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## **Industrial commission of Wisconsin report on pea canneries, season of 1913 : hours of labor of female employes [employees]. [1913]**

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OCTOBER 1, 1913

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# **INDUSTRIAL COMMISSION OF WISCONSIN**

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## **REPORT ON PEA CANNERIES**

**SEASON OF 1913**

### **HOURS OF LABOR OF FEMALE EMPLOYEES**

Scope and Purpose of Investigation

Special Regulations of 1913

The Working Day in Canneries

Women's Wages in Canneries

Problem of Labor in Canneries

Possibilities of Its Solution

Violations of Law in 1913

Regulation in Other States

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# BULLETIN

OF

## INDUSTRIAL COMMISSION OF WISCONSIN

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J. D. BECK

C. H. CROWNHART, Chairman of the Commission

F. M. WILCOX

PAUL J. WATROUS, Secretary

BRUCE BLACK, Statistician

EMMA O. LUNDBERG, Deputy

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### REPORT ON PEA CANNERIES

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During the 1913 season there were seventy-five factories canning peas in the state of Wisconsin. The recent development of this industry in Wisconsin is shown by the fact that the oldest plant in the state was established in 1893 and only four of the sixty plants reporting date of establishment were in existence before 1900. In the five years since 1908, twenty-one plants were established, and three were built in 1913.

The total output for 1913 was 3,088,875 cases, an average of 41,185 cases for each plant. The size of the plants varies from an output of 1,853 cases to an output of 137,844 cases during the season. The total acreage planted for the pea canneries was 45,520 acres. Of this total, 39,960 acres of peas were actually canned; 2,860 acres were left for seed because of congestion or inability to handle the crop, and 2,700 acres were planted expressly for seed purposes.\*

The last United States Census reports that 5,901,703 cases of peas were packed in the United States during 1909. The value of this product was placed at \$10,247,363. It is thus seen that probably over 50% of all the peas of the United States are canned in this state, and the value of the 1913 crop may be placed at almost \$6,000,000.

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\* These figures are based on the complete report from 68 plants and an estimate for the remaining seven.

To handle the crop of 1913, 8,036 persons were employed in the seventy-five plants. Of these, 5,010 were men, 2,688 women and 438 children between 14 and 16 years of age.

### **Study made by the United States Bureau of Labor.**

During the summer of 1912 investigators of the United States Bureau of Labor Statistics made an extensive statistical study of the hours of labor of women employes in the Wisconsin Pea Canneries, based on data covering operations during the years 1908, 1909, 1910 and 1911, in about half of the canning factories in the state.\* This study was made for "the purpose of discovering the relation between the problem of pea-cannery administration as presented in Wisconsin and the working hours of women employed in the pea-canneries in the state." An effort was made to show the relation between the acreage planted and the equipment, number of workers, and daily duration of work; also the possibility of harvest control by proper soil selection, distribution of planting, and study of weather conditions. This bulletin also contains data in regard to the length of working days, labor supply, possible causes of shortage of labor, the abuses that have resulted from lack of restriction of hours, and the cost of female labor.

Although the data obtained by the investigators of the U. S. Bureau of Labor are in many respects incomplete, the report shows the conditions that existed in pea canneries before the present regulation of hours became effective. A comparison of the hours and conditions of labor of female employes in Wisconsin canneries, as shown in the Bureau of Labor report (pages 22, 26-27), for the years 1908-1911, inclusive, with the conditions prevailing in 1913 (tables II and III following) shows what has been and what can be done in the solution of this problem. Some of the conclusions of the federal report have not been borne out in the present investigation, yet in studying the results of the present regulations, the information given in that report is of much value.

### **Purpose of this investigation.**

It is not the intention of the present study to go into the questions of acreage, harvest control, soil selection, planting,

\* "Working Hours of Women in the Pea Canneries of Wisconsin". U. S. Dept. of Labor—Bulletin number 119.

or the relation between these and the equipment of the plants, except insofar as some of these points are covered briefly in charts and summaries following. The purpose is rather to show for the information and benefit of the canners of the state what the conditions were during the past season, especially in regard to the hours of labor for the women employes; to present a fair picture of the abuses that existed, the special needs for regulation, and the specific points that must be considered in attempting to solve the problem for the future. Most of all, it is hoped to show what has been accomplished in the way of improved conditions, and arrangements of hours in compliance with the law or in advance of legal requirements.

### **Present regulations.**

Pursuant to the authority vested in it by the laws of 1913, Chapter 381, the Industrial commission appointed a committee representing the pea canners, the labor interests and the consumers, to investigate the hours of labor of women in the pea canning industry, the conditions surrounding such workers, and the effect upon them of such hours and conditions of labor. The committee was requested to recommend to the Industrial commission the regulations to be enforced during the 1913 season, covering the hours of labor of the women employed in pea canning factories. This committee was composed of the following members: Mrs. B. C. Gudden, Oshkosh, and Mrs. Edward Rissman, Milwaukee, representing the public; Frank J. Weber, Milwaukee, representing the Wisconsin State Federation of Labor; W. C. Leitsch, Columbus and M. S. Bailey, Chippewa Falls, representing the Wisconsin Canners' association; A. H. Christman, Menomonee Falls, representing the pea growers, and Miss Emma O. Lundberg, deputy of the industrial commission. Two all-day sessions were held by this committee, and the regulations recommended as finally approved by the Industrial commission are as follows:

Order No. 1. In pea canning factories where the laws regarding safety and sanitation and the orders of the Industrial Commission issued thereunder are complied with and where due provision has been made for handling the crop, women who are employed in such factories may be employed not to exceed ten hours each day between the beginning and ending of work, exclusive of meal hours, between the hours of 7 o'clock A. M., and 10 o'clock P. M.

Order No. 2. During the rush season, when abnormal conditions prevail by reason of breakdowns, bad weather or climatic changes, women who are

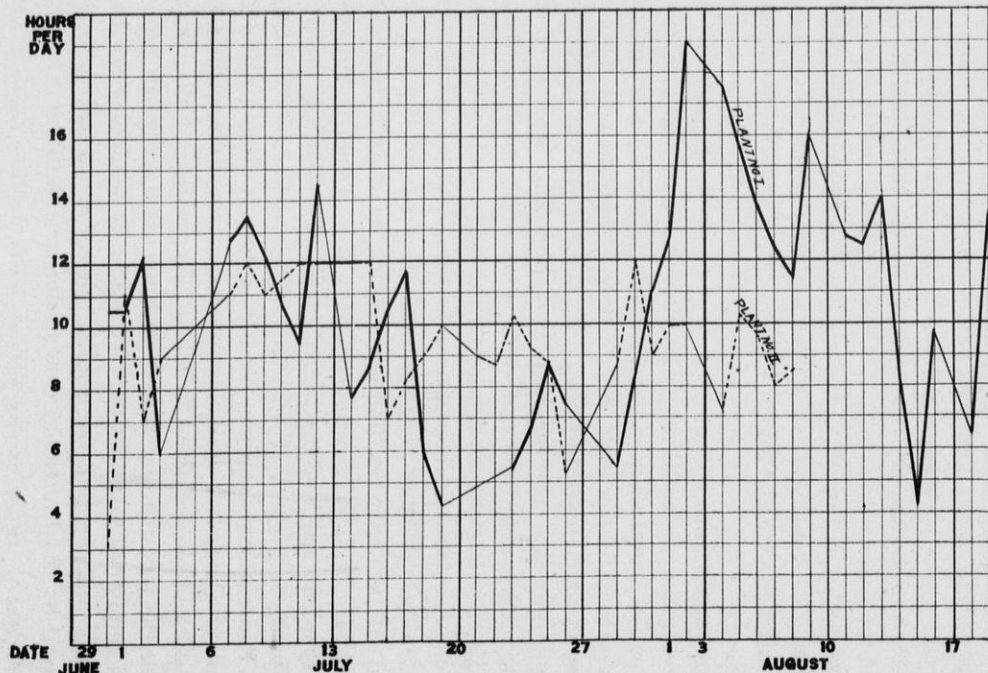


Chart No. II.—Showing the range of average hours worked by days by the female employes of two Northern Wisconsin pea canneries during the 1913 season. Plant No. II kept within the legal limits while Plant No. I worked as high as 19 hours on one day. (The light sections for Plant No. I and the continuous sections of line for Plant No. II represent days not working.)



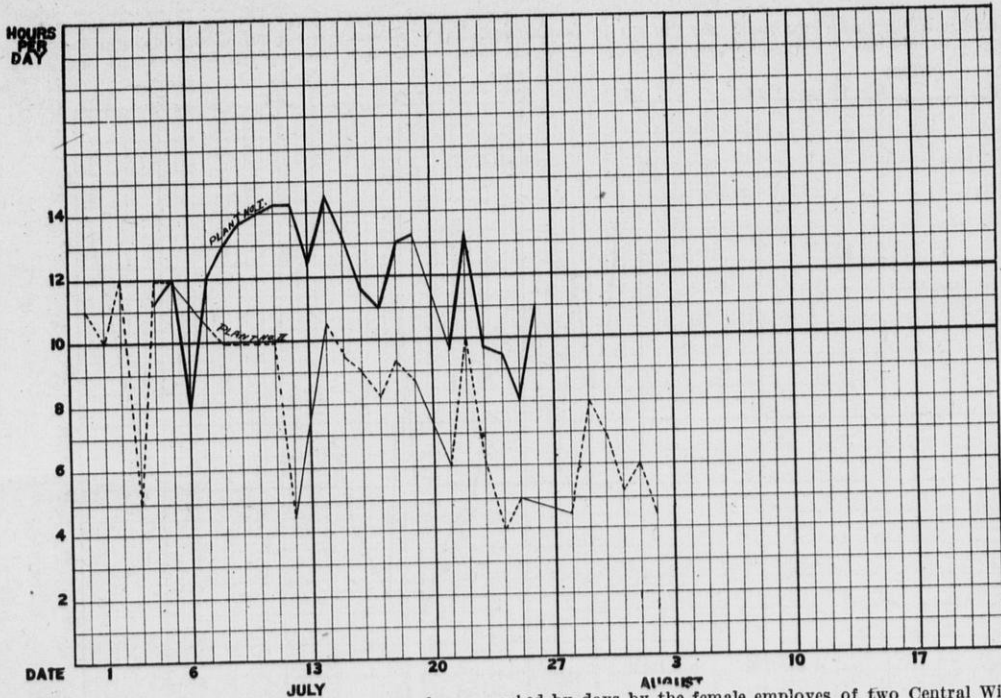


Chart No. III.—Showing the range of average hours worked by days by the female employees of two Central Wisconsin pea canneries during the 1913 season. Note the continuous stretch of long hours worked by plant No. I. (The light sections of line for Plant No. I, and the continuous sections of line for plant No. II represent days not working.)

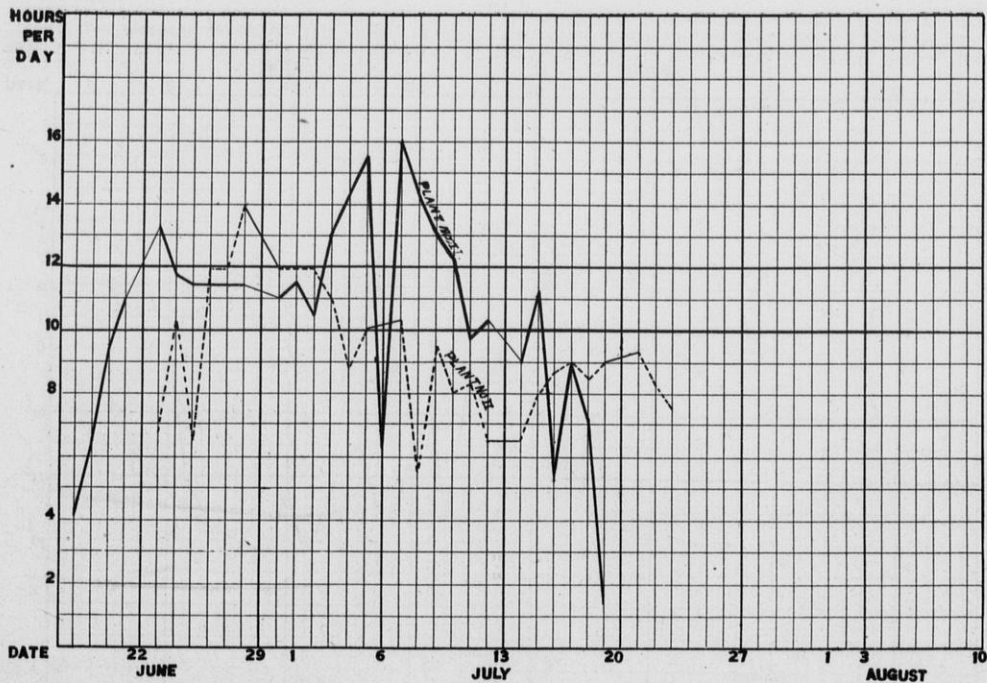


Chart No. IV.—Showing the range of average hours worked by days by the female employees of two Southern Wisconsin pea canneries during the 1913 season. (The light sections of the line for Plant No. I and the continuous sections for Plant No. II represent days not working.)

actually engaged in the process of canning may be employed not to exceed twelve hours each day from beginning to ending of work, exclusive of meal times, between the hours of 7 o'clock A. M. and 12 o'clock P. M., provided, that such twelve hour days shall be limited to fifteen in any one year, and provided further that time and a half pay shall be given for all time worked over ten hours a day and fifty-five hours a week.

Order No. 3. Correct permanent records shall be kept at each plant, subject to the approval of the Industrial Commission, and open for inspection at all times.

Order No. 4. Copies of these regulations shall be posted in at least three different places in each factory.

These regulations were issued by the Industrial commission June 11, 1913, and applied to the season of 1913 only.

The industrial commission proceeded to secure information covering the operations of the season, especially in regard to the hours of labor of the women employes. All of the seventy-five pea canning factories in the state were visited at least once during the season by deputies of the commission, and inspected for safety, sanitation, child labor and women's hours. These inspections were in line with the work done in all industries in the state to secure enforcement of the laws regulating conditions and hours of labor, but special reports were also made by the deputies on matters of particular importance to the canning industry, such as labor supply, difficulties in regulating output, and efforts made to comply with the regulations. The following sections relating to sanitation and safety orders and violations and prosecutions under the child and women labor laws, indicate the nature of this work.

In order to secure complete data as to hours of employment and the number and occupations of the female employes, weekly time blanks were sent to all of the pea canning plants to be filled out by them according to their records. This information was not used for purposes of prosecution, owing to the way in which it was acquired. It was designed to give information showing as accurately as possible the hours of employment, variation in amount of labor used, occupations of women workers, a comparison of factories in the same or different parts of the state, and especially to indicate grades of compliance with the present regulations and the possibilities of outlining definite restrictions. In addition to this information, the canners filled out blanks covering questions relating to equipment, acreage, planting regulations, methods of reducing congestion, and the labor supply available. Information was given by all of the pea canning factories in the state em-

ploying women,—a remarkable showing of coöperation and appreciation of the fact that their own interests will be advanced by a fair working out of the problem.

#### **Average hours of work.**

In the seventy-four plants employing women, the average hours of work of the women employes during the season were as follows:

Pickers, 8.6 hours,—Inspectors, 8.2 hours,—Cappers, 8.8 hours. The average for the season in all occupations was 8.6 hours. It will be seen by comparison with the figures given in the United States investigation report that this was a decided improvement over the hours of the past years. It was found that the average hours for all occupations in 1908 were 10.4 hours; 1909, 10.1 hours; 1910, 9.9 hours; 1911, 9.8 hours.\*

The average length of the canning season was 29.3 working days. This was longer than in any year reported except 1908. In all factories 38% of all the working days were over ten hours; 11% of the days were over twelve hours; 3% over fourteen hours and 1.5% sixteen hours or over. Compare this with the figures given for 1908, 1909, 1910 and 1911,—68.3%, 67.3%, 62.1% and 54.3%, respectively, of days on which hours of work exceeded ten as against 38% in 1913. The improvement is readily noted. Ten plants during the past season had no day over 10 hours.†

#### **Hours per week.**

Although it was found to be impracticable to fix a limit of hours of work per week, since the aim was to scatter the long days throughout the season instead of bunching them, 83% of the "women-weeks" were 55 hours or under; 6.5% were from 55 to 60 hours; 5%, 60 to 65 hours; 3%, 65 to 70 hours; 2%, 70 to 75 hours; 1.5% over 75 hours.††

#### **Time of beginning and ending work.**

Equal in importance to limiting the number of hours of work per day is defining the closing time, and fixing the length of the "spread of duty." This will encourage and necessitate beginning work as early in the morning as conditions will per-

\* U. S. Dept. of Labor, Bulletin No. 119.

† See Table No. 2.

†† Ibid.

mit. The worst feature of the working arrangement in past years was the irregularity of beginning work and the consequent dragging of the work into the early morning of the following day. Under this system the working day often spread over the major part of the twenty-four hours, so that the worker had practically no free time, even though the hours of actual labor were few. The regulations for the past season specified that no day should be over ten hours, exclusive of meal times, from beginning to ending of work, and the work must end not later than ten p. m., with the exception of fifteen "12-hour days," ending at midnight.

The greatest improvement in conditions in the past year was due to the fact that most plants made a special effort to begin operations early in the morning. A few plants followed the regulations of the law limiting hours of labor to eight a day and forty-eight a week if it comes under the classification of night work. Two of these plants did not generally begin operations until afternoon, closing from midnight to 2 p. m., and frequently as late as 5 a. m. and even 8 a. m. of the following day, depending upon time of beginning. Of the remaining seventy-two plants, twenty-nine began work from 7 to 8 a. m. on over half of the days; twenty-six plants began from 8 to 10 a. m. on over half of the days; two plants began at 10 a. m. over half of the time; thirty-two plants began after twelve noon on two or more days; thirteen plants on five days or more; and five plants on ten or more days.

Forty-one per cent of all the days of all the plants began at 7 a. m.; forty-four per cent began between 8 and 10 a. m.; four per cent between 10 a. m. and 12 noon; and eleven per cent of all the days began after noon. Two plants regularly working only afternoons and evenings, explain the large percentage of days beginning after noon.\*

Fifty-nine plants on half of the days closed between 6 and 8 p. m.; fifteen plants closed about 6 p. m. most of the days; forty-seven plants closed after 8 p. m. on half of the days; eight plants closed after 10 p. m. on half of the days; fifty-nine plants closed on one or more days after 10 p. m.; twenty-one plants on more than ten days closed after 10 p. m.; thirty-four plants closed on one or more days after midnight. The necessity for limiting closing time is more readily seen by the following: on 73% of all the days of all the plants operations

\* See tables IV, V, VI and VII.

ceased after six p. m.; on 33% of the days after 10 p. m.; on 7.5% of the days after 12 midnight; and on 2% after 2 a. m. The last figure includes factories operating under the eight hour night restriction. One plant closed every day at 6 o'clock or earlier; one plant closed two-thirds of the days between 6 and 7 p. m.; six plants closed around 6 p. m., with the exception of one week during the rush season; fifty-seven plants closed half of the days at 6 p. m.\*

A comparison of the time of beginning and ending work and the spread of duty during the 1913 season and the past years, shows a great improvement, and indicates especially the lines along which further improvement is necessary and possible. Work extending into the night is particularly to be condemned in the case of canning factories which are often located in the outskirts of towns, along railroad tracks, or across fields. Men and women, young boys and girls leave the factory at the same time. The relation between fatigue and recklessness under conditions favoring temptation is too well recognized to need enlarging upon.

It is especially important that there shall be a sufficient number of hours between working days to allow for adequate rest. Many examples were found of the need for regulation of the length of the rest period. The following table (table no. 1) illustrates this condition.

TABLE I.  
SHOWING THE ACTUAL HOURS WORKED BY CERTAIN WOMEN EMPLOYED  
IN A WISCONSIN PEA CANNERY IN 1913.

Occupation.	Day.	Total hours worked.	Spread of Duty.			Meal Hours.		Total hours worked in week.	Pay per hour.
			Began.	Quit.	Hours.	Dinner.	Supper.		
			A. M.	A. M.		Min.	Min.		
Can dropper..	July 1..	16:45	10:00	3:45	17.45	30	30	82:45	15-22½
" "	" 2..	20:30	8:00	5:30	21:45	30	30	.....	.....
" "	" 1..	16:20	10:00	3:50	17:50	60	30	74:30	15-22½
" "	" 2..	20:45	7:45	5:30	21:45	30	30	.....	.....
Capper.....	" 1..	17:00	10:00	4:00	18.00	30	30	75:45	10-15
" "	" 2..	20:00	8:30	5:30	21:00	30	30	.....	.....
" "	" 1..	15:30	10:00	2:30	16.30	30	30	74:00	10-15
" "	" 2..	20:00	8:30	5:30	21:00	30	30	.....	.....
Picker.....	" 1..	15:30	10:00	2:30	16:30	30	30	70:45	10-15
" "	" 2..	19:00	8:30	4:30	20:00	30	30	.....	.....
" "	" 1..	15:30	10:00	2:30	16:30	30	30	72:00	10-15
" "	" 2	19:00	8:30	4:30	20:00	30	30	.....	.....

\* See Table 2.

It will be seen from table No. 1, that these women had from 2:30 or 4 a. m., the quitting time one day to 7:45 or 8:30 a. m., the beginning time next day—leaving from 6 hours to 3 hours and 55 minutes for eating, dressing, walking to and from work, and last and least—sleep. Out of the 43½ hours between beginning time on July 1st to quitting time on July 2nd operators actually worked 37 hours. This, however, was an exceptional case this season, but proves the absolute need of forcible regulation in order that it may not be a common situation, as it has been in previous years. The United States report cites a number of instances of past happenings when hours were not regulated. Girls sometimes worked 40 hours at a stretch. One plant once began at 7 a. m. on Saturday, worked right through Sunday until 1:30 a. m. Monday, 42 hours on duty.

#### **Arrangements of shifts.**

The main argument against restriction of hours was a plea by the canners that they either could not secure more help than they were employing, or if they could secure enough for additional shifts the women would refuse to work as it would mean short, irregular hours for the supplementary shift. The experience this year has in many cases disproved both of these contentions. Twenty-two plants had more than one shift of "line" workers; thirty-one plants had more than one shift of pickers. A number of plants had "emergency shifts," and reported their use as follows: "When hours were too long we got substitutes;" "When a woman had worked ten hours we sent her home and had another take her place;" "We worked the men long hours and tried to get women enough to keep up;" "Used extra shift when necessary to prevent women from working overtime;" "Change of female help at night during rush;" "Used two shifts sometimes when necessary to comply with the law." Other special arrangements were as follows: "Had plenty of help and let some off early, changing each day;" "Women worked from 8 to 6 one day, and next day started at noon and worked in the evening;" "We paid the same wages for short night shift as for longer day shift;" "Paid ten cents an hour for pickers in day shift and twenty cents at night, using young girls during day when

more careful supervision could be given, and older and married women at night;" "Paid a flat rate of \$6.00 for each shift;" "Took men from machine shops to take the place of women and boys in the evening."

Following are some examples of regular arrangements of shifts:

## TWO SHIFTS.

*First Shift.*

7 A. M. to 6 P. M.  
8 or 10 A. M. to 6 P. M.  
7 A. M. to 5 P. M.  
7 A. M. to 6 P. M.  
9 or 11 A. M. to 5 P. M.  
8:30 A. M. to 6 P. M.  
7 A. M. to 3 P. M.  
6 A. M. to 3 P. M.  
9 or 11 A. M. to 6 P. M.  
7 or 10 A. M. to 6 P. M.  
7 or 10 A. M. to 6 P. M.  
7 A. M. to 6 P. M.  
1 P. M. to 6 P. M.

*Second Shift.*

7 P. M. to 9 or 11 P. M.  
7 P. M. to 10 P. M. or 2 A. M.  
6 P. M. to 12 midnight.  
7 P. M. to 10 or 12 P. M.  
5 P. M. to 11 P. M. or 2 A. M.  
7 P. M. to 10 P. M. or 4 A. M.  
3 P. M. to 11 P. M.  
3 P. M. to 10 or 11 P. M.  
7 P. M. to 10 or 12 midnight.  
7 P. M. to 10 or 12 midnight.  
7 P. M. to 10 P. M. or 3 A. M.  
7 P. M. to 11 P. M.  
7 P. M. to 2 A. M.

## THREE SHIFTS.

*First Shift.*

7 A. M. to 6 P. M.,  
8 A. M. to 6 P. M.,  
7 A. M. to 6 P. M.

*Second Shift.*

1 P. M. to 10 P. M. or 12  
midnight.  
8 to 12 M.; 7 to 11 P. M.  
7 to 12 M.; 7 to 12 P. M.  
midnight.

*Third Shift.*

7 P. M. to 10 P. M. or 12  
midnight.  
1 P. M. to 12 midnight.  
12 M. to 7 P. M.

**Sunday work.**

Sunday work was an unusual condition, due mostly to a special rush at a week-end, and an unwillingness to carry peas over from Saturday to Monday. However, most employers showed a disposition to take a loss in their output, giving employes the necessary break in their work.

During the past season twenty-four plants had Sunday work. Eleven worked on one Sunday; eleven worked on two Sundays; one worked on three Sundays and one on four Sundays. One plant worked on two out of the three Sundays included in the working period, and one worked on four out of eight. In one plant where Sunday work prevailed, the evident effort was to get as nearly fourteen hours work out of the fourteen hours spread of duty as possible, and every hour



possible out of the week. The result was that by working seven days a week this concern got about eighty-eight hours of work into a week and an additional three days of work into a season of four weeks.

### **Meal Hours.**

No special provision was made for meal hours in the regulations for the past year, one hour at noon being required by law. Fifty-two plants out of the seventy-four allowed approximately one hour for meals throughout the season. Twenty-two plants gave less than forty-five minutes at noon on a considerable number of days; one plant regularly had meal periods of one half hour or less, frequently less than fifteen minutes.

### **Occupations of Women.**

Women are employed in pea canneries chiefly as pickers and line operators. Some factories employ women as can droppers, labelers, easers and at miscellaneous jobs that are more or less independent of the primary canning process and that can be equally well performed by men or boys.

Pickers are employed to sort out foreign substances or bad peas that have escaped previous washing and cleaning processes, as the peas are spread out in trays or on moving belts. Picking or sorting requires no experience or particular skill and not being a part of the continuous process known as "the line," does not ordinarily necessitate as long hours, although in practice the pickers are accustomed to work about as long as the line operators.

"Line work" embraces "capping" or placing lids on the tops of the cans, "tipping" the air holes with lead and "inspecting" for leaks and faulty caps.

"Can droppers" put the empty cans into the conveyors that supply the lines.

The "line" occupations of capper, tipper and inspector, all require more or less experience and skill. As the actual canning is performed by the line, this work is necessarily the most important part of the factory operations and is the source of the greatest difficulties in the matter of securing efficient employes and regulating hours.

One effect of the restriction of hours has been, and will necessarily be to a greater extent, the displacing of women as "line operators." In some plants their places have been taken by boys, or automatic devices such as automatic cappers and tippers have taken the place of operators. In one plant a style of line was used requiring none of these operations, one man doing the work of three former operators. Sixty-nine of the seventy-four plants had women line operators. In fifty-four there were women inspectors; in sixty-nine, cappers; one had women tippers. Twenty-two factories used women for warehouse work. Sixteen plants had women brine mixers; twenty-nine had women can-droppers; one had women pitchers, and three had women blanchers.

Out of a total of 2741\* women engaged in the three principal occupations, 1,828 or 67% were engaged in picking or sorting; 25% as inspectors, cappers and can droppers and 8% in warehouse and miscellaneous occupations.

### Wages.

It was found that there is a great variation in the amount paid per hour in the different plants for the same operations. The following table gives the prevailing rate of pay in each of the main occupations of women with the number of plants paying each rate.

<i>Pickers.</i>		<i>Inspectors.</i>		<i>Cappers.</i>	
<i>No. Plants.</i>	<i>Rate per Hr.</i>	<i>No. Plants.</i>	<i>Rate per Hr.</i>	<i>No. Plants.</i>	<i>Rate per Hr.</i>
1	7c	13	10c	1	8½c
3	7½c	1	12c	21	10c
1	8c	11	12½c	1	12c
1	8½c	1	13c	14	12½c
1	9c	1	13½c	2	13c
31	10c	1	14½c	1	13½c
2	11c	15	15c	1	14½c
4	12c	6	17½c	18	15c
14	12½c	1	19c	1	16c
1	14½c	2	20c	3	17c
11	15c	1	25c	1	18c
1	17c			3	20c
				1	25c

\* This total includes some duplication. Some women worked part of the season at one occupation and part at another.

Can Droppers.		Warehouse.	
No. Plants.	Rate per Hour	No. Plants.	Rate per Hour
1	7½c	1	7½c
2	8c	2	9c
1	8½c	11	10c
9	10c	2	11c
1	12c	3	12½c
6	12½c	1	14½c
1	13c	5	15c
1	14½c		
5	15c		
1	20c		

Analyzing the above figures, we will find that the modal pay of the pickers was ten cents an hour; inspectors, fifteen cents; cappers, ten cents and fifteen cents; can droppers, ten cents and twelve cents; warehouse workers, ten cents. One company paid a flat rate of \$6.00 a week for all occupations and both shifts. In this plant the work did not exceed fifty-five hours in any week and usually ran forty to fifty hours a week for each shift. In several cases a higher wage was paid for night work than for day work, one plant paying ten cents for day work and twenty cents for the night shift. Several plants paid the irregular hour shift for a regular number of hours per day whether they worked it or not.

One common reason given for the necessity of long hours or the disinclination of women to work as the law requires was that owing to the shortness of the season there is not enough money in it for the workers unless they can work long hours. It is not difficult to see the reason for this. In one plant paying 7c an hour for pickers the maximum weekly earnings were \$3.85; line operators at 8, 10 and 12c an hour received a maximum of \$4.40 to \$6.10. The warehouse workers received \$5.50 maximum. In one factory the maximum pay for pickers was \$6.60 a week, but this was for a seven day week of 88 hours. Comparing the nature of the "line work,"—the strain, responsibility and expertness required of the operator, and the pay for same—from \$4.10 minimum to a modal rate of \$6.87 to \$8.25 for a 55 hour week, it is not hard to account for the difficulties of obtaining plenty of efficient help for this work. Three fourths of all women employes in the pea canneries do not get over ten cents an hour or \$5.50 if working a normal week.

### Payment for Overtime Work.

Ten plants had no days over ten hours. Forty-seven plants reported paying time and a half for everything over ten hours; others paid extra for night work, as indicated previously. Following are several examples of particularly good overtime pay. One plant paid pickers regularly 15c, for overtime 22½c; inspectors, regular time 17½c, overtime 26½c; cappers, 20c for regular time, 30c for overtime. Four plants paid 22½c for pickers overtime; nine plants paid 22½c and two plants paid 26¾c for inspectors overtime; ten plants paid 22½c, one paid 26¾c and one 30c for cappers overtime.

### Labor Supply.

Of the sixty-eight plants reporting, twenty-nine stated that they had no difficulty in securing an adequate labor supply, and thirty-nine said they were unable to hire enough women. Of the thirty-nine reporting difficulties in securing labor, over half gave as the principal reason that because of the ten hour limit and the short hours necessitated when working in shifts, women did not consider the work paying enough; eleven of these plants reported that the towns in which their factories are located are too small to furnish sufficient help. Several reported that other industries employing female help used all the available labor. Men can be and often are brought in from other places, but importation of women presents too great difficulties. Among the causes reported for shortage of help were the following: "inability to get good workers;" "there are plenty of girls under sixteen, but few over;" "plenty of women, but they are too aristocratic to work;" or "the women are too prosperous to work as their husbands earn too much."

It is practically impossible to correlate the wages paid with the labor supply because of varying local conditions. Of the plants reporting difficulty in getting help only one-third paid their pickers more than ten cents an hour. Of these reporting no difficulty, nearly one half paid over ten cents an hour to the pickers. In both cases the most common wage for pickers was ten cents an hour. In some plants reporting no difficulty, as low as seven cents an hour was paid, but these plants are in localities affording adequate labor supply and practically no other employment for women.

### Equipment of Factories.

The report of the United States Bureau of Labor goes into detail in regard to the working capacity of a "line" of pea-canning machinery, and the relation of planting to working capacity and equipment. This report estimates that on the basis of the daily capacity of a line, 328.7 acres of peas could be handled by one line in the average season of 26.94 ten-hour days and with the average yield of 59.4 cases per acre. Seventeen plants gave opinions on the capacity of one line, which varied from 250 to 500 acres. In 1913, the yield per acre varied from 16.3 to 141 cases; the average yield for 1913 was more than 25 per cent higher than for the years 1908-1911 inclusive. This demonstrates that the capacity of a line varies with each plant and that great variations occur from one year to the next. Thus it becomes apparent that there can be no standard capacity per unit equipment for all plants. An effort was made, however, to secure some records of the extent to which each "line" was utilized during the past season. It was found that most plants having two or more lines did not use more than one of them with any regularity, the actual relation of the planting and the equipment during the season, therefore, being impossible to determine unless a daily record of the length of operation of each "line" had been kept. Twenty-five plants out of sixty-eight reported having only one "line." Twenty-eight plants had two lines. Of these, only two reported using both lines full time and nine approximately full time. Six used two lines about three-fourths of the time; one used both lines about half the time and three about one-fourth of the time; three plants used the second line only in emergencies. Thirteen plants are equipped with three lines; five companies reported using all three lines the greater part of the season; one company used the three lines three-fourths of the season; three used all about half of the season; one plant used the third line only in emergencies, and one used the third line about half of the time. One company had four lines, but used one in emergencies only; one plant had five lines and reported using them continuously.

It is necessary for the canners to establish some basis of relationship between the equipment and the crop to be handled. A record of past years ought to determine what each plant can safely attempt to handle. A comparison of the number of

cases put up per acre shows a variation ranging from 16.2 cases per acre to 141 cases, with an average output for all plants of 76.7 cases per acre.\* It is obvious, therefore, that it is a problem for each individual company to figure out on the basis of past experience in dealing with conditions in the particular locality.

#### **Labor Saving Devices.**

Labor-saving devices are of recent origin in the pea-canning industry. It is only within two or three years that the thistle-cleaning machine has been put into use. The old system of sorting peas in trays is being replaced by moving belts. Incidentally, only two or three companies supply their pickers with chairs having backs—a very important factor in conserving the energy of the worker.

Of sixty-eight plants reporting, forty-eight had thistle-cleaning machines; six reported having no thistles; thirteen had no machines for removing thistles. Only eight companies reported having automatic cappers on their "lines" and using them regularly. One plant used them sometimes. Three plants had tried them and found them unsatisfactory, and fifty-six reported that they did not use the automatic capper.

Thirty-three plants had lines equipped with automatic tipper; five had discarded them as unsatisfactory; twenty-eight did not use the automatic tipper. One plant has a "line" using a "sanitary" can which does not require the usual capping and tipping.

The enforcement of hours regulations will undoubtedly operate toward the replacing of women "line" workers by automatic devices such as cappers and tippers, or a new variety of machinery. While this will seem to displace women temporarily, it will put all the women into the occupations where special skill and long hours are unnecessary, and help can be secured and handled more easily. It is an important factor in the problem of securing a normal working day.

#### **Means of Keeping Peas.**

Sixty-nine plants reported on their methods of keeping peas over night. Six used storage tanks regularly; twenty-four in emergencies. Thirty-nine did not use them at all.

\* See Table Number III.

Thirty-nine plants "spread" loads regularly, nine in emergencies; nineteen reported that they did not "spread."

In regard to restricting delivery from the fields, reports were as follows. Four plants did not restrict delivery at all; one restricted delivery after 4:30 p. m.; two after 4:00 p. m.; five after 5:00 p. m.; twenty-five after 6:00 p. m.; five after 7:00 p. m.; four after 8:00 p. m.; one after 9:00 p. m. Four grew their own peas and controlled delivery. Two reported that they regulated delivery during all hours of the day; one reported that they received a certain number of boxes of vined peas in the forenoon and a certain number in the afternoon. One plant reported that they restricted delivery so as "to prevent law violations;" three that they restricted "when necessary;" one that they "cut and haul as used." A few factories reported that they had a regular system of discontinuing the work of the viners at certain hours, varying from 5 to 8 P. M. It is plainly evident that the beginning and ending of the working-day is dependent to a very large extent upon the system that prevails in regulating the cutting, vining and delivery of peas.

#### **Vining Stations.**

Forty-two plants of sixty-eight reporting had vining stations away from the factory; twenty-six had vining stations at the factory only, and three had no vining stations at the factory. The plants having vining stations away from the factory only, considered it necessary to begin work at noon as they could not get peas to the factory earlier. The distance of the vining stations from the plant is a very important factor in the regulation of the time of beginning work in the morning. A number of plants reported that they had been compelled to get auto trucks in order to handle the situation this year.

#### **Relation Between Planting Time and Harvesting.**

The problem of regulating harvesting by planting is complicated most seriously by the fact that rain and drought, heat and cold, cannot be forecasted. Most canners keep a record showing the dates of planting of their fields and varieties, and the dates of harvesting same. These records invari-

ably show that some fields planted late mature at the same time as some planted early, and there is no definite way of gauging the number of weeks any one field will require for maturing. This problem can be controlled successfully in states having irrigation systems. The matter is becoming further complicated by the increasing tendency of the pea canners to contract all or most of their peas, owing to the difficulties involved in growing all of their own, such as the changing of soil, the impossibility of rotating crops, the large chances taken on investment, etc. Of the plants reporting on this subject, seventeen grew all of their own peas; sixteen contract all of their peas; eleven grew two-thirds or more of their own, and seven contracted two-thirds or more.

Sixty-five plants reported an aggregate of 37,162 acres. 15,555 acres were reported planted by canning companies; 17,782 acres grown by contract and 3,825 acres not designated.

#### **Relation Between Acres Planted and Cases Packed.**

It is generally conceded that the only method of determining the number of acres that can be handled properly by a certain equipment, is for the canner to keep records for at least five years of the number of acres planted and the cases packed. The mean of his experiences during four or five years should give him at least an indication of the safe method of procedure. The reports from sixty-three plants show a surprising lack of records, only thirty-eight indicating that daily planting records were kept. Seven reported the number of acres and the pack for the past six years; one for five years; six for four years; twelve for two years; two reported for four years on number of cases only. Four plants were recently bought by a new management. None of the other plants gave records for any years before 1913. One fact that has been brought out is that it is unsafe to dogmatize in regard to the number of cases per acre, since this depends so largely on conditions in different sections. Each plant, or at least each section, therefore, must figure out its own problem. The problem cannot be met unless complete records are kept covering the relation between the acreage and output, acreage planted, daily planting and harvesting and daily output, and equipment and labor used. It is also essential that a study be



made and records kept of the kind of soil in which peas are planted, and the time required for the maturing of peas in various kinds of soil and under different conditions. There is little question that a great deal can be done toward regulating the maturing of peas by careful calculation of seed strains in relation to soil conditions and climate. The Department of Agriculture of the University of Wisconsin and the Experiment Stations have made some researches along this line.

### **Planting for Seed.**

Fifteen companies reported that they planted for seed in the following amounts; four planted for seed 5% or less of total acreage; two, 5 to 10%; three, 10 to 15%; two, 15 to 20%; two, 20 to 25%; one, 39%; and one, 38%.

Thirty-seven plants left peas in the field because of congestion, in amounts as follows: five, 1% or less of total planting; five, 1 to 5%; nine, 5 to 10%; six, 10 to 15%; five, 15 to 25%; one, 28%; one, 31%; one, 39%. Two companies had about one hundred eighty acres of peas destroyed by hail.

### **Safety and Sanitation.**

In fifty-two of the seventy-five plants, orders on safety were issued by the Industrial commission's deputies on a total of 3,182 danger points. Orders on sanitation were issued in twenty-five out of the seventy-five plants.

### **Child Labor.**

Of the 75 canning factories in the state 44 employed a total of 438 children between the ages of 14 and 16 years. Of these only 11 employed over 10 children each. Thirty-one plants did not use child labor at all. Eighteen plants were reported by deputies as having child labor violations. No reports were requested from the factories in regard to employment of children, hours of labor, and etc., and information on this point is, therefore, lacking. The child labor law was not and could not be changed in its provisions for the benefit of the canners. A number of prosecutions were brought for violations of this law.

### **Violations of Women's Hours law.**

The accompanying table (Table No. II), showing hours of labor and violations of the provisions of the law regulating

TABLE NO. II. SHOWING THE EXTENT OF CANNING SEASON, THE LENGTH OF WORKING DAYS, THE NUMBER OF HOURS WORKED PER WEEK, AND THE NUMBER OF DAYS ON WHICH VIOLATIONS OF THE LAW OCCURRED FOR FEMALE EMPLOYEES IN PEA CANNERIES IN 1913.

Plant No.	EXTENT OF SEASON.		No. days in operation	LENGTH OF WORKING DAYS				CLOSING TIME NO. OF DAYS.			HOURS WORKED PER WEEK, NO. WOMEN WORKING.						
	From	To		No. days over 10 hours.	Over 12 hours.	Over 14 hours	16 hours and over.	Days after 6 P. M.	After 10 P. M.	After 12 P. M.	After 2 A. M.	55 hours and under.	55 to 60 hours.	60 to 65 hours.	65 to 70 hours.	70 to 75 hours.	Over 75 hours.
1	June	30	Aug. 2	29	11	10	4	3	23	11	2	100	14	3	...	...	...
2	June	23	July 10	15	13	2	1	1	13	5	1	45	8	...	...	...	...
3	July	4	July 26	22	13	2	1	1	18	2	...	154	21	10	4	7	35
4	June	26	Aug. 13	41	22	8	2	1	26	16	...	240	9	11	...	...	...
5	July	10	Aug. 20	25	9	...	...	...	17	...	...	119	9	11	...	...	...
6	June	26	July 31	25	3	...	...	...	22	9	...	204	9	32	33	...	...
7	July	1	Aug. 18	38	15	4	...	...	31	12	...	147	8	...	...	...	...
8	July	7	Aug. 5	27	...	...	...	...	18	8	...	36	43	...	...	...	...
9	June	30	Aug. 2	29	...	...	...	...	13	1	...	94	...	...	...	...	...
10	July	1	Aug. 8	22	6	...	...	...	24	2	...	147	6	...	...	...	...
11	June	30	Aug. 7	32	13	...	...	...	21	2	...	167	1	...	...	...	...
12	June	23	Aug. 7	26	6	...	...	...	24	8	2	285	34	13	13	4	2
13	June	28	Aug. 4	30	23	12	...	...	27	11	...	141	9	4	...	...	...
14	June	30	Aug. 4	25	22	6	...	...	22	16	4	82	...	...	...	...	...
15	July	7	Aug. 23	37	...	...	...	...	14	3	...	167	6	10	3	...	...
16	June	28	Aug. 18	44	...	...	...	...	35	3	5	181	12	20	29	41	33
17	June	25	Aug. 14	41	2	...	...	...	27	11	...	91	12	20	29	41	33
18	June	30	Aug. 19	45	35	21	9	3	39	17	5	13	18	69	5	1	2
19	July	7	Aug. 1	14	2	...	...	...	9	...	...	282	18	69	5	1	2
20	June	21	July 23	28	14	7	1	...	25	7	...	145	32	7	9	12	31
21	June	28	July 20	41	25	20	9	4	34	16	7	15	1	...	...	...	...
22	July	3	Aug. 4	20	10	5	1	...	...	...	...	300	...	...	...	...	...
23	July	1	Aug. 8	53	4	...	...	...	27	18	1	33	9	14	7	11	...
24	June	25	July 25	26	16	10	6	5	26	14	7	41	4	2	1	...	...
25	June	28	July 24	24	8	...	...	...	11	3	...	109	1	16	...	...	...
26	June	27	July 30	26	10	2	...	...	7	3	...	90	5	8	7	13	12
27	June	23	Aug. 2	34	24	13	5	1	29	15	3	185	42	9	...	...	...
28	June	27	Aug. 16	39	14	...	...	...	23	7	3	192	...	...	...	...	...
29	June	23	July 22	20	...	...	...	...	19	13	7	95	19	6	1	...	...
30	June	25	Aug. 9	32	22	6	2	1	28	11	3	601	...	...	...	...	...
31	June	30	Aug. 8	36	6	...	...	...	31	30	19	165	...	...	...	...	...
32	July	1	Aug. 2	28	4	...	...	...	12	2	...	302	...	...	...	...	...
33	June	30	Aug. 12	36	11	6	4	1	14	12	...	83	3	2	2	5	1
34	June	26	Aug. 15	27	4	3	...	...	14	7	1	52	7	6	5	4	1
35	June	18	July 25	33	23	10	...	...	21	2	...	140	11	10	10	...	...
36	June	26	July 29	27	8	5	...	...	20	10	...	118	16	10	10	...	...
37	June	30	Aug. 8	33	19	...	...	...	22	10	...	57	2	11	1	...	...
38	June	30	Aug. 8	28	9	...	...	...	11	2	...	157	15	11	5	...	...
39	June	28	Aug. 15	37	21	9	1	...	27	13	5	276	27	21	...	...	...
40	June	25	Aug. 11	39	7	2	...	...	37	14	1	263	...	...	...	...	...
41	June	27	July 29	27	...	...	...	...	...	...	...	120	...	...	...	...	...
42	July	1	Aug. 11	21	...	...	...	...	16	12	8	42	4	...	...	...	...
43	June	30	Aug. 14	28	19	...	...	...	24	...	...	184	17	26	8	...	...
44	June	28	Aug. 23	38	14	8	1	...	31	15	1	86	11	...	...	...	...
45	June	21	July 24	23	9	...	...	...	21	...	...	76	9	21	12	6	3
46	July	1	Aug. 9	28	21	8	...	...	15	2	...	276	...	...	...	...	...
47	June	30	Aug. 9	36	34	...	...	...	34	2	...	100	...	...	...	...	...
48	July	2	Aug. 5	28	15	7	...	...	23	28	21	44	3	3	3	1	...
49	June	26	July 19	17	9	4	...	...	16	4	3	79	5	5	2	7	...
50	June	28	Aug. 9	33	20	...	...	...	30	11	...	129	10	10	28	2	...
51	June	30	Aug. 15	37	8	1	...	...	32	10	...	84	10	10	28	2	...
52	July	7	Aug. 5	21	12	6	1	...	14	8	1	220	38	4	...	...	...
53	July	1	Aug. 2	30	19	4	4	4	22	15	5	270	...	...	...	...	...
54	July	1	Aug. 18	39	71	...	...	...	33	19	13	36	10	4	3	1	...
55	June	27	Aug. 2	32	20	1	1	...	27	3	2	68	2	19	12	11	15
56	June	18	July 19	28	17	6	2	1	22	5	3	...	...	...	...	...	...

TABLE NO. II. SHOWING THE EXTENT OF CANNING SEASON, THE LENGTH OF WORKING DAYS, THE NUMBER OF HOURS WORKED PER WEEK, AND THE NUMBER OF DAYS ON WHICH VIOLATIONS OF THE LAW OCCURRED FOR FEMALE EMPLOYEES IN PEA CANNERIES IN 1913—Concluded.

Plant No.	EXTENT OF SEASON.		No. days in operation.	LENGTH OF WORKING DAYS				CLOSING TIME NO. OF DAYS.			HOURS WORKED PER WEEK. NO. WOMEN WORKING.						
	From	To		No. days over 10 hours.	Over 12 hours.	Over 14 hours.	16 hours and over.	Days after 6 P. M.	After 10 P. M.	After 12 P. M.	After 2 A. M.	55 hours and under.	55 to 60 hours.	60 to 65 hours.	65 to 70 hours.	70 to 75 hours.	Over 75 hours.
57	July 8	Aug. 2	23		1			7	1			75	19				
58	July 2	July 26	21	1				16	13			147					
59	June 30	Aug. 6	24	1				19	7	1		162	15	22	3		
60	July 1	July 15	13					13	10			27	2				
61	June 30	Aug. 16	34	1				31	2			78	3	10			
62	July 2	Aug. 14	38	4				36	25	11	2	187	22				
63	June 23	July 25	28					25	16			171					
64	June 28	Aug. 1	38	23				28	17			111	25	23	13	8	
65	June 30	Aug. 18	37	21	14	7	5	33	20	5		175	15	17	33	16	
66	July 1	Aug. 2	28	15	10	2	1	25	20	11	3	134	39	6	13	24	
67	June 27	Aug. 2	26					22	8			102	17				
68	June 23	July 22	24					18	10	1		156					
69	June 23	July 25	28	14	3	1		20	8			131	26	38	7	2	
70	June 23	Aug. 8	37	17				29	9			160	9				
71	July 1	Aug. 9	32	14				179	12	2		179	12	21	2	3	
72	June 30	July 19	18	12				11				36	3	6			
73	June 25	July 26	26	16	1			12				67	29	13	1		
74	June 30	July 21	20	4	2	2	2	18	13	6	2	70	8	4		2	
Total...			2,166	832	240	66	33	1,567	653	162	44	9,502	749	574	330	202	179
Percent			29.3	38	11	3	1.5	73	33	7.5	2	83	6	4.5	3	2	1.5

hours, speaks for itself. According to the special regulations for work in pea canneries during the 1913 season, work was permitted not to exceed ten hours a day between beginning and ending of work, exclusive of meal times, with the exception of fifteen days during the season of not over twelve hours. Work was prohibited after ten p. m. on all but the fifteen "twelve-hour days" when work to twelve midnight was permitted.

The largest number of violations were for exceeding the ten or twelve-hour limit. This occurred on a total of 469 days for all plants. There were violations of working after ten p. m. or twelve midnight on a total of 272 days.

### Summary.

There was a total of 415 days in all plants in which there was an actual shortage of help, based on the number that would have been required if working ten hours a day. If the

## REPORT ON PEA CANNERIES.

TABLE NO. III. SHOWING THE RELATION BETWEEN THE OUTPUT, THE LABOR SUPPLY AND THE NUMBER OF WOMEN WORKING OVER 10 HOURS PER DAY.

Plant No.	ACREAGE.		CASES PACKED.		WOMEN, DAYS OVER 10 HOURS.		LABOR SUPPLY.					
	No. days in operation.	Planted for canning.	Actually canned.	Total cases packed.	Cases per acre.	Number.	Per cent of all women days.	Maximum No. women employed. <sup>1</sup>	Maximum No. women required at 10 hours.	No. of days having shortage. <sup>2</sup>	Maximum shortage.	No. of days of shortage from maximum No. employed. <sup>3</sup>
1	25	318	300	28,305	94.35	58	10	33	24	0	0	0
2	15	79	49	4,286	84.47	77	41	18	18	0	0	0
3	22	765	715	58,420	81.56	441	47	51	68	14	17	9
4	41	769	769	45,549	59.2	552	48	43	49	25	13	9
5	25	512	512	18,267	35.66	69	7.6	44	39	4	3	0
6	25	304	287	40,465	141.00	8	1.5	34	27	1	0	0
7	38					405	29	45	54	16	11	12
8	27	440	353	23,116	79.6	0	0	34	23	0	0	0
9	29	800	779	71,572	91.8	0	0	19	19	0	0	0
10	22	229	229	16,506	72.1	0	0	28	18	1	1	0
11	32	422	315	30,097	80.3	124	15	34	29	0	0	0
12	26	605	605	42,102	69.6	40	7	39	41	2	4	1
13	30	588	478	63,006	131.9	272	11	60	59	3	4	0
14	26	302	302	28,347	93.8	104	15	39	32	1	1	0
15	87	285	285	20,402	71.5	0	0	13	11	0	0	0
16	44	545	525	43,206	32.3	0	0	26	24	0	0	0
17	41	939	899	39,645	44.1	14	1.4	44	38	0	0	0
18	45	1,098	1,098	79,403	72.3	627	57	35	46	29	16	15
19	14	114	114	1,853	16.2	5	9	4	4	1	1	1
20	28	1,528	1,445	121,872	84.4	385	19	92	99	6	25	11
21	41	1,090	1,090	82,917	76.1	471	44	42	59	20	24	19
22	20	380	360	17,197	47.8	16	28	6	6	2	2	7
23	33	1,100	1,100	63,436	57.7	37	2	70	68	0	0	0
24	26	330	322	43,723	80.7	166	46	16	27	13	12	12
25	24	180	180	12,110	67.3	19	9	14	13	0	0	0
26	26					55	11	26	23	3	1	0
27	34	624	446	53,700	120.5	243	34	30	36	10	12	4
28	39	No	rec.	50,201		162	16	44	39	6	3	0
29	20	600	545	37,314	69.2	0	0	60	37	0	0	1
30	32	375	375	28,458	73.2	129	22	22	27	5	4	0
31	36					87	3	123	80	0	0	0
32	28	300	300	20,952	69.8	65	8	35	39	3	3	0
33	36					87	7	67	53	3	12	0
34	27	502	472	33,410	70.6	12	3	19	21	3	3	0
35	33	549	549	44,011	80.2	153	61	14	18	14	3	5
36	27	540	446	36,626	82.1	128	20	45	40	6	3	0
37	33	560	560	36,600	65.4	191	25	33	35	11	3	3
38	28	429	323	29,265	90.6	71	22	18	16	5	3	0
39	37	318	308	23,644	76.7	226	33	34	38	15	9	0
40	39	1,616	1,509	119,706	79.3	23	1.5	57	50	0	0	0
41	27	800	1,100	77,000	70	0	0	52	49	0	0	0
42	21	284	244	14,583	59.7	0	0	24	14	0	0	0
43	28	475	470	47,053	114.8	47	22	9	9	0	0	0
44	38	500	456	29,270	64.2	301	34	41	45	13	13	6

\* No report on acreage and cases packed.

<sup>1</sup> This represents the largest number actually employed.<sup>2</sup> This is based on the difference between the number actually employed and the number that would have been required if no one had worked over 10 hours.<sup>3</sup> This represents the number of days there would have been a shortage if the maximum number on the pay roll had been working on such days.<sup>4</sup> This is based on the cases packed for acreage actually reported as packed.

TABLE III, SHOWING THE RELATION BETWEEN THE OUTPUT, THE LABOR SUPPLY AND THE NUMBER OF WOMEN WORKING 'OVER 10 HOURS PER DAY.

Plant No.	ACREAGE.		CASES PACKED.		WOMEN, DAYS OVER 10 HOURS.		LABOR SUPPLY.					
	No. days in operation.	Planted for canning.	Actually canned.	Total cases packed.	Cases per acre.	Number.	Percent of all women days.	Maximum No. women employed. <sup>1</sup>	Maximum No. women required at 10 hours.	No. of days having shortage. <sup>2</sup>	Maximum shortage.	No. of days of shortage from maximum No. employed. <sup>3</sup>
45.....	23	390	365	26,280	72	135	38	24	23	8	3	0
46.....	28	300	295	29,999	101.7	139	26	24	24	6	3	0
47.....	36	500	500	50,000	100.1	0	0	69	47	0	0	0
48.....	28	255	255	54,173	59.5	63	14	28	49	8	4	5
49.....	17	550	550	21,593	47.9	79	43	15	18	19	3	0
50.....	33	540	525	34,426	65.6	159	35	23	19	14	0	0
51.....	37	1,200	1,000	77,236	77.2	85	14	77	24	10	5	6
52.....	21	300	300	20,076	66.7	228	40	30	38	8	10	0
53.....	30	517	477	34,174	71.6	327	26	63	63	0	0	0
*54.....	39					34	2	83	62	0	0	0
55.....	32	309	309	37,994	126.2	88	30	11	13	10	3	6
56.....	28	700	645	46,972	63.1	370	52	28	42	16	11	12
57.....	23	725	702	45,871	65.3	45	10	25	22	3	2	0
58.....	21	300	282	17,089	60.5	24	3	48	49	0	0	0
59.....	24	486	486	37,207	76.6	191	22	48	40	3	3	0
*60.....	13	691			0	15	12	11	12	2	3	2
61.....	34	339	330	27,575	83.6	140	35	13	17	11	4	11
62.....	38	1,500	1,390	137,844	99.2	30	3	40	31	0	0	0
63.....	28	600	535	48,849	113.1	0	0	43	27	15	5	5
64.....	38	603	413	58,687	142.1	318	37	36	40	21	17	3
65.....	37	698	668	44,970	67.3	426	41	45	60	12	18	11
66.....	28	528	478	40,230	84.2	528	50	49	67	4	5	0
67.....	26	395	395	28,914	73.2	52	10	23	23	0	0	0
68.....	24	No rec.		52,473		0	0	84	29	1	1	0
69.....	28	906	755	63,909	84.6	227	23	60	56	0	3	0
70.....	37	727	641	51,836	80.8	145	24	33	28	8	4	4
71.....	32	1,400	1,325	49,670	37.1	211	19	47	53	0	0	0
72.....	18	322	246	17,640	71.7	47	21	20	19	6	4	4
73.....	26	600	584	49,502	84.9	155	29	27	31	3	8	0
74.....	20	498	378	23,649	62.6	24	8	24	22			
All plants.	2,166	38,602	36,083	2,872,488	76.7 <sup>4</sup>	10,185	.....	2,688	2,583	415	824	166

<sup>4</sup>This is based on the cases packed for acreage actually reported as packed.

maximum number employed at any one time had actually worked on these days, there would have been a shortage on only 166 days. (See Table No. III.)

There were 819 days on which work exceeded ten hours. On 404 of these days the trouble could not be laid to shortage of help. In addition to this, on 249 days on which there was a shortage of help, this condition would not have existed if the maximum number employed at any one time had been working on these days.

On only twenty per cent of the days exceeding ten hours, was there an actual shortage of labor supply. There were only nine plants that on more than five days would have had an actual shortage of labor if the maximum number employed at any time had been at work on these days. Only five plants showed a similar shortage on more than ten days. If all the labor utilized at any one time during the season had been employed on the days in which work exceeded ten hours, no plant would have had a shortage on more than fifteen days, there being only one plant having shortage on more than twelve days. It is reasonable to suppose that the maximum number cannot be employed on all the days, but the reports show that in at least eighty per cent of the days exceeding ten hours the difficulty lay either in a failure to utilize available labor supply or in the arrangement of the work or insufficiency of the equipment. While it is impossible to determine the relation between the twenty per cent of days in which there was an actual shortage and the available labor supply of the community, it is probable that this difficulty might have been reduced. A considerable number reported scarcity of help owing to the unattractiveness of short hours at the prevailing rate of pay.

The general use of automatic devices on the "line," by reducing the number of women required at this work, will still further reduce the difficulty of keeping the working day within a ten-hour limit. It is in the "line" work that trouble is encountered. No additional number of workers in other departments will obviate the necessity of operating a sufficient number of lines, properly equipped with workers.

As has been previously brought out, a considerable number of plants employed some system of working shifts, proving the possibility of securing sufficient help, and the practicability of reducing hours by this method. The matter of wages played an important part in this arrangement. The possibility of reducing congestion by regulating planting and harvesting, working out the relation between the acreage and equipment of the plant, has been dealt with in the preceding pages and in the report of the United States Bureau of Labor.

A significant feature found in both investigations was the lack of any standard of load carried per unit equipment.

Plantings were distributed with little or no regard to the germination of previous plantings. So many acres were planted each day with no regard to weather or soil conditions. Records of previous years are apparently not used by the canners to aid in determining the reasonable probabilities of yield per acre and consequent demand on equipment.

Although the figures show work after ten p. m. on one-third of the days—an average of about ten days per plant during the season—this was, in a large measure, due to the arrangement of working in shifts, one relay working in the fore part of the day, the other in the evening only. Work extended after midnight on five per cent of the days, or an average of one or two days during the season for each plant, showing the possibility of avoiding work after midnight.\*

The reports of the inspectors on safety and sanitation in the canning factories showed the need of improvement along these lines. There is also a need of more attention to matters relating to the welfare of the women and children employees.

#### **Regulations in other states.**

Out of a total of about eighty canning factories in Wisconsin, seventy-five pack peas as their exclusive or main product. Approximately fifty per cent of all the peas packed in the United States are produced in this state. In other states few companies pack peas as the chief product. Other states having a considerable number of factories packing peas, with the number in each according to the Canners' Directory for 1911, are as follows: California, seven; Colorado, four; Delaware, fourteen; Illinois, twelve; Indiana, thirty; Maryland, thirty-two; Michigan, twelve; New Jersey, six; New York, forty-seven; Ohio, eleven; Utah, six, and Virginia, six.

In connection with the above figures, it is interesting to note what the regulations are in the other states covering the employment of women in canning factories. New Jersey, Maine, Michigan, Ohio, and Washington specify a total exemption for the benefit of canneries.

California grants exemption for women in canning factories, but does not permit the employment of minors under eighteen

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\* See Table No. II.

years more than eight hours a day or forty-eight hours a week.

The Oregon ten-hour law has applied to canning factories. Beginning in November of this year, the hours in canning establishments will be limited to nine hours a day, or fifty-four hours a week, with three-fourths of an hour minimum for luncheon.

Utah reports having twenty-six canneries in the state, only six of which can peas. The law exempts women from the nine hours a day and fifty-four hours a week provision where "life or property is in imminent danger, or where materials are liable to spoil by the enforcement of the act."

The Missouri law provides that "operators of canning or packing plants in rural communities, or in cities of less than ten thousand inhabitants wherein perishable farm products are canned, or packed, shall be exempt from the provisions of this section for a number of days not to exceed ninety in any one year."

In Indiana all employment of women is prohibited from 10 p. m. to 6 a. m. Children between twelve and fourteen years may be employed in preserving and canning from June 1st to October 1st. The child labor law prohibits employment more than nine hours a day or fifty-four a week, and from 6 p. m. to 7 a. m.

In Massachusetts, women are permitted to work ten hours a day and fifty-eight hours in a week in seasonal industries. There are no special exemptions for canneries.

New York, the second state in size of output, is the only state besides Wisconsin where special regulations for the benefit of the canners were made to apply to the past season. The rules are of special interest, and follow in full:

RULES AND REGULATIONS OF THE INDUSTRIAL BOARD STATE DEPARTMENT OF LABOR.

Permitting the employment of women in canneries not more than sixty-six hours a week.

Pursuant to subdivision 3, section 78 of the Labor Law, and upon application to be made by the employer to the Commissioner of Labor, women eighteen years of age and upwards may be employed or permitted to work in canning or preserving perishable products in fruit and canning establishments between the twenty-fifth day of June and the fifth day of August, nineteen thirteen, in excess of ten hours in any one day and sixty hours in any one week nor six days in any one week, upon compliance with the following regulations:



A woman may be so employed

1. At any process or part of the work which does not require continuous standing while at work, except that she shall not be so employed, in the processes of labeling or packing cans;

2. Provided that every floor on which such woman is employed be drained free of liquids; but whenever any such floor cannot so be kept free from liquids, slat platforms shall also be furnished upon which such woman may rest her feet while at work;

3. Permits granting exemption under these rules and regulations shall be revocable by the Commissioner of Labor for violation of any of the above regulations of the Industrial Board.

These rules and regulations and the exemption herein granted take effect immediately.

Adopted June 27, 1913.

Colorado has an eight-hour law for women secured by referendum vote. This law applies to canneries. The following abstract from a letter by the Colorado State Labor Commissioner is of interest:

“Replying to your letter on enforcement of Woman’s Eight Hour law in pea canneries, etc., I will say that I have had no such difficulty in this state. I visited the canneries during the season and aside from one pickle factory that I am now prosecuting for violation of this law, have had no trouble with the others. The system adopted by the Colorado Canning companies was that of running a double shift, for instance, one set of women workers started work in the early morning and quit at about noon when the other shift came on, the women working eight hours only. I am pleased to observe that they received the same pay as they had formerly received for ten hours work, and the managers of the factories were well satisfied with the law and experienced no difficulty in obeying it, which was quite refreshing to know as we had the biggest opposition to the passage of this law from this same class of men.”

The argument against restriction of hours on the ground that Wisconsin canners are thereby handicapped in competition with other states also packing peas, does not seem to be based on very conclusive evidence. Wisconsin canners are going to work out the problem by improving the conditions of work, the equipment of their factories, and the scientific management of their business.

## REPORT ON PEA CANNERIES.

TABLE NO. IV. SHOWING THE HOURS WORKED THROUGHOUT THE 1913 SEASON BY A FEMALE EMPLOYEE. (NOTE THE LONG HOURS WORKED. ONE WEEK THIS EMPLOYEE WORKED A TOTAL OF 941 HOURS.)

Date	Morn- ing		After- noon		Evening		Total hours spread	Meal hours		Total hours worked	Total wages	Wages per hour		
	Day	Began	Quit	Began	Quit	Began		Quit	Dinner				Supper	
June.....	26			4	6	7	10:45 P.M.	6.75	m.	m.	5.75	\$ 50	\$ .10	
	27	8:30	12	1	6	6:30	8:30 P.M.	12	60	60	10.5	1.06		
	28	8:30	12	1	6		11:45 P.M.	15.25	60	60	13.25	1.40		
Total week											29.25	3.02		
Sunday.....	29													
July.....	30	8:30	12	12:45	6	7	11:45 P.M.	15.25	45	60	13.5	2.28	.15	
	1	8	12	1	6:30			10.5	60		9.5	1.43		
	2	9	12	1	6:15	7			60			1.23		
	3	8	12	1	6		1 A.M.	17	60	60	15	2.62		
	4													
5	7:30	12	1	6	7	12 P.M.	16.5	60	60	14.5	2.51			
Total week											52.25	10.37		
Sunday.....	6	7:30	12	1	6:15			10.75	60		9.75	1.45		
August.....	7	8	12	1	8			12	60		11	1.45	.10	
	8	8:30	11:15	2	6:45			10.25	165		7.5	.75		
	9	8	12	2:15	5:15			9.25	125		7	.75		
	10													
	11	8	12	1:30	6:30			10.5	90		9	.90		
	12	1	12	2	6	7	10 P.M.	14			11	1.15		
	Total week											55.25	6.10	
	Sunday.....	13												
	August.....	14	8	11	1:45	6			10	30		9.75	.95	
		15	7	12	1	6	7	11 P.M.	16	60	60	14	1.00	
16		1	12	1	6	7:30	10:15 P.M.	15.25	60	90	12.75	2.10	.15	
17		8	12	1:30	6	7:30	11:15 P.M.	15.75	90	90	12.25	1.00		
18		7:30	12	1	6	7	11:15 P.M.	15.15	60	60	13.75	2.33		
19		7:30	12	2	6	7	8:45 P.M.	15.75	120	60	10	1.70		
Total week												72.5	10.68	
Sunday.....		20												
August.....	21	8:30	12	1	6	6:45	11:30 P.M.	15	60	45	12.25	2.22		
	22	8:30	12	1	6	6:45	10:30 P.M.	14	60	45	12.25	2.00		
	23													
	24			2	7:30			5.5			5.5	.78		
	25	9	11:30	2	6	6:45	8:30 P.M.	10.5	150	45	8.25	1.23		
	26			3	5:45			2.75			2.75	.40		
	Total week											42	6.63	
Sunday.....	27													
August.....	28	8	12	1	6	7:45	10:30 P.M.	14.5	60	90	11.75	1.87		
	29	8	12	1	6	7:30	11 P.M.	15	60	90	12.5	2.05		
	30	8	12	1	6	7	11 P.M.	15	60	60	13	2.17		
	31	8	12	1	6	7	12 P.M.	16	60	60	14	2.40		
	1	7:45	12	1	6	7	11 P.M.	15	60	60	13.25	2.22		
	2	7:30	12	1	6	7	9:45 P.M.	14.25			12.5	2.05		
	Total week											77	12.75	
	Sunday.....	3	7:30	12	2:30	6:15			10.5	150		8	1.20	
	August.....	4	7:45	12	12:45	6	7		12 P.M.	16.25	45	60	14.5	2.60
		5	7:45	12	1	6:15	7		12 P.M.	16.25	60	45	14.5	2.60
6		8	12	1	6	7		12 P.M.	10	60	60	14	2.40	
7		7	12	1	6	7		12 P.M.	16.25	60	60	14.25	2.54	
8		7:30	12	1	6	7		12 P.M.	16.5	60	60	14.5	2.60	
9		7:30	12	1	6	7		12 P.M.	16.5	60	60	14.5	2.60	
Total week												94.25	15.94	
Sunday.....		10	7:45	12	1	10			14.25	60	0	13.25	2.22	
August.....		11	7	12	1	7:30			12.5	60		11.5	1.80	
		12	9	12	12:30	3:45			6.75	30		6.25	.97	
Total week											31	4.99		

TABLE NO. V. SHOWING THE ACTUAL HOURS WORKED BY AN INDIVIDUAL FEMALE EMPLOYEE. (NOTE THE LATE AND IRREGULAR HOURS OF BEGINNING WORK AND THE LATE HOURS OF QUITTING AT NIGHT)

Date		Morning		Afternoon		Evening		Total hours spread	Meal hours		Total hours worked	Total wages
Month	Day	Began	Quit	Began	Quit	Began	Quit		Dinner	Supper		
		A. M.	M.	P. M.	P. M.	P. M.		Min.	Min.			
July	1			4	6:45			2.5			2.5	\$0 30
	2			2:15	6:15	7	11:30 P. M.	9.25		45	8.5	1 02
	3	9:30	12	1	6	7	2 A. M.	16.25	60	60	14.5	2 01
	4											
	5			1	6	7	6 A. M.	17		60	16	2.28
Total week											41.25	\$5.59
Sunday	6											
	7	10	12	1	6:15	7	2 A. M.	16	60	45	14.25	1 96
	8			1	6-15	7	11:15 P. M.	10.25		60	9.25	1 10
	9	10	12	1	6	7	11:30 P. M.	13.5	60	60	11.5	1 44
	10	9:30	12	1	6	7	12:30 A. M.	15	60	60	13	1 74
	11	9:30	12	1	6	7	12:15 A. M.	14.45	60	60	12.75	1 68
	12	10	12	1	6	7	11:30 P. M.	13.5	60	60	11.50	1 44
Total week											72.25	9 36
Sunday	13			4	6	7	10:15 P. M.	6.25		60	5.25	02
	14			2	6:45			4.75			4.75	56
	15										8.25	98
	16			2:15	6	7	11:30 P. M.	9.25				
	17			1:43	6	7	3:45 A. M.	14			13	1 74
	18			1	6	7	2 A. M.	13			12	1 56
	19			1	6	7	1:15 A. M.	12.25			11.25	1 42
Total week											54.5	\$6 88
Sunday	20			1	6	7	11:30 P. M.	10.5		60	9.5	1 14
	21											
	22	7	12	1	6	7	2 A. M.	19	60	60	17	2 46
	23	8	12	1	6:45			10.5			9.75	1 16
	24	7	12	1	6	7	3:15 A. M.	20	60	60	18.25	2 68
	25	8	12	1	6	7	10 P. M.	14.25	60	60	12.25	1 60
	26	7	12	1	6	7	1:45 A. M.	18.75	60	60	16.75	2 40
Total week											83.5	11 44

TABLE NO. VI.—SHOWING THE HOURS WORKED BY THE FEMALE EMPLOYEES OF A WISCONSIN PEA CANNERY. NOTE THAT THE MODAL OR MOST COMMON HOURS WORKED VARY FROM 24 TO 20 HOURS PER DAY.

Date.	Cases.	Women employed.	Women re-quired.	Pickers.			Line.			Warehouse.				
				Modal hours.	Spread.		Modal hours.	Spread.		Modal hours.	Spread.			
					Begin.	End.		Begin.	End.		Begin.	End.		
June 29														
30	2,138	21	20	10.75	7 A. M.	8:45 P. M.	10.5	8 A. M.	9:30 P. M.	11.75	7 A. M.	8:45 P. M.		
July 1	1,713	21	22	9.75	7 A. M.	8:45 P. M.	10.5	9 A. M.	8:30 P. M.	11.75	7 A. M.	8:45 P. M.		
2	1,582	18	23	11.5	7 A. M.	10:15 P. M.	12.25	7 A. M.	9:45 P. M.	13.25	7 A. M.	10:15 P. M.		
3	633	18	13	6.	9 A. M.	5 P. M.	6	10 A. M.	5 P. M.	8.25	9 A. M.	6:20 P. M.		
4														
5														
July 6														
7	3,349	24	28	12.25	8 A. M.	12 P. M.	12.75	8 A. M.	11:30 P. M.	12.25	9:15 A. M.	12 P. M.		
8	3,559	25	32	11.50	9:15 A. M.	11:30 P. M.	13.5	9 A. M.	12:45 A. M.	15	7:30 A. M.	12:30 P. M.		
9	3,466	29	34	11.50	7:15 A. M.	8:45 P. M.	12.25	7:30 A. M.	10 P. M.	14	7 A. M.	11 P. M.		
10	3,753	28	36	11.75	7:30 A. M.	9:30 P. M.	14.5	7:30 A. M.	11:45 P. M.	13.25	8 A. M.	11:15 P. M.		
11	1,729	28	25	9.25	7:30 A. M.	8:15 P. M.	9.5	7:30 A. M.	8:30 P. M.	7.5	7:30 A. M.	4 P. M.		
12	3,132	28	37	14.25	6 A. M.	10:15 P. M.	14.5	6 A. M.	10:30 P. M.	13	7:45 A. M.	11 P. M.		
July 13														
14	2,125	28	18	7.25	10:15 A. M.	7:30 P. M.	7.5	10:45 A. M.	8:15 P. M.	6.25	10:45 A. M.	8 P. M.		
15	1,565	29	24	9.75	7 A. M.	9 P. M.	8.75	8 A. M.	9 P. M.	6	8:15 A. M.	9 P. M.		
16	1,057	21	8	2.25	3:45 P. M.	6 P. M.	6	4 P. M.	3:15 A. M.	1.5	4 P. M.	8 P. M.		
17	1,572	21	21	10.	10:15 A. M.	11:45 P. M.	11.75	10:45 A. M.	2:45 A. M.	11.75	9 A. M.	11 P. M.		
18	1,068	22	16	5.25	1 P. M.	8:45 P. M.	6	1:30 P. M.	9:30 P. M.	8.5	8:15 A. M.	8 P. M.		
19	748	17	8	3.50	1:30 P. M.	5 P. M.	4.25	1:30 P. M.	5:10 P. M.	6.25	1 P. M.	8 P. M.		
July 20														
21														
22														
23	808	29	15	5.5	1 P. M.	8:15 P. M.	5.5	1:30 P. M.	8:30 P. M.	2.5	1:30 P. M.	6 P. M.		
24	1,328	31	19	6.	9 A. M.	4:30 P. M.	6.75	9 A. M.	6 P. M.	5	10:30 A. M.	6 P. M.		
25	1,541	30	25	8.75	8 A. M.	5:45 P. M.	8.75	8:30 A. M.	6:30 P. M.	7.25	9:45 A. M.	6 P. M.		
26	976	28	21	7.5	9 A. M.	6:45 P. M.	7.25	9 A. M.	7:15 P. M.	7	10 A. M.	6 P. M.		



TABLE NO. VII. SHOWING THE HOURS WORKED BY FEMALE EMPLOYEES IN A WISCONSIN PEA CANNERY IN SAME LOCALITY AS PLANT SHOWN IN TABLE VI. (NOTE REGULARITY OF HOURS.)

Date.	Cases.	Women employed.	Women re-quired.	Pickers.				Line.				Warehouse.					
				Modal hours.	Spread.		Modal hours.	Spread.		Modal hours.	Spread.						
					Begin.	End.		Begin.	End.		Begin.	End.					
June 29.....	81																
30.....	544	20	14	6.25	7 A. M.	6 P. M.	3	7 A. M.	6:30 P. M.	4	2 P. M.	6 P. M.					
July 1.....	485	21	21	10.25	7	6:15	11	7	7:15	1:75	7 A. M.	8:75					
2.....	607	20	17	7	8:30	6	6	7:30	6	8	8	6					
3.....	928	20	21	10.5	7	8	9	7	7:30	11:75	7	7:15					
4.....																	
5.....		14	13	7.75	7	9	10										
Sunday 6.....		20	24	11	7	9	11	7	7:15	11	7	7					
7.....	896	20	24	12	7	9	12	7	9	12	7	9					
8.....	1,199	20	26	12	7	9	12	7	9	10	7	7					
9.....	1,791	24	27	10	7	9	11	7	7	10	7	6					
10.....	2,158	22	27	9.5	7	9	11:5	7	8:30	10	7	8					
11.....	1,623	28	31	10.5	7	9	12	7	9	12	7	9					
12.....	1,742	27	31	12	7	9	12	7	9	12	7	9					
Sunday 13.....																	
14.....	2,122	27	33	12	7	9	12	7	9	12	7	9					
15.....	2,161	30	36	12	7	9	12	7	5	6:75	7	6					
16.....	615	29	20	6.75	7	7:15	7	7	6	7	7	7					
17.....	1,496	28	26	9	7:15	6	8:25	7	6	9	7	6					
18.....	1,476	28	27	9.5	7	6	9	7:15	6	8:30	7	6					
19.....	1,543	28	24	9.5	7	6:45	10	7	6:30	8:30	7	7					
Sunday 20.....																	
21.....	1,077	28	23	9.5	7:30	6	9	7	7	7:15	7	5					
22.....	1,211	28	24	8.5	7	6	8:75	7	6	8:75	8	6					
23.....	1,167	28	25	9.75	7	6	10:25	7	6:15	9	7	6					
24.....	933	28	23	8.5	7	7	9:25	7:45	6	9	7	5					
25.....	798	23	21	8.5	8:30	7	8:75	7	6	8	9	6					
26.....	294	18	14	4.5	7	6:30	5:25	7	6:30								
Sunday 27.....																	
28.....							8:75	7	6	8	7	7					
29.....	584	23	17	6	7	6	12	7	8	10	7	8					
30.....	1,253	23	29	11.95	7	8	7	7	6:45	10	7	7					
31.....	907	24	23	10	7	6	8:75	7	7:45	11	7	7					
August 1.....	1,556	23	26	10	7	8	10	7	6	10	7	6					
2.....	1,737	23	21	10	7	9	10	7	6								
Sunday 3.....																	
4.....	718	21	17	7.5	7	7:45	7	7	7:45	10	7	6					
5.....	940	21	20	9.5	7	6	10:25	7	7	10	7	6					
6.....	910	21	20	9	7:30	6	9:75	7	6:30	10	7	6					
7.....	604	20	18	8.5	7	6	8	7	6	10	7	6					
8.....	475	21	20	9.25	7	6:30	8:5	7	7	10	7	6					

