average attendance was but 78 per cent of the average school term—72 per cent for contract laborers' and for tenant farmers' children and 85 per cent for the children in farm owners' families. This means that the average child in the laborers' families lost 9 weeks of school, while many must have lost considerably more time; and that even in the farm owners' families the children averaged nearly 6 weeks out of school. In addition, a number of schools, as in Colorado, gave a "beet vacation" during which, by vote of the school board, school was closed. This vacation usually lasted about 2 weeks. Although it affected the whole school, and so would not have had any particular effect on the attendance or retardation of working children more than others, it tended to shorten further a school term already much curtailed by absence for field work. About one-tenth of the children for whom school records were obtained had had such a vacation, 30 of whom were farm owners' children; 12, tenants' children; and only 6, laborers' children.

Retardation of children in the families visited.

On the basis of the generally accepted standard,[61] a large proportion of the children in the families engaged in beet-field work were over age for the grade that they had attained.[62] Thus, among 571 children between 8 and 16 years of age living all the year round in the immediate vicinity of the beet farms, 197 (35 per cent) were retarded in school, a number of them 2 years or more. It is significant in view of the less satisfactory school attendance among beet laborers' children that considerably over twice as many of them as of farm owners' children, in proportion to their numbers, had failed to reach grades which were normal for their years. While a child's progress in school is influenced by many factors, the importance of any one of which it is impossible to estimate, irregular school attendance is unquestionably one of the most influential. Absence for work in the beet fields makes it difficult for the children to proceed satisfactorily with their school work on their return to school after the harvest, not only because they have missed the earlier instruction but also because in most cases they are physically tired. Whether or not any permanent physical injury is done, a child who has been doing hard outdoor work for 10 or 11 hours a day for 4 or 5 weeks or more is bound to be more or less tired physically and in no condition to put forth the unusual mental effort necessary to make up the school work which he has missed by his absence. The teachers reported almost unanimously that the first few weeks back in school found the children tired, sleepy, and listless.

Unfortunately there are available no figures with which these percentages of retardation may fairly be compared. Average rates of retardation are available only for children attending city schools,[63] whereas almost all the resident beet-field workers attended rural schools.

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[61] See p. 42.

[62] Late entrance into school may result in a child's being above the standard age for his grade, but the retardation figures in the present study were affected by this factor little if at all. Practically all the children entered school before the age of 8, the majority when they were 6 or 7 years of age.

[63] That is, communities with a population of 2,500 or more. See Statistics of City School Systems, United States Bureau of Education Bulletin, 1920, No. 24, p. 7. Washington, 1920.

TABLE XLVII.—*Per cent of attendance, by economic status of family; resident children between 6 and 16 years of age attending school: Michigan group.*[1]

Economic status of family.	Children between 6 and 16 years of age attending school specified per cent of school term.								
	Total.	Less than 50.		50, less than 60.		60, less than 70.		70, less than 80.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	977	28	2.9	31	3.2	58	5.9	85	8.7
Laborer	482	10	2.1	16	3.3	33	6.8	34	7.1
Tenant farmer	132	13	9.8	10	7.6	13	9.8	24	18.2
Farm owner	363	5	1.4	5	1.4	12	3.3	27	7.4

Economic status of family.	Children between 6 and 16 years of age attending school specified per cent of school term.							
	80, less than 90.		90, less than 100.		100 and over.[2]		Not reported.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	124	12.7	121	12.4	11	1.1	519	53.1
Laborer	18	3.7	24	5.0	2	.4	345	71.6
Tenant farmer	20	15.2	17	12.9	.....	.....	35	26.5
Farmer owner	86	23.7	80	22.0	9	2.5	139	38.3

[1] Includes 7 children who left school during or at end of school year.
[2] See p. 42.

TABLE XLVIII.—*Retardation, by economic status of family; resident children between 8 and 16 years of age in beet-field workers' families: Michigan group.*

Economic status of family.	Resident children between 8 and 16 years of age.						
	Total.	Retarded.		Normal.		Advanced.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	571	197	34.5	314	55.0	60	10.5
Laborer	141	72	51.1	57	40.4	12	8.5
Tenant farmer	111	50	45.0	52	46.8	9	8.1
Farm owner	319	75	23.5	205	64.3	39	12.2

The children of migratory workers were at an even greater disadvantage as far as school attendance is concerned than were those in resident families, and as a whole, their retardation was greater—47 per cent as compared with 35 per cent. Those children in migratory families who had attended city schools were less retarded than those who had attended rural schools, the percentage of retardation falling to 41, a much smaller proportion than that found among the children of resident laborers; but even these children who may perhaps have enjoyed the advantages of large, well-organized school systems were considerably more retarded than the children of farm

owners attending rural schools in the beet-growing districts, whose school attendance was relatively good in comparison with that of migratory workers' children.

TABLE XLIX.—*Retardation, by type of school attended; children between 8 and 16 years of age in migratory families: Michigan group.*

Type of school attended.	Children between 8 and 16 in migratory families.						
	Total.	Retarded.		Normal.		Advanced.	
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	271	126	46.5	130	48.0	15	5.5
City	209	86	41.1	109	52.2	14	6.7
Rural	54	35	64.8	18	33.3	1	1.9
Not reported	8	5	.....	3	.....	.....	.....

[1] Not shown where base is less than 50.

How much greater than the average is the retardation among the children of migratory laborers is indicated by the fact that at average rates [64] for city school children only 52, or 25 per cent, of the 209 children in transient families attending city schools would have been over age for their grades, whereas actually 86, or 41 per cent, were retarded. The cumulative ill effect of frequent moving from place to place on the schooling of the children is shown also in the fact that whereas the average rate of retardation for children in city schools increases from 11 per cent among 8-year-old children to 37 per cent among those 15 years of age, the rate among the children of transient families included in the present study rose from 10 per cent among 8- and 9-year-old children to 70 per cent among children aged from 12 to 15 years of age.

TABLE L.—*Retardation, by age of child; children between 8 and 16 years of age in migratory families, attending city schools: Michigan group.*

Age of child.	Children between 8 and 16 in migratory families, attending city schools.				
	Total.	Retarded.		Retarded according to average rate.[a]	
		Number.	Per cent.	Number.	Per cent.
Total	209	86	41.1	52.3	25.0
8 years, under 9	34	1	2.9	3.6	10.5
9 years, under 10	28	5	17.9	4.3	15.5
10 years, under 11	37	17	45.9	8.0	21.6
11 years, under 12	29	6	20.7	7.8	26.9
12 years, under 13	30	15	50.0	9.7	32.4
13 years, under 14	23	19	82.6	8.4	36.5
14 years, under 15	14	10	71.4	5.3	37.8
15 years, under 16	14	13	92.9	5.2	37.3

[a] Based on proportions from a distribution of 1,142,179 children in 80 cities, 1917–18. Unpublished figures furnished by the U. S. Bureau of Education.

[64] See p. 45, note 32.

Supplementary study of school attendance and retardation.

The question may be raised as to whether these conditions of retardation and attendance are not found also among the school children of the districts studied who did not work in the beet fields. An effort was made to secure information on this point. One of the county superintendents, thoroughly appreciative of the imperfect functioning of the school system in the case of the children who worked on the beet crop, had prepared and sent out in 1919 a questionnaire covering attendance and absence for beet-field and other agricultural work. This questionnaire, slightly changed and adapted to the Children's Bureau study, was sent to the majority of schools in the beet-growing districts visited, with the request that the teacher fill in the information requested for every child who had been enrolled in the school from the opening of school up to November 15.[65] It developed later that, as in Colorado, many children stayed out of school entirely until the beet harvest was over, often making the date of entering school late November or early December. Figures based on these records are therefore conservative; and were all children in these schools who worked in the beet fields included, the proportion of workers would be larger, the attendance poorer, and the retardation probably greater.

The questionnaires were filled out by 54 schools, all in beet-growing districts, in the 3 counties of Gratiot, Saginaw, and Isabella. Complete or nearly complete records were given for 1,809 of the 1,892[66] children who had enrolled up to November 15. The records of 358, or 20 per cent, of these children showed unexcused absence for work in the beet fields exclusive of "beet vacations." These children for the purposes of the study, have been classed as beet-field workers. All others have been regarded as not being workers, for while there were doubtless some children who worked in the beet fields on Saturdays or before and after school, even though they did not stay out of school for the work, the only definite division that could be made between workers and nonworkers was on the basis of actual nonattendance for work on the beet crop.

[65] The information requested included: (1) the child's name; (2) sex; (3) present age; (4) present grade; (5) date child entered school this fall (1920); (6) number of days attended, number of days absent, to Nov. 15, 1920; (7) number of days absent because of beet-field work; (8) dates excused by county superintendent or commissioner; (9) cause of absence not due to beet-field work; (10) date of leaving district; (11) resident or migratory family; (12) if migratory, where from; (13) father's name; (14) present address; (15) father's occupation; (16) nationality.

[66] The 83 cases in which teachers gave incomplete or indefinite records have been omitted from the tables.

TABLE LI.—*Comparison of school attendance of children working in beet fields with that of children not working in beet fields during the autumn of 1920 (up to November 15), by county; pupils in schools in Gratiot, Isabella, and Saginaw Counties, Mich.*[1]

County.	Total number reporting days present and days absent.	School attendance.								
		Children working in beet fields.								
		Total possible days of attendance.	Number reporting.	Possible days.	Days present.		Days absent.		Days absent for beet work.	
					Number.	Per cent.	Number.	Per cent.	Number.	Per cent of total absence.
Gratiot	771	35,692.5	181	8,322.5	5,147.0	61.8	3,175.5	38.2	2,768.5	87.2
Isabella	212	10,546.0	31	1,548.0	1,091.0	70.5	457.0	29.5	396.0	86.7
Saginaw	703	3,276.0	146	6,616.5	3,497.5	52.9	3,119.0	47.1	2,687.5	86.2

County.	School attendance.					
	Children not working in beet fields.					
	Number reporting.	Possible days attendance.	Days present.		Days absent.	
			Number.	Per cent.	Number.	Per cent.
Gratiot	590	27,370.0	25,150.5	91.9	2,219.5	8.1
Isabella	181	8,998.0	8,011.0	89.0	987.0	11.0
Saginaw	557	26,143.5	22,398.0	85.7	3,745.5	14.3

[1] Includes only the pupils for whom school attendance records were secured.

In Gratiot County school records up to November 15 were secured for 819 children.[67] Of these, 213, or 26 per cent, were reported as working in the beet fields. In spite of the fact that three-fourths of these 213 children were residents of the districts where they went to school, they had been in school on an average only 28 out of the 46 school days up to November 15; that is, they had failed to receive 38 per cent of the instruction provided. Almost all the absence was definitely stated to be for work on the beet crop, 87 per cent being so recorded by the teachers. The children who did not work in the beet fields, on the other hand, averaged 43 days in school out of the 46. They had a percentage of attendance of 92, as compared with the 62 of the beet-field workers. One hundred and seventy-seven of the children attended schools which closed for a "beet vacation" of 1 or 2 weeks, but 69, or 39 per cent, of even these children had had unexcused absences during the beet harvest, in addition to the "beet

[67] This is exclusive of 49 whose records were incomplete, the total enrolled to November 15 being 868.

vacation." Except for children of farmers, who help harvest beets only on their home farms, the "beet vacation" usually did not cover the number of days which the children were called upon to work.

In Saginaw County conditions were similar. Of 740[68] children, 172, or 23 per cent, worked during the beet harvest. The workers had been absent approximately 22 days out of 47, the average number of days school sessions had been held prior to November 15, while the nonworkers had been absent but 7 days. Considerably over four-fifths of the absences among the workers had been for the purpose of harvesting beets. Only 1 school reported a "beet vacation." That vacation affected one room only and lasted only 1 week. Thirty-seven of the 50 children in that room had additional absences on account of their work on the beet crop.

In Isabella County[69] the beet industry is of more recent development, and the proportion of workers among the school children was decidedly smaller. Only 32 out of 250 children[70] registered as in school up to November 15 were classed by the teachers as beet-field workers. These children were largely from migratory families. Nevertheless their attendance was better than that shown by the beet-field workers in the other counties, though considerably less satisfactory than that of children who did not work on the beet crop. Thus, they had attended 70 per cent of the school days up to November 15, whereas children who did not work in the beet fields had been present 89 per cent of the possible days. Beet-field work caused 87 per cent of the absence of the working children, who out of a possible 50 school days had averaged but 35. No "beet vacations" were reported.

A large proportion of all the children in these schools, for whom records were secured, had failed to reach the grades regarded as normal for their ages, but at every age[71] a larger proportion of the working than of the nonworking children were retarded. Thus, among the 9-year-old children one-fifth of the nonworkers, but over one-half of the workers, were retarded; at 12 years of age only three-tenths of the children who had not worked were over age for their grade, as compared with three-fifths of those who were kept out of school for the purpose of working in the beet fields.

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[68] This is exclusive of 27 enrolled previous to November 15 whose records were incomplete.

[69] As only eight schools in Isabella County made satisfactory returns in reply to the questionnaires sent out, this county is not as well covered, nor are the records as representative, as those for Gratiot and Saginaw Counties. Some of the schools in the largest beet-growing centers failed to answer the questionnaires.

[70] This is exclusive of seven whose records were incomplete.

[71] See p. 50, note 38.

TABLE LII.—*Comparison of retardation of children working in beet fields with that of children not working in beet fields, by county; children between 8 and 16 years of age in schools in Gratiot, Isabella, and Saginaw Counties, Michigan.*

Employment of child, and county.	Children between 8 and 16 years of age.										
	Total.	Retarded.						Normal.		Advanced.	
		Total.		1 year.		2 years and over.					
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	1,306	512	39.2	315	24.1	197	15.1	673	51.5	115	8.8
Worked in beet fields	[2] 341	211	61.9	119	34.9	92	27.0	119	34.9	10	2.9
Did not work in beet fields	[3] 965	301	31.2	196	20.3	105	10.9	554	57.4	105	10.9
Gratiot	593	227	38.3	130	21.9	97	16.4	296	49.9	64	10.8
Worked in beet fields	[2] 169	112	66.3	61	36.1	51	30.2	51	20.2	5	3.0
Did not work in beet fields	[3] 424	115	27.1	69	16.3	46	10.8	245	57.8	59	13.9
Isabella	166	62	37.3	45	27.1	17	10.2	88	53.0	16	9.6
Worked in beet fields	30	20	.....	15	.....	5	.....	9	.....	1	.....
Did not work in beet fields	136	42	30.9	30	22.1	12	8.8	79	58.1	15	11.0
Saginaw	547	223	40.8	140	25.6	83	15.2	289	52.8	35	6.4
Worked in beet fields	142	79	55.6	43	30.3	36	25.4	59	41.5	4	2.8
Did not work in beet fields	405	144	35.6	97	24.0	47	11.6	230	56.8	31	7.7

[1] Not shown where base is less than 50.
[2] Includes 1 child for whom grade was not reported.
[3] Includes 5 children for whom grade was not reported.

TABLE LIII.—*Comparison of retardation of children working in beet fields with that of children not working in beet fields, by age of child; children between 8 and 16 years of age in schools in Gratiot, Isabella, and Saginaw Counties, Michigan.*

Age of child.	Total.	Children between 8 and 16 years of age—						
		Not working in beet fields.						
		Total.	Retarded.		Normal.		Advanced.	
			Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	1,306	[2] 965	301	31.2	554	57.4	105	10.9
8 years, under 9	200	[3] 162	31	19.1	104	64.2	24	14.8
9 years, under 10	202	162	35	21.6	112	69.1	15	9.3
10 years, under 11	203	[4] 146	36	24.7	91	62.3	18	12.3
11 years, under 12	170	[4] 127	42	33.1	65	51.2	19	15.0
12 years, under 13	187	137	40	29.2	72	52.6	25	18.2
13 years, under 14	173	121	47	38.8	71	58.7	3	2.5
14 years, under 15	106	67	30	44.8	36	53.7	1	1.5
15 years, under 16	65	43	40	.....	3	.....	.....	.....

[1] Not shown where base is less than 50.
[2] Includes 5 children for whom grade was not reported.
[3] Includes 3 children for whom grade was not reported.
[4] Includes 1 child for whom grade was not reported.

TABLE LIII.—*Comparison of retardation of children, etc.*—Continued.

Age of child.	Children between 8 and 16 years of age—						
	Working in beet fields.						
	Total.	Retarded.		Normal.		Advanced.	
		Number.	Per cent.[1]	Number.	Per cent.[1]	Number.	Per cent.[1]
Total	[4] 341	[3] 211	61.9	119	34.9	10	2.9
8 years, under 9	38	21	.....	17	.....	.....	.....
9 years, under 10	[4] 40	21	.....	17	.....	1	.....
10 years, under 11	57	27	47.4	29	50.9	1	1.8
11 years, under 12	43	22	.....	18	.....	3	.....
12 years, under 13	50	31	62.0	15	30.0	4	8.0
13 years, under 14	52	40	76.9	11	21.2	1	1.9
14 years, under 15	39	28	.....	11	.....	.....	.....
15 years, under 16	22	21	.....	1	.....	.....	.....

[1] Not shown where base is less than 50.
[2] Includes 5 children for whom grade was not reported.
[3] Includes 3 children for whom grade was not reported.
[4] Includes 1 child for whom grade was not reported.

The proportion of children of foreign parentage, it is true, is much larger among the beet-field workers than among those not working in the beet fields. The teachers in the schools furnishing records reported that only 17 per cent of the working children, as compared with 63 per cent of the nonworkers, were Americans or English-speaking. To what extent this circumstance accounts for the less satisfactory school progress of the beet-field workers it is impossible to determine from the data available. Lack of familiarity with the language, and possibly an unstimulating home environment, may account for part of the difference in the school standing of those who work in the beet fields and those who do not. But the strikingly poorer school attendance of the former, due almost entirely to their work on the beet crop, is probably the most important factor in their failure to make normal grades, or even to make as satisfactory progress as the children who do not work.

The following are a few characteristic comments on the effect of absence for the beet harvest made by teachers in the schools for which attendance records were secured.

You ask for my opinion as to the effects of these absences upon the child's progress, and I can only say that it is a very great hindrance. * * * Not only the child himself but the whole class, is kept back in their work and the whole school year spoiled.

I have found during my teaching experience that even short absences retard a child's progress.

In regard to your inquiry concerning the effect upon the child's school progress of absence due to beet work, I would say that my experience has taught me that such circumstances make a child's "average" school progress impossible.

I think the progress of children in school is greatly retarded by * * * absences due to beet work.

I think the greatest effect upon the child's school progress of absences due to beet work and other work is the loss of the school work and the loss of their interest in school work.

I notice that the children who stay out of school are unable to keep up with their class. The Russian children were very bright when they had a chance, but when they were kept out so much it made it very hard for them.

It is my opinion that absence for beet work does retard the pupils in their school work and makes it very difficult for them to "catch up" in their work when they remain out during the harvest season.

There is, of course, a bad effect upon the children's progress when they are absent. We can not keep the others back for them, and so they must do extra work or else lose out entirely on what they missed.

It seems next to impossible for a child after being absent four or six weeks at the beginning of the year to be able to take up his work with his regular class. I also find they are not fitted for school work when they do return, as they are too tired and listless. Many of them work beyond their strength and it takes them so long to adjust themselves to school routine.

WORK OF MOTHERS IN THE BEET FIELDS.

In all except a few of the beet-field laborers' families visited the mother as well as the children worked on the crop. Not counting families included in the study only because the mother worked[72] and thus correcting the bias given by the method of selecting families, only 108 of the 357 mothers in families in which one or more children worked had not helped with the handwork on the beets, and more than half of them were the wives of farm owners. Only one-half of the mothers whose husbands owned their farms had shared in the beet-field work, but three-fourths of the tenants' and four-fifths of the beet-field laborers' wives had done so. The majority of the farm owners' wives were of American stock whose traditions were usually opposed to field work for women, a prejudice which was not present in families of foreign birth. Four-fifths of the foreign-born mothers worked as compared with only one-half of those of native birth. Even among the foreign families, however, with the possible exception of the Poles, beet-field work was not quite so generally done by these women as by the Russian-German women of Colorado.

The mothers in the Michigan families studied were not such experienced workers as those in Colorado, the average number of seasons at the work being only three as compared with eight for the mothers in the Colorado families. Even the wives of farm owners and tenant farmers, whose average number of seasons was more than

[72] That is, families in which no child worked. See p. 54.

twice that of the laborers' wives, had averaged only five years in the beet-field work, whereas the farmers' wives in the Colorado study had averaged nine seasons. On the other hand, almost one-fifth of the wives of beet farmers had been cultivating beets for 10 seasons or longer.

Field work throughout pregnancy is not uncommon with these women, even when they are not feeling well, some reporting that they worked "in the beets" up to within a few hours of the birth of a baby. They do not in some cases have adequate rest after confinement, especially if it occurs during the beet season. One mother was out thinning and blocking two weeks after her confinement; another began to pull and top one week after her baby was born.

Many women declared "beet work is no work for a woman," and told of their difficulties in trying to help in the fields and perform the most necessary household tasks even when adequate care for the children was not considered. The following are typical comments on this situation made by mothers, all of whom had young children:

I have to work in the field from 4 o'clock in the morning until 7 at night, and then come home and cook and bake until 12 and 1 o'clock.

At first I tried to cook—worked in the field from half past 5 in the morning until 7 at night, and then came home and was often making bread and cake at 1 and 2 in the morning. But it was too much and toward the end of our hoeing there were days when we practically lived on milk.

In order to get my work done before going to the field I often have to get up at 3 o'clock. I bathe the children and prepare the food before going out. Then at night I must bake and clean house, so that there are many nights when I do not get more than 3 hours' sleep. The work is too hard for any woman. By the time you have worked 12 or 13 hours a day bending over you don't feel much like doing your cooking and housework.

It is hard to leave your children all day and work in the beet fields. On Sunday my husband and I have to clean house, bake, wash clothes, and take care of the garden, and we're all tired out Monday morning and have to start all over again.

I have little time for housework during the week in the beet season, and must do it all Saturday night and Sunday. I generally work almost all night Saturday washing and cleaning house, and on Sunday I iron and bake. I get very little sleep those two nights.

Hours of labor and duration of season.

The 397 working mothers did full days' work. In the laborers' families the most common hour of beginning during the blocking and thinning was 6 a. m., though nearly as many began at 7 or at 5 and a few at 4 a. m. Any mother who began later than 7 o'clock delayed her field work to finish housework. Six p. m. more often than any other hour marked the end of the working day, but 7 and even 8 were reported by nearly as many workers. The time taken for dinner was usually 1 hour, but often only half an hour. Some

women left their work early to prepare dinner for the family. In rare cases this took 2 hours, but usually less. The largest group of women worked between 10 and 11 hours a day. Only 32 of the 253 working mothers in laborers' families worked less than 9 hours a day and 89, or more than one-third, worked 12 hours or more. The blocking and thinning usually lasted from 4 to 6 weeks. The largest group of laborers' wives had worked at this process at least 6 weeks. Only 11 said they had worked less than 2 weeks, 64 reported 4 weeks, 35 had worked 5 weeks, and 71 reported 6 weeks or more.

TABLE LIV.—*Daily hours blocking and thinning, by economic status of family; mothers working in beet fields: Michigan group.*

Daily hours blocking and thinning.	Mothers working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	397	.....	253	.....	60	.....	84	.....
Did not work blocking and thinning	4	.....	2	.....	.....	.....	2	.....
Worked blocking and thinning	393	100.0	251	100.0	60	100.0	82	100.0
Less than 4 hours	7	1.8	2	.8	.....	.....	5	6.1
4 hours, less than 5	5	1.3	2	.8	1	1.7	2	2.4
5 hours, less than 6	12	3.1	1	.4	3	5.0	8	9.8
6 hours, less than 7	17	4.3	2	.8	4	6.7	11	13.4
7 hours, less than 8	27	6.9	9	3.6	8	13.3	10	12.2
8 hours, less than 9	36	9.2	16	6.4	10	16.7	10	12.2
9 hours, less than 10	35	8.9	18	7.2	7	11.7	10	12.2
10 hours, less than 11	68	17.3	49	19.5	7	11.7	12	14.6
11 hours, less than 12	58	14.8	55	21.9	3	5.0	.....	.....
12 hours, less than 13	53	13.5	41	16.3	10	16.7	2	2.4
13 hours, less than 14	29	7.4	28	11.2	.....	.....	1	1.2
14 hours and over	21	5.3	20	8.0	1	1.7	.....	.....
Not reported and irregular	25	6.4	8	3.2	6	10.0	11	13.4

As many of the beet farms in the Michigan areas studied were small, a few farmers, chiefly foreign born, who had worked on contract before renting or owning their land, took a beet contract after their own work was completed. The result of this arrangement was that their wives worked as hard as the laborers' wives. Taking contracts in addition to their own work was reported by 21 families, 11 of whom owned their own farms. In 16 of these families the mother worked on both the contract and the home acreage. As a rule, however, both the wives of tenants and owners had comparatively light work and were not obliged to work so many hours a day nor to give so many weeks to the field work as the women whose husbands had contracts. The hour of beginning during the spring process was usually 7 or 8 o'clock and work commonly ended by 5 or 6. Many of the farm owners' wives reported that they took 2 hours for dinner. Although about one-fifth of the mothers in tenant farmers' families and 3 of the farm owners' wives worked 12 hours

or more daily, and about half of the former and three-tenths of the latter reported a working day of 9 hours or more, the majority worked shorter hours than were customary for women working on their husbands' beet contracts.

Almost half the tenants' wives and three-fifths of the wives of farm owners had worked less than 3 weeks at blocking and thinning and only 7 of the former and 2 of the latter reported 6 weeks or over on the spring work.

Hoeing took from 2 to 3 weeks for most of the women in laborers' and tenants' families; the wives of farm owners spent even less time at the work, the majority reporting less than 2 weeks. A working day of from 10 to 12 hours was most commonly reported by all classes.

The fall work had not begun at the time the study was made.

TABLE LV.—*Daily hours hoeing, by economic status of family; mothers working in beet fields: Michigan group.*

Daily hours hoeing.	Mothers working in beet fields.							
	Total.		Economic status of family.					
			Laborer.		Tenant farmer.		Farm owner.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	397		253		60		84	
Did not work hoeing	35		14		10		11	
Worked at hoeing	362	100.0	239	100.0	50	100.0	73	100.0
Less than 4 hours	6	1.7	1	.4	1	2.0	4	5.5
4 hours, less than 5	7	1.9	3	1.3	2	4.0	2	2.7
5 hours, less than 6	8	2.2			2	4.0	6	8.2
6 hours, less than 7	19	5.2	2	.8	6	12.0	11	15.1
7 hours, less than 8	25	6.9	10	4.2	6	12.0	9	12.3
8 hours, less than 9	37	10.2	22	9.2	6	12.0	9	12.3
9 hours, less than 10	41	11.3	24	10.0	7	14.0	10	13.7
10 hours, less than 11	68	18.8	51	21.3	6	12.0	11	15.1
11 hours, less than 12	54	14.9	50	20.9	3	6.0	1	1.4
12 hours, less than 13	37	10.2	32	13.4	5	10.0		
13 hours, less than 14	20	5.5	20	8.4				
14 hours and over	15	4.1	15	6.3				
Not reported and irregular	25	6.9	9	3.8	6	12.0	10	13.7

Care of young children.

Many of the working mothers had young children. Some had 2 children less than 3 years of age, and 1 mother had 3. Of the 679 children under 6 years of age included in the study, 423 were in contract laborers' families, where mothers had little opportunity, because of their work in the fields, to give much attention to their babies. The mothers of 9 out of 10 of the laborers' children and of 6 out of 10 of the farm owners' children under 6 years of age were beet-field workers. The latter, inasmuch as their work was on their own farms, had a much better opportunity to look after

their children than did the laborers' wives. Many of the laborers lived at some distance from their work, and unless some one could be left with the children they had to be taken to the field by their parents and kept there throughout the working hours. Practically one-half of the children under 6 years of age (331) were usually and 267 were invariably taken to the fields. Of these children, 152 were under 3 years of age and 43 were not 1 year old. The babies were sometimes left in baskets or boxes under a tree, though many fields were without any shade. A small canvas tent was sometimes put up for them, and was a common sight in the beet fields. Few children were protected by netting from flies and mosquitoes. In one family 2 children, neither one of them old enough to walk, were laid on a blanket under a tree near the beet field. The parents began their work before breakfast, bringing both breakfast and dinner with them. The mother brought milk for the children, which she said usually soured in warm weather. She remarked that the hot days were very hard on the children. Both looked pale and sickly. One baby, less than 1 month old, was seen lying on the ground about 50 feet from where his parents were working. They explained that there was no room in the truck which brought them to the field to carry a basket for the baby. The older children—that is, those 3, 4, and 5 years of age—played about the beet fields or adjoining farms. The mother usually kept an eye on them, though frequently children somewhat older were supposed to look after the little ones. One 6-year-old child, on being asked by the agent what she did all day in the field, said, "I sit in the sun and wish to myself that I could die." Her mother said that there was no shade near the field and that it was very hot.

Of the 343 children who were left at home, 179, or only about one-half, were cared for by their mothers or other adults. Fifteen had no caretaker in the house, but the houses in which they lived were usually near the beet fields, so that their mothers could look in on them occasionally. Three of these children were under 3, and 12 were from 3 to 5 years of age. One was a 9-months-old baby. He was left alone in the house, which was completely shut up, while the mother worked from 5 a. m., with only 1 hour at home in the middle of the day, until 7.30 p. m. Twenty-eight others were left at home under the care of a child less than 7 years of age, and 121 more were left in charge of child caretakers 7 years of age or older.

FAMILY EARNINGS.

Rate of pay and earnings from beet contracts.

Practically no laborers in the Michigan beet districts studied were engaged by the beet grower. As many of the beet plantings are

small, a family does not, ordinarily, find enough work for the season on one farm, and the factory undertakes to find for the laborer as large an acreage as he can take care of. To this end all the farmers report their needs in the way of labor to the company field agent of their district and he undertakes to provide labor for, and assign labor to, each farmer—in other words, to see that the handwork is done. If, as sometimes happens, laborers leave after they have been brought in and established in a given locality, supposedly for the season, the field boss is obliged to bring in others to do the work, and if he has to hire day workers at a cost greater than that of the contract labor, the company, not the farmer, pays the difference and sustains the loss.

Seventy per cent of the laborers reported that they were engaged by company agents. In essential details the companies did not differ from one another in their arrangements with laborers. Upon engagement the laborer entered into a contract with the company whereby he agreed to do the handwork on a given number of acres at a specified rate per acre for each process. The company agreed to provide in addition transportation to the beet fields and living accommodations. In the season of 1920 the rate paid was $28 an acre when the rows were 22 to 24 inches apart and $26 with rows 26 to 28 inches apart. This amount was paid by the farmer, and in addition a bonus of $7 an acre was paid by the company if the laborer worked according to agreement. Payment was made in three installments. The employer always held back a part of the pay due, even when payment was long deferred, in order to hold the laborer throughout the season. The laborer was not paid for blocking and thinning, for example, until the hoeing was partly done; and part of the money for hoeing was likewise held back until the harvesting was completed. As in Colorado, the contract tended to become merely an understanding rather than a written document; only one-fourth of the laborers reported that they had signed a written agreement. One laborer said that he would not sign a contract, because if he did so the company would send him into poor fields, whereas without a contract he was in a position to choose where he would work.

Between two-fifths and one-half of the 250 laborers' families that reported the amount their work would bring them expected to earn less than $800 for their 6 or 7 months in the beet fields, providing they performed all the processes on the same acreage on which they had worked up to the time of the interview. Most of them would earn from $500 to $800, including 66 families with but 2 workers—usually 2 adults, but in some cases 1 adult and 1 child. In the group expecting to earn $800 to $999 were 52 families, approximately one-half of them having 4 or more workers. Thirty-two larger families

expected to earn from $1,000 to $1,199. Forty-seven families, averaging a little over 5 workers a family, expected to earn between $1,200 and $2,000, and the earnings of 7 families with an average of between 6 and 7 workers per family would amount to between $2,000 and $2,600.

According to the average acreage cared for per child as based on reports of the families visited[73] the child who worked in all the processes earned on an average, including the bonus, from $114 to $122, according to the distance between the rows. Although some families declared that the work was profitable "because the children can help," others seemed to realize the disadvantages of an income earned by the whole family. One father remarked, "I can make as much in two weeks in the factory as all four children and I make together in a month in the beets," and another who was a street cleaner in Bay City said, "The whole family work and work hard and we are no better off here than we were in the city," where only the father worked.

TABLE LVI.—*Amount payable for work in beet fields, by number of persons working; families[1] working in beet fields: Michigan group.*

Amount payable for work in beet fields.	Families[1] working in beet fields.										
	Total.		Number of persons working.[2]								
			1	2		3	4	5	6	7	8–10
	Number.	Per cent distribution.		Number.	Per cent distribution.						
Total	[3] 250	100.0	1	91	100.0	44	49	31	17	9	8
Less than $400	22	8.8	1	14	15.4	5	1	1	.....	.....	.....
$400–$599	40	16.0	.....	23	25.3	11	2	2	2	.....	.....
$600–$799	50	20.0	.....	29	31.9	7	9	3	.....	1	1
$800–$999	52	20.8	.....	18	19.8	9	20	3	1	1	.....
$1,000–$1,199	32	12.8	.....	5	5.5	6	10	9	1	.....	1
$1,200–$1,399	20	8.0	.....	2	2.2	1	3	3	6	3	2
$1,400–$1,599	14	5.6	.....	.....	.....	4	.....	5	4	.....	1
$1,600–$1,799	5	2.0	.....	.....	.....	.....	.....	4	.....	.....	1
$1,800–$1,999	8	3.2	.....	.....	.....	1	2	1	1	2	1
$2,000–$2,559	7	2.8	.....	.....	.....	.....	2	.....	2	2	1

[1] Excludes tenant and farm-owning families.
[2] Per cent distribution not shown where base is less than 50.
[3] Excludes 39 families that did not report amount payable.

The cash income of beet-field laborers—nonresident as well as resident—is often supplemented by produce from a garden, and by the keeping of a cow and chickens,[74] all factors tending to reduce the

[73] See p. 95.

[74] Eighty-eight per cent of the laborers reported a garden, usually one-fourth of an acre or less; 60 per cent kept a few chickens, usually less than 10; 41 per cent kept cows, 6 families reporting more than 1.

cost of living. On the other hand, the method of deferring payment until certain processes were completed probably made it difficult for some families who were obliged to buy on credit to purchase advantageously. Practically two-thirds of the total number of families, 190, reported that they made their purchases entirely on credit. For about one-half of the laborers' families credit was established by the sugar companies; that is, the company vouched for their accounts up to a stated amount. This they did usually by paying the store bills, deducting the amount from the laborers' pay. It was customary, as has already been pointed out, for the company to pay the laborers by taking the farmer's note for an equal sum. Many of the workers expressed dissatisfaction with the arrangements, saying that they were overcharged by the stores, that they did not know where they stood financially, and that they bought more than they should when they made a practice of buying on credit.

The beet-field laborers in the Michigan areas included in this study lacked on the whole the prosperity of the Russian-German resident laborers of Colorado. Nevertheless, the most ambitious and thrifty, as in Colorado, save money and become renters and eventually owners of farms.

Father's earnings in other work.

The proportion of fathers having winter occupations was much larger among the Michigan than among the Colorado laborers. This was due, no doubt, to the fact that many industrial centers were near at hand, where up to 1920 the demand for labor had been so great that almost any man could find work. Moreover, the majority of the laborers were migratory, expecting as a matter of course to return to city jobs when the beet-field work was completed. Of the 282 fathers who were contract laborers, only 19 were reported as doing no work during the previous winter. This represents only about 7 per cent of the beet-field laborers, whereas, in Colorado almost one-fourth of those who might have worked had had no occupation during the previous winter.

Over one-half of the 263 fathers in the Michigan beet-growing areas who had worked during the winter of 1919–20, had worked in factories, about one-third of them in metal-manufacturing plants, chiefly in Detroit. A small proportion, about one-eighth, had worked on farms, a few in mines and on railroads, and the rest in a variety of occupations. Of the total number of fathers, both resident and migratory laborers, who had worked during the winter preceding the inquiry and who reported the amount earned, 47, or slightly over one-fifth had made less than $300 from their winter employment, but over three-fifths had made $400 or more, and approximately 40 per cent had earned at least $600.

TABLE LVII.—*Father's winter[1] occupation, by amount of earnings; fathers[2] who were employed in winter: Michigan group.*

Father's winter occupation.[1]	Fathers[2] employed in winter.												
	Total.		Amount of earnings.[3]										
	Number.	Per cent distribution.	Less than $50.	$50–$99.	$100–$149.	$150–$199.	$200–$299.	$300–$399.	$400–$499.	$500–$599.	$600–$799.	$800 and over.	Not reported.
Total	263	100.0	2	15	6	7	17	31	22	27	43	38	55
Farm	34	12.9	2	4	.....	.....	1	2	1	3	1	.....	20
Farmer	6	2.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Laborer	28	10.6	2	4	.....	.....	1	2	1	3	1	.....	14
Factory employee	136	51.7	.....	8	4	3	10	17	11	12	29	26	16
Sugar	18	6.8	.....	1	2	.....	5	5	.....	.....	2	.....	3
Metal	91	34.6	.....	7	1	2	2	8	5	10	25	22	9
Other	27	10.3	.....	.....	1	1	3	4	6	2	2	4	4
Skilled trades	25	9.5	.....	2	.....	3	1	3	2	1	4	7	2
Railroad laborer	8	3.0	.....	.....	.....	.....	.....	5	.....	2	.....	1	.....
Domestic and personal service	8	3.0	.....	.....	2	.....	.....	.....	1	1	3	1	.....
Mining	14	5.3	.....	.....	.....	1	3	1	1	.....	1	2	5
All other occupations	37	14.1	.....	1	.....	.....	2	3	5	8	5	1	12
Not reported	1	.4	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

[1] From Dec. 1 to beginning of work in beet fields.
[2] Excludes fathers in tenant and farm-owning families.
[3] Farm laborers in addition to cash earnings usually received one or more meals and in some cases lodging.

HOUSING AND SANITATION.

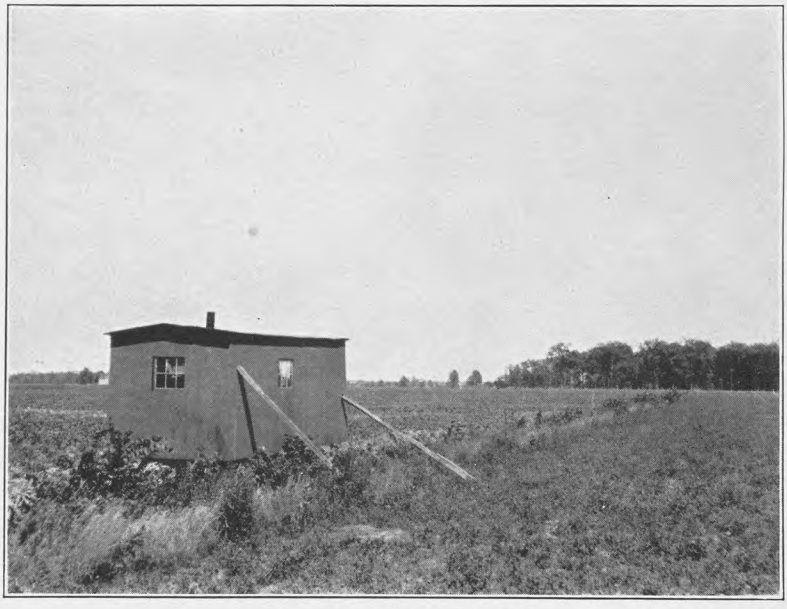
Houses.

In the Michigan beet-raising area covered by the survey the beet acreages were usually so small that each family of laborers worked on three or four different farms during the season. As a result, living quarters were furnished not by the farmers, as in Colorado, but by the sugar companies, the farmers paying the company at the rate of 50 cents for each acre of beets cared for by laborers for whom the company had provided shelter. Of the 289 laborers' families visited, only 4 were living in houses furnished by farmers. Nine others owned or rented their houses. All the remaining families occupied houses belonging to the sugar companies.

While it was to the advantage of everyone to have the farms on which a family worked close together, it frequently happened that the various working places were some distance apart. To meet such conditions the sugar companies usually provided small portable houses, easily moved from place to place, so that the family could be established at the location most convenient to their work. The portable houses were 1-, 2-, or 3-room structures, usually sheathed and shingled, set up on wooden props, and having 2 or 3 small windows and 1 door. They were purposely kept as small as pos-

sible, 16 feet by 24 feet, so that they could be moved easily. When not overcrowded and when clean and weatherproof, they were suitable enough camping places for the summer, but all too frequently too many people were crowded in, and the houses were allowed to fall into disrepair. In 1 house, for example, which rested on 4 stones and looked as if it might fall to pieces, the floor had warped and settled and was full of cracks, which were stuffed with rags to keep out the cold. Several described their houses as "nothing but cardboard and paper," or "cardboard papered." The buildings were neither suitable nor intended for all-the-year dwelling places, though some families remained in them through the winter for lack of a better place. Occasionally a "shack" of tar paper or tin, or a caravan wagon to be moved about as the work required, was the only shelter provided. These wagons furnished such cramped quarters that, as one child told the agent, the family "has to take turns going in, as there isn't room for all of us at once." One wagon housed 2 families of Mexicans, 10 persons in all. A double-decked bed (about the size of an ordinary double bed), built of rough boards covered with a nailed-down mattress, had been provided, each family using 1 berth.

The companies also lodged the beet-field laborers' families to a considerable extent in unused farmhouses. For one reason or another a good many old farmhouses stood vacant, and where they were in decent repair they made the most desirable dwellings; often, however, they were even more dilapidated than the portable houses. Families frequently reported that they were unable to use the upper floor of such houses because the roof leaked badly. As one family expressed it, "in good weather we have three rooms, in bad two." In one house some of the windows were out and boards had been nailed over the frames. In another house in which the window glass was out the family had repaired the windows with glass taken out of their picture frames. One-fourth of the 276 company houses, including portable houses and farmhouses, were badly out of repair and did not furnish decent living quarters. Only two-fifths of them were in fair condition, while but little more than one-fourth were in good shape, that is, were tight against wind and weather, had doors and windows that were whole, and wood or plaster that was sound. Both the farmers and the sugar companies have for so long apparently acted on the principle that "anything is good enough to house the beet-field laborers," that the change to better conditions, though gradually coming, is slow. One of the sugar companies was remodeling some of its best houses for winter use, hoping thereby to make permanent settlement attractive to some of the better families of laborers. A number of families told agents of the bureau that if the



COMPANY HOUSES IN MICHIGAN.

company would give them better houses to live in they would stay all winter.

The most intelligent and ambitious families will not take the worst old "beet shacks." One mother told of being taken to three or four houses before she found one that she considered suitable for her family—an unused farmhouse, with trees, a barn, space for a garden, and, just across the road, the district school. The family was well pleased and had decided to stay permanently. Eventually they would rent, and, in all probability, own a farm. But for one such family and house there were a dozen less enterprising families and less satisfactory houses. The majority of the migratory workers took the places offered them, and if they did not like them left, or tolerated them till the end of the season, when they returned to the city. Complaints of the failure of the company to provide such accommodations as had been promised by the company agent were frequent. "Beet work isn't like it stood in the newspaper," was a typical remark. "Newspaper said company give wood and coal and big wages and nice house. But it don't." In a few cases the families charged that no house had been given them. One family had been housed in a shed until they had threatened to leave. The father of another family stated that while waiting for a house his family of 5 had been forced to live for 2 weeks in 2 rooms containing 19 other people; during this time his baby had caught cold and had died.

About three-fifths of the families had brought all their own furnishings and another fifth everything except a stove, the company paying the freight to the beet-growing region but not the return freight charge in every case. The company provided the furnishings as well as the house for 25 families. The furniture and household equipment provided were usually insufficient and of the roughest sort—a stove, shelf or rough board table, 1 or 2 chairs or boxes, and a bed, often of boards with only a rough mattress and a few blankets, comprising the outfit. One father remarked, "You could buy all the furniture in the house for 25 cents." A Mexican family whose house was exceptionally clean and tidy had been provided with only 2 beds, 1 without any mattress, a rough board table, 3 tree stumps for chairs and a few dishes. In many cases not enough bedding was supplied to keep the family warm.

Overcrowding.

In addition to other discomforts and inconveniences the beet-field laborers suffer also from overcrowding. A generally accepted standard of comfort and decency requires, in addition to a kitchen and a living room, a bedroom for the parents and 1 for the children of each sex. A minimum, even for temporary quarters, would be 1 room in

addition to the necessary bedrooms. Many of the beet-field laborers were obliged to sleep with from 3 to 10 persons of both sexes in a small, ill-ventilated room, even when the combined kitchen and living room was also pressed into service as a bedroom. There were 112 laborers' families, two-fifths of the total number, with 2 persons or more per room and 39 families with 3 or more persons per room. Thirty-six families with from 3 to 9 members lived in houses containing only 2 rooms, and 10 families, consisting of from 3 to 10 persons, occupied 1-room dwellings.

Although the outdoor life possibly renders such conditions of crowding less intolerable and perhaps less injurious to health than they would be in a city, the moral danger for growing boys and girls involved in spending six months a year in quarters where practically no privacy is possible is no less great than if they lived in a crowded city tenement.

TABLE LVII.—*Number of persons in household, by number of rooms in house; families[1] working in beet fields: Michigan group.*

Number of persons in household.	Families[1] occupying specified number of rooms.										
	Total.	1	2	3	4	5	6	7	8	12	Not reported.
Total	289	10	36	94	76	36	21	10	4	1	1
3	31	5	7	11	4	3	1	.....	.....	.....	.....
4	36	1	7	17	9	2	.....	.....	.....	.....	.....
5	68	2	12	22	22	6	3	1	.....	.....	.....
6	41	.....	4	15	11	6	3	1	.....	.....	1
7	42	.....	4	17	7	6	4	3	1	.....	.....
8	36	.....	1	8	14	6	5	1	.....	1	.....
9	11	.....	1	1	3	2	2	1	1	.....	.....
10	9	2	.....	2	1	1	.....	2	1	.....	.....
11	8	.....	.....	1	2	3	2	.....	.....	.....	.....
12	5	.....	.....	.....	3	1	1	.....	.....	.....	.....
13	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....

[1] Excludes tenant and farm-owning families.

Privies.

An outside privy was provided for the great majority of the families. Only 3 reported water-closets. In general only 1 family used each privy, but 30 families shared theirs with 1 other family and in 8 cases 3 families used the same privy. Two families had no toilet accommodations provided for them. Especially where privies are used, screens for doors and windows are an essential protection against contamination of food by flies, but screens were seldom found, and, if found at all, almost never included more than a screen door.

Water supply.

The majority (69 per cent) of the laborers' families reported the use of drilled wells. Fifty-seven, or about one-fifth of them, had

only a dug well, which was not always in good repair or free from surface pollution. Open wells were in some cases protected by a few loose boards, and tin cans, pieces of wood, and other rubbish had, in some instances, fallen into the water. Some families reported that the water was muddy or sandy; others that it had a bad odor or made them ill. Several complained that the company had refused or neglected to repair the well when its condition was reported. In one of these cases the water was secured by letting down a pail attached to the end of a rake. Eight families obtained their water from springs or brooks, and in 1 case from a ditch, all of which sources were likely to be dirty and polluted. Generally the water was within a few feet of the house, but 75 families reported that it was 50 yards or more distant. This means additional labor for the mother, who usually has to carry a large part of the water used, and makes it difficult to maintain high standards of personal or household cleanliness.

CONCLUSION.

Although the employment of children in agricultural occupations is beginning to be recognized as a problem worthy of serious consideration,[75] up to the present there has been little or no attempt at direct regulation of child labor on farms of any kind. Most State child labor laws, in fact, specifically exempt agricultural work from their provisions. While a few forbid the employment of children during school hours in "any gainful occupation" and fix maximum hours of labor for children in all occupations, the tendency has been to ignore the application of these laws to agricultural pursuits. Admittedly the application of such laws to children's work on farms involves difficulties of enforcement; and experience may show that a somewhat different type of legislation will be needed to extend the protection of the State to children doing agricultural work.

No automatic decrease in the number of children employed in the beet fields is likely to take place in the near future. Although children as beet-field laborers do not reduce the labor cost to the beet grower or to the sugar company, inasmuch as they do the work no better than adults and are paid on the same basis, they do increase the number of available "hands"; and the problem of securing and holding labor, particularly for some of the processes which the children do, has been a serious one in sugar-beet growing in the United States. Progress is being made in the development of machines for pulling and topping,[76] but no machines for blocking and thinning, for which children have been generally accepted as a necessary part of the labor supply, have as yet been invented, so that even if child workers were replaced by machinery in the harvest they would still be in demand for the spring work. Single men, chiefly Mexicans, have of late years been going to the beet fields in large numbers; but although they may temporarily replace to some extent the family labor now so prevalent, Mexicans with families also are beginning to "go to the beets," and their wives and children, like those of the Russian-

[75] For example, among the draft conventions relating to agricultural labor adopted by the International Labour Conference at its third session, in Geneva, October, 1921, was the following: "Children under the age of 14 years may not be employed or work in any public or private agricultural undertaking, or in any branch thereof, save outside the hours fixed for school attendance. If they are employed outside the hours of school attendance, the employment shall not be such as to prejudice their attendance at school." (International Labour Office, Official Bulletin, Supplement to Vol. IV, No. 23, Dec. 7, 1921, p. 5.) Up to July, 1922, no country had ratified this convention.

[76] Saving Man Labor in Sugar-Beet Fields, U. S. Department of Agriculture, Farmers' Bulletin 1042, p. 13. Washington, 1919.

German and Central-European beet-field laborers, are going to work in the beet fields.

Because of its interference with schooling, the long hours involved, and the uneducative character of the work—as monotonous and repetitive as many factory processes—labor in the beet fields is unsuitable for young children. Only one State, however, has attempted any specific regulation of child labor in the beet fields: Nebraska includes such work by name under the maximum-hours provision of its child labor law.

An indirect method of reducing to some extent the work of children on the beet farms is offered through the strict enforcement of school attendance laws. If, as the findings of the present study indicate, adequate school attendance laws were effectively enforced, at least one serious objection to beet-field work for children would be met. Satisfactory enforcement requires adequate administrative machinery—a sufficient number of full-time attendance officers, for example, and enforcement under State supervision.[77] It requires also cooperation on the part of the parents, and if the fullest cooperation is to be expected of the foreign-born beet-field laborer in rearing and educating his children he must himself be given opportunities to learn the language and be put in touch with the general community life. So long, also, as the theory of payment for the beet-field work is in effect that of a family wage it is not to be expected that the children will be kept in school regularly or the mother withdrawn from the field to care for her children and the home.

Special provision seems to be necessary if the children of migratory workers are to escape undue hardship. The responsibility for their education and welfare, falling between the community from which they come and that to which they go, is assumed by neither. An interesting experiment in attacking the admittedly difficult problem of schooling for migratory workers' children has been made recently in California through the passage of a law (June 3, 1921),[78] making it the duty of the State superintendent of public instruction to organize and maintain special classes for the education of children of migratory laborers in the rural districts of the State. Such an arrangement may or may not prove practicable in a given locality, but it is usually assumed that so far as it is found necessary or convenient to import families of laborers for seasonal work, it is the obligation of the community to which they go to provide school facilities for the children. If the community can not undertake it, the responsibility clearly devolves upon the State.

[77] Minimum Standards for Child Welfare, U. S. Children's Bureau, Publication No. 62, p. 6. Washington, 1920.

[78] California Laws of 1921, ch. 691.