APPLICATION OF THE MINIMUM WAGE TO FARM LABOUR

Colin Aykroyd
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Seasonal Labour Force Background

Very little solid information is available on the B.C. agricultural labour force. Other than earlier data recorded in the 1971 and 1976 Censuses, the monthly Labour Force Survey by Statistics Canada is the only current source of statistical information on farm labour. To assess the situation, it has therefore been necessary to rely on the impressions of Canada Farm Labour Pool staff and others directly involved in the industry. A detailed survey on farm labour use is in the process of being designed by the Ministry of Agriculture to be carried out later this year.

According to the Labour Force Survey, average annual employment in B.C. agriculture has been 21,000-22,000 over the last five years, with a high of 25,000 in 1978. In 1980, employment ranged from a low of 14,000 in February to a high of 26,000 during the July/August harvest period. From published figures, there appears to have been some decline in the degree of seasonality in the use of agricultural labour in the province since the middle of the last decade. During the 1970-1975 period, peak summer employment in July ranged from 145% to over 160% of the yearly labour force average. For 1976-1980, the July maximum had dropped to from 117% to 133% of the average in various years.

This moderation in peak labour demand probably reflects such factors as greater mechanization in some harvesting operations, and a certain degree of crop shifting to reduce seasonal labour requirements. Another factor has been the continuing reduction in smaller farming units in the Fraser Valley, although overall demand for seasonal labour could well increase at least temporarily because of a recent major expansion in berry acreage. In future, the potential for development of varieties which come to maturity in a more concentrated period could both act to reduce overall seasonal labour requirements, but also accentuate the demand in peak periods.
In the Fraser Valley, peak seasonal labour demand during the approximately two week overlap of strawberry and raspberry picking in early July is estimated by the Canada Farm Labour Pool to be 8-9,000 persons.* This compares with a peak demand of up to 15,000 pickers in some years prior to the mid-1970s. Of the current total, approximately 2,500-3,000 are more or less steadily employed in agriculture, the vast majority being of East Indian origin. It is also estimated that approximately 1,000 of this group, mainly from the Interior and Northern areas of the province stay on Valley farms for varying lengths of time from early spring until the end of vegetable harvesting in November. The number of "cabin people" may rise to more than 1,500 at the season's peak.

The remaining 5-6,000 seasonal workers are nearly all secondary wage earners: students, housewives and persons on holiday. The Abbotsford Farm Labour Pool indicates there has been some decline in the proportion of other transient workers in recent years.

Comparison of Farm Labour Pool Bulletins for 1979 and 1980 indicates a somewhat less balanced labour market situation in the most recent season, probably due to the poor weather in June which interfered with the strawberry harvest and produced considerable mold in the raspberry crop. For example, there was a shortage of harvest labour in the Chilliwack area from late June to the first week in August compared to a position of labour balance and surplus for the same period in 1979. In the Abbotsford district, the shortage of harvest labour usually disappears at the end of the raspberry crop in late July, with enough local labour available.

*The figure used by the Canadian Farmworkers' Union is 11,000, but it is unclear whether this refers exclusively to the Fraser Valley.
for the few blueberry growers in that area. There is a continuing demand for blueberry pickers in Richmond and in Pitt Meadows during August and, to a lesser extent, up to the third week in September.

The main vegetable growing areas are in Surrey/Cloverdale/Delta. These tend to be somewhat more mechanized, although some larger farms appear to have delayed mechanization so as to provide more continuous work through the summer. A few established Chinese labour contractors using mainly older workers participate in these harvesting operations, and in field preparation, crop planting, etc. on a steady basis for much of the year. There has been no investigation of wage or piece rates paid in this area.

The only vegetable picked by piece work in substantial quantities in the Abbotsford area is brussels sprouts, although a few large farms in the vicinity of Chilliwack also use this method of payment in the harvesting of hops. Other than cauliflower and broccoli, the only hourly paid work available to give pickers some more continuity of employment in the Central Fraser Valley immediately after the berry picking season appears to be rock picking, hoeing or other routine farm tasks.

Overall harvest labour requirements in the Okanagan have not changed very much over the last seven or eight years. The approximate timing of labour demand for various crop harvests and other work is as follows:*

*Based on data compiled in 1975, but confirmed as still essentially valid by Canada Farm Labour Pool, Penticton.
Table 1

<table>
<thead>
<tr>
<th>Period</th>
<th>Crop of Work</th>
<th>Numbers Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid November - May 1st</td>
<td>Pruners (often contract work)</td>
<td>400-600 for 6 weeks to 3 months</td>
</tr>
<tr>
<td>Mid June - Early July</td>
<td>Tree fruit thinning overlaps with early cherry picking in S. Okanagan</td>
<td>1,200-2,000</td>
</tr>
<tr>
<td>Last week of June to End of 3rd week in July</td>
<td>Cherry picking</td>
<td>3,000</td>
</tr>
<tr>
<td>Beginning July 15 - 20th to mid-August</td>
<td>Apricots, Peaches</td>
<td>1,500</td>
</tr>
<tr>
<td>End of July - Early August</td>
<td>Sour cherries (mainly mechanized)</td>
<td>Under 100</td>
</tr>
<tr>
<td>Beginning August 15th - 20th</td>
<td>Bartlett pears 2 weeks of picking</td>
<td>1,000</td>
</tr>
<tr>
<td>First week of September to October 20th</td>
<td>Major labour requirement for canning tomatoes, grapes, Anjou pears, and apple picking</td>
<td>Up to 4,000</td>
</tr>
</tbody>
</table>

There are two main seasonal peaks in labour demand. One period of shortage is during the cherry harvest in the first two weeks of July, as the pattern of increasing demand runs from north from the Oliver/Osoyoos area as the crop matures. The second peak is during the overlap of grape, apple and Anjou pear harvesting during the third and fourth week of September into early October, the exact timing depending on the year. As well, there is commonly a general shortage of experienced thinners during June until the first week in July. A number of growers are beginning to adopt chemical thinning techniques to overcome this problem and reduce costs, although this does involve an element of risk depending on weather conditions.
The overall pattern of seasonal labour force supply and demand in the Okanagan seems to be essentially unchanged from seven or eight years ago (see Appendix for analysis of Canada Farm Labour Pool Bulletins for 1974, 1979, 1980). Outside of the two seasonal peaks, there appears to be a more than adequate labour supply in most parts of the Valley, although experienced help is always at a premium.

The composition of the seasonal labour force in the Okanagan has shifted considerably over the last three to four years. According to figures on registrations compiled for the South Okanagan Valley by the Penticton Farm Labour Pool, the combined percentage of local and other B.C. residents seeking harvest work fell from over 60% in 1977 to 29% and 36% in 1979 and 1980, respectively. Correspondingly, there was a rise in out-of-province registrants, particularly those from Quebec who rose from 16% of the total in 1977 to well over 40% in both 1979 and 1980. This latter group is particularly attracted to the Keremeos/Osoyoos area.

By contrast, Kelowna area growers have had access to an expanding local labour force, including pensioners, younger teenagers and some housewives, notably for the cherry and grape harvest. Orchardists in this area are somewhat less dependent on transient and out-of-province workers, with only 16% reported from Quebec this last year. Native Indians are a relatively small proportion of the Valley work force, except in the Vernon area, but are seen as a potential source of increase for the future according to some of those interviewed.

A perennial problem in the Okanagan is the shortage of suitable accommodation for transient pickers, and this is particularly acute in the southern part of the Valley (e.g. Keremeos). While only indirectly related to the imposition of a minimum wage standard, the accommodation situation
along with other facets of farm working conditions are likely to be of considerable importance in terms of the overall enforcement of labour standards. Some of these aspects are further discussed in later sections of the report.

Wage Determination in Agriculture

There appears to be a fairly informal process in the setting of harvest piece rates in both the Fraser and Okanagan Valleys. In some cases, the growers' association for a particular crop will survey its members to find out their views on prevailing wage levels and set a "suggested" wage rate. Individual farmers are then free to adjust their offered rates above this level according to their circumstances, picking conditions and ability to attract sufficient labour. In many cases, this includes a "stay-on" bonus added to the piece rate to try to retain pickers for the whole season.

For example, the piece rate suggested by the B.C. Blueberry Co-Op for 1980 was $.14-.15/lb., but actual rates ranged from as low as $.11/lb. for some workers supplied by labour contractors, and mainly about $.15/lb. for most small growers, up to as high as $.25/lb. for fresh picking in a few cases. A list of suggested piece rates compiled at the beginning of the harvest season for the last three years by the Penticton Canada Farm Labour Pool is shown in Appendix 7. In several cases, these differed significantly from rates actually paid by orchardists during the harvest period.

Several other aspects of the wage setting process are also of interest. In both the Fraser Valley and especially in the Okanagan, several of the larger growers complained that the prevailing wage scale was frequently "disrupted" by what were seen as unreasonably high rates being offered
by small operations. This results in complaints from inexperienced pickers who see the obvious difference in rates, but may not realize the difference in potential earnings from poorer picking conditions (e.g. big trees, steep terrain), and less possibility of continuous work on many smaller farms.

Another phenomenon is that farmers tend to offer higher piece rates at the end of the season when picking is getting thin, and especially in years when product prices are good. For example, it was reported that $5.00/flat and even much higher was paid for raspberry harvesting towards the end of the 1978 and 1979 seasons when the farmer was receiving about $12.00-$13.50/flat, compared to only about $6.00-$6.50/flat this year. (A related complaint is that workers employed by farm labour contractors received none or only a small fraction of the windfall increase.)

It is clear that there has already been some "transmission" of the provincial minimum wage level to agriculture. In the Fraser Valley, much of the hourly paid work carried out by East Indian workers staying on farms or employed by farm labour contractors was paid at $3.50/hour this year. Several farmers indicated that this rate had been adjusted upward from $3.00 or $3.25 when the $3.40 minimum wage went into effect in July 1980. Rates paid for hourly work in the Okanagan are much above the minimum wage level.

There is no regularly published source of farm piece rates in Canada. However, Statistics Canada does carry out a quarterly survey of the average wages of farm help paid on an hourly, daily and monthly basis. For British Columbia, the estimated hourly wage without board rose from $3.77/hour in 1976 to $4.86/hour for the first three quarters of 1980 (see Table 2). This was an increase of about 29%. Over nearly the same period, the average earnings of hourly rated B.C. employees covered by Statistics Canada's Employment,
### TABLE 2

**AVERAGE WAGES OF FARM HELP IN BRITISH COLUMBIA 1976-1980**

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Hour</th>
<th>Day</th>
<th>Month</th>
<th>Hour</th>
<th>Day</th>
<th>Month</th>
</tr>
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<td></td>
<td>May</td>
<td>3.19</td>
<td>20.80</td>
<td>585</td>
<td>3.67</td>
<td>26.92</td>
<td>657</td>
</tr>
<tr>
<td></td>
<td>August</td>
<td>3.51</td>
<td>24.46</td>
<td>640</td>
<td>3.85</td>
<td>29.00</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>3.52</td>
<td>24.86</td>
<td>644</td>
<td>3.97</td>
<td>29.58</td>
<td>769</td>
</tr>
<tr>
<td></td>
<td>Annual Average*</td>
<td>3.35</td>
<td>22.44</td>
<td>612</td>
<td>3.77</td>
<td>27.93</td>
<td>703</td>
</tr>
<tr>
<td></td>
<td>% Change from 1975</td>
<td>13.6%</td>
<td>15.7%</td>
<td>16.6%</td>
<td>11.2%</td>
<td>22.5%</td>
<td>24.2%</td>
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<td>1977</td>
<td>February</td>
<td>3.53</td>
<td>25.58</td>
<td>653</td>
<td>4.03</td>
<td>31.18</td>
<td>777</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>3.60</td>
<td>26.01</td>
<td>661</td>
<td>4.03</td>
<td>31.18</td>
<td>785</td>
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<tr>
<td></td>
<td>August</td>
<td>3.60</td>
<td>26.76</td>
<td>670</td>
<td>4.11</td>
<td>31.49</td>
<td>805</td>
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<tr>
<td></td>
<td>November</td>
<td>3.64</td>
<td>27.30</td>
<td>679</td>
<td>4.17</td>
<td>31.49</td>
<td>811</td>
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<td>Annual Average*</td>
<td>3.59</td>
<td>26.41</td>
<td>666</td>
<td>4.09</td>
<td>31.34</td>
<td>795</td>
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<tr>
<td></td>
<td>% Change from 1976</td>
<td>7.2%</td>
<td>17.7%</td>
<td>8.8%</td>
<td>8.5%</td>
<td>12.2%</td>
<td>13.1%</td>
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<tr>
<td>1978</td>
<td>February</td>
<td>3.64</td>
<td>27.30</td>
<td>703</td>
<td>4.20</td>
<td>31.49</td>
<td>826</td>
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<tr>
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<td>May</td>
<td>3.81</td>
<td>27.30</td>
<td>714</td>
<td>4.33</td>
<td>31.74</td>
<td>826</td>
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<td>August</td>
<td>3.85</td>
<td>28.42</td>
<td>735</td>
<td>4.39</td>
<td>32.22</td>
<td>834</td>
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<td>November</td>
<td>3.94</td>
<td>28.51</td>
<td>740</td>
<td>4.43</td>
<td>32.64</td>
<td>834</td>
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<td>Annual Average*</td>
<td>3.81</td>
<td>27.88</td>
<td>723</td>
<td>4.34</td>
<td>32.02</td>
<td>830</td>
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<td></td>
<td>% Change from 1977</td>
<td>6.1%</td>
<td>5.6%</td>
<td>8.6%</td>
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<td>4.4%</td>
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<td>1979</td>
<td>February</td>
<td>3.98</td>
<td>28.51</td>
<td>749</td>
<td>4.49</td>
<td>32.64</td>
<td>842</td>
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<td>May</td>
<td>4.11</td>
<td>29.37</td>
<td>750</td>
<td>4.54</td>
<td>33.65</td>
<td>866</td>
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<tr>
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<td>August</td>
<td>4.11</td>
<td>31.22</td>
<td>761</td>
<td>4.56</td>
<td>33.65</td>
<td>869</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>4.14</td>
<td>31.41</td>
<td>761</td>
<td>4.66</td>
<td>34.32</td>
<td>882</td>
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<tr>
<td></td>
<td>Annual Average*</td>
<td>4.09</td>
<td>30.13</td>
<td>755</td>
<td>4.56</td>
<td>33.57</td>
<td>865</td>
</tr>
<tr>
<td></td>
<td>% Change from 1978</td>
<td>7.3%</td>
<td>8.1%</td>
<td>4.4%</td>
<td>5.1%</td>
<td>4.8%</td>
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<tr>
<td>1980</td>
<td>February</td>
<td>4.25</td>
<td>32.20</td>
<td>783</td>
<td>4.80</td>
<td>35.25</td>
<td>923</td>
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<tr>
<td></td>
<td>May</td>
<td>4.25</td>
<td>32.20</td>
<td>797</td>
<td>4.88</td>
<td>35.25</td>
<td>931</td>
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<tr>
<td></td>
<td>August</td>
<td>4.34</td>
<td>32.20</td>
<td>807</td>
<td>4.90</td>
<td>36.10</td>
<td>953</td>
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<tr>
<td></td>
<td>Average Three Quarters*</td>
<td>4.28</td>
<td>32.20</td>
<td>796</td>
<td>4.86</td>
<td>35.53</td>
<td>936</td>
</tr>
<tr>
<td></td>
<td>% Change from 1979</td>
<td>4.6%</td>
<td>6.9%</td>
<td>5.4%</td>
<td>6.6%</td>
<td>5.8%</td>
<td>8.2%</td>
</tr>
</tbody>
</table>

* Calculated from quarterly figures.

Source: Farm Wages in Canada, Statistics Canada, Cat. No. 21-002 Quarterly.
Earnings and Hours Survey rose from $7.55/hour to $10.39/hour (to May 1980), a rise of 37.6%.

The local Canada Farm Labour Pools may provide more published information on farm wage rates in coming years. For the first time this year, a schedule of approximate pay rates for crop harvesting and other agricultural activities was compiled by the six main C.P.L.P. offices in the province. (See Appendix 3.) Another important factor in future monitoring of farm wages and labour market conditions are the Local Agricultural Manpower Boards in each area. These are made up of the local mayor, the Ministry of Agriculture district horticulturist, and representatives from the Canada Farm Labour Pool, Canada Employment and Immigration Commission and various growers' associations. The LAMB's meet at least eight times a year to discuss farm labour and other local agricultural questions.

Canadian Farm Minimum Wage Provisions*

Minimum wage coverage of agricultural labour is still very limited in Canada. Under conditions of the extensive form of agriculture in the Prairie provinces, the introduction of labour standards has been impeded both by the potential administrative difficulties of enforcement over the large area involved and also by the political weight of the agricultural sector in those jurisdictions. As well, the seasonal labour force requirements are involved in heavily capital-intensive operations, often on a contract basis, with comparatively little handharvesting of crops.

A few agricultural related activities are covered by the minimum wage, e.g. egg hatcheries, greenhouses, nurseries

*More detail on Canadian and American standards is provided in Appendix 1.
in Saskatchewan. The only direct application to agriculture is in Alberta where the recently passed Employment Standards Legislation (Bill 80) provides for enforcement and collection of employer/employee wage agreements, but not an actual minimum wage standard for farm labour.

The only province with significant experience in the enforcement of an agricultural minimum wage is Ontario. The Fruit, Vegetable and Tobacco Harvesters Regulation was introduced in May 1975. For piece work harvesting, it provides that where a piecework rate is "customarily and generally recognized" in an area as having been set so that an employee exercising "reasonable effort" would earn at least the minimum wage, the employer is considered to have satisfied the statutory requirement.

The Ontario Labour Standards Branch reports only a limited volume of complaints on this standard. In the cases they have been asked to investigate, these have been resolved by comparing the recorded production of the allegedly low paid worker with other workers in the same location, at the same time, and preferably with the same employer. The adequacy of the rate has also been evaluated on the judgment of the local Canada Farm Labour Pools as to whether the employer is in fact offering a reasonable wage.

Limited surveys of harvest workers' piece rate earnings and hours of work were carried out by the Ministry of Labour's Research Branch in 1976 and 1978. A more comprehensive survey is currently under way. It will deal with such aspects as a comparison of earnings among students, offshore workers, and other transient labour, details of the cost of accommodation and meals provided, and study of other functions such as sorting and grading which accompany harvest picking.
In terms of the effective application of the minimum wage standard, this is mainly of concern for tree fruits and berry picking, as prevailing rates for tobacco and much other vegetable harvesting (e.g. tomato picking) are well in excess of the minimum level. More berry picking in Ontario is for the fresh market, compared to the heavy emphasis on processed production in B.C.

Probably the main area of criticism of the Ontario standard is the contrast with protections provided to offshore workers from the Caribbean brought into Ontario to help with seasonal harvesting on a contract basis arranged through Canada Employment and Immigration. These workers are guaranteed at least the minimum wage and certain other basic conditions of work as a result of agreements with the sending countries. The rationale for bringing temporary workers into the province has been that "domestic workers won't do agricultural work" and, recently, there has been renewed pressure from growers to increase the number of persons admitted. The counter argument advanced by the Ontario Federation of Labour is that tree fruit and berry growers have traditionally competed for local labour with higher paying industrial jobs in the same area, and it is precisely because of the lack of reasonable wage levels and poor conditions of work that farmers have been unable to obtain a satisfactory supply of labour.

In Quebec, the new Labour Standards Act which came into effect in April 1980 extended minimum wage coverage to farms operated "with the habitual assistance" of more than three workers. However, seasonal harvest workers and employees "engaged in non-mechanized operations in fruit growing or horticulture" are specifically exempted.

The general minimum wage applies to agriculture in Newfoundland, but there has been almost no experience with piece rate harvesting situations.
Farm Minimum Wage Provisions in the United States

Minimum wage provisions under the federal Fair Labor Standards Act (FLSA) apply to a considerable proportion of the U.S. farm labour force. In addition, there are twelve states with agricultural minimum wage laws on the books. A number of the state provisions are weakly drawn, or have rates that have not been updated to correspond with current economic conditions. However, examination of the different formulations may be of interest in developing a minimum wage standard for British Columbia.

Federal minimum wage coverage for farm workers was first introduced under the 1966 amendments to the FLSA. A basic rate of from $.30 to $.40 lower than the general FLSA minimum wage applied to eligible farm enterprises until January 1, 1978, when these rates were equalized at $2.65/hour. The current FLSA minimum wage is $3.35/hour as of January 1, 1981, the fourth stage of the increases passed under the 1977 amendments.

Farm workers employed on smaller farms are not covered by the FLSA provision. Exempted from coverage are agricultural employers who have used less than 500 man-days of hired agricultural labour during any quarter of the preceding calendar year. In effect, this is equivalent to having a labour force of seven persons employed for 24 days (of at least one hour) per month over each three month period.

With respect to coverage of harvest labour, the FLSA minimum wage is primarily directed to the protection of the migrant farm worker population. Local labour employed in the handharvesting of crops is exempted from coverage if all of the following conditions are met: (i) they are paid on a piece rate basis in an operation that is "customarily and generally recognized" as having been paid on this basis; (ii) they commute from their permanent residence to the farm
on a daily basis; (iii) they have been employed in agriculture less than 13 weeks during the preceding calendar year. Information from the U.S. Employment Standards Administration indicates that about 40% of piece workers on covered farms fall within terms of these exclusions.

Non-local minors under 17 years of age are also exempted from FLSA minimum wage coverage if they are engaged in piecework harvesting on the same farm as their parents, and are paid the same piece rate as employees over age 16.

The three state provisions whose minimum wage standards for agricultural labour are probably of most relevance to the B.C. situation are New Jersey, Michigan and California. The first two jurisdictions both have a substantial production of berry crops; tree fruits are also significant in Michigan; and California is, of course, a major supplier and price-setter for many types of farm produce.

The New Jersey farm minimum wage was introduced in 1967. As in several other states, the introduction of some form of labour standards protection was largely a response to prevailing discontent among migrant harvest workers and to efforts to promote unionization of this group. The minimum wage is applied on a "regular rate" basis whereby employees on piece rate have their earnings converted to an hourly equivalent by dividing their total compensation by hours worked, the result to equal or exceed the required minimum rate. This standard is applicable to each individual picker on a daily basis whereas, for piece workers in other industries, such conversion is based on total weekly earnings.*

The current New Jersey minimum wage is $3.10/hour as of January 1, 1980. Overtime provisions do not apply to agri-

*Many of the piece workers employed in New Jersey harvesting are brought out daily from Philadelphia by farm labour contractors. By contrast, Pennsylvania requires seasonal farm workers on piece work to be paid at rates equal to the minimum wage for all hours in each work week.
culture. Farm advocacy groups have repeatedly complained of poor enforcement of the New Jersey minimum wage standard.

Michigan has also had a minimum wage provision for agricultural labour since 1967. This provides for establishment of a piece rate scale equivalent to the minimum wage such that where the payment by unit of production is applied to a worker "of average ability and diligence in harvesting a particular commodity", he shall receive not less than the hourly minimum. The responsibility for establishing such rates is assigned to the Department of Labor and the Wage Deviation Board consisting of three representatives of employers, employees and the general public.

A study of harvest work productivity was carried out prior to the setting of the initial piece rate scale in 1967.* The current Michigan minimum is $3.35/hour, the same as the FLSA standard, and agriculture is excluded from overtime provisions. The minimum piece rates have been adjusted periodically in line with percentage changes to the federal FLSA minimum wage standard. The current schedule is appended to this report (Appendix 6).

One other state, Texas, also has statutory provision for the setting of a piece rate schedule to allow a worker of "average skill and diligence" to receive the hourly minimum wage in the harvesting of agricultural commodities commercially produced in substantial quantity in the state. However, these rates have not been updated since the early 1970s and were, in any case, reported to be ineffective because of widespread non-compliance by farmers using illegal alien labour.

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*Methodology requested but not as yet received.
In California, minimum wages for agricultural workers were first introduced in 1963. Initially, these rates were applicable only to women and minors and were not enforced because of legal challenges by growers' associations. In 1976, the Industrial Welfare Commission (IWC) made the minimum rates applicable also to male workers, and introduced provision for overtime for adult males. There has continued to be litigation directed against the application of IWC orders on wages and other conditions of work. The current order initially scheduled to go into effect on January 1, 1980, was finally upheld by the California and U.S. Supreme Courts in October and, according to the Assistant State Labor Commissioner, is now "fully effective."

The California state minimum wage is $3.35/hour as of January 1, 1981, and applies whether remuneration is measured by time, piece rate or some other basis. Minors under 18 years of age employed on piece work in agriculture must be paid at a rate sufficient to yield not less than 85% of the hourly minimum wage ($2.85) to 80% of the minors employed in each pay period. No minor may be paid less than 80% ($2.70) of the minimum. In practice, it has been found that older teenagers (16 and over) are rarely paid less than the adult rate, and in piece work the rate is always the same. There is a 25% limit on the employment of minors, but this ceiling does not apply during school vacations.

In agriculture, overtime at time and a half is payable for work over 10 hours a day for adults and 8 hours a day for minors. These overtime rates apply to piece rate workers as well as to those paid on an hourly basis. Employees who work seven straight days in any work week must be paid time and a half for the first 8 hours on the 7th day, and double time thereafter. Minors under 16 years of age may not be employed more than 8 hours a day or six days a week.
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<th>Farm Worker</th>
<th>Farmer</th>
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| 1. Hourly minimum wage (e.g. California, New Jersey) | - Same basis as for other workers;  
- Tends to reduce earnings fluctuations due to crop differences, weather, etc.  
- Can be combined with piece rate incentive systems;  
- Likely to require more scheduling and less discretion in setting work hours;  
- Could disemploy low productivity workers. | - Requires record keeping on hours worked;  
- Does not take into account differences in labour force productivity, payment systems in various crops and farms;  
- Positive incentive to improve crop yields;  
- Requires more initial supervision, but could also reduce labour cost if quality of work force improves sufficiently;  
- May encourage mechanization. | - Hours must be verified where piece work is used;  
- No need for separate adjustment of farm minimum standard;  
- Easy to understand;  
- If assessed on weekly (e.g. Pennsylvania) or pay period basis, as opposed to daily basis, allows for averaging of gross earnings. |
| 2. Lower hourly minimum wage for agriculture (e.g. FLSA prior to 1975, New York, Wisconsin, Massachusetts) | - May be ineffective if too far below prevailing rates in non-agricultural activities;  
- Can be combined with piece rate systems;  
- Less likely to disemploy low productivity workers;  
- Promotes high turnover if other employment opportunities. | - Overall industry ability to pay may be greater;  
- Benefits less efficient, low paying farms compared to better producers;  
- Record of hours required;  
- Difficult to attract stable labour force, "employer of last resort";  
- Could benefit exports of particular crops;  
- Likely to discourage mechanization. | - Likely to be very few complaints;  
- Easy to understand;  
- Encourages low status image of agriculture;  
- Little if any impact on food costs;  
- Could be phased up to general rate (FLSA). |
| 3. Differential rate or quota for young workers (e.g. California, Connecticut, New York, Wisconsin) | - Differential more difficult to integrate with piece rate systems;  
- May deplete adult workers of employment;  
- High turnover if other employment opportunities, especially older teenagers;  
- Less likely to disemploy low productivity workers. | - Percentage quotas complicate record keeping;  
- Discourages hiring of mature workers, likely to increase supervisory costs;  
- Recognizes generally lower productivity of young workers;  
- Likely to encourage more "family picking". | - Percentage quota more difficult to administer;  
- Consistent if youth minimum effect for other workers;  
- Desirable to have limitation on overall hours worked for younger teenagers (e.g. California);  
- Limitation on percentage of young people to prevent unfair competition;  
- Less easy to understand;  
- Periodic decisions on amount of differential. |
4. Link with farm or labour force size (e.g. FLSA, Hawaii, Minnesota, Quebec)
   - Workers on smaller farms likely to be paid lower rates and have less continuous work;
   - May not protect seasonal workers (e.g. Quebec);
   - Creates two classes of employees.

   Farmer
   - Larger farms usually have greater ability to pay;
   - May exclude large number of farming units;
   - Discourages consolidation of farming operations;
   - Gives poorly run smaller farms an unfair competitive advantage;
   - May encourage mechanization of larger farms.

   Policy/Administration
   - Reduces administrative effort somewhat;
   - Larger farms likely to have better records, especially agribusiness;
   - Could discourage development of consistent income support or other farm policies;
   - Complicated if dependent on hours worked (FLSA).

5. Linked to piece work (e.g. Michigan, Texas, Ontario)
   - Fluctuation in earnings;
   - Below average worker earns less than minimum wage; may be very low;
   - Piece rate norm may be seen as too high;
   - No scheduling required;
   - No limit on hours or earnings for highly productive workers;
   - Any worker can be employed.

   Farmer
   - Requires supervision if quality important;
   - Minimum recordkeeping;
   - Less incentive to mechanization;
   - Rates can be varied for different crop conditions; flexible;
   - No need to screen workers;
   - Stabilizes unit labour cost;
   - Little incentive to stable employment relations, high turnover.

   Policy/Administration
   - Differs from all other industries;
   - Cost and difficulty of computing "average" rate (e.g. multiple picking on one crop);
   - Need for input from farming community, agriculture officials;
   - Unit of production may be a problem;
   - Need for regular piece rate adjustment or link to general minimum wages;
   - Easy to understand and administer.

6. Linked to employment relationship (e.g. migrant workers under FLSA, or confined to employees supplied by labour contractor).
   - Protects most vulnerable group of workers;
   - Creates two classes of workers;
   - Commuting harvest workers more likely to be secondary earners.

   Farmer
   - May encourage shift to local labour force;
   - May encourage mechanization if other labour force not sufficient;
   - Could raise quality of labour supplied by contractors.

   Policy/Administration
   - Likely to be complicated formulation;
   - Need for other standards to protect vulnerable groups;
   - Need to regulate labour contractors.

7. Set by crop or locality by wage board.
   - Could allow employee participation;
   - Likely less influence than farmers (e.g. in U.K.).

   Farmer
   - Could allow farmers direct input to regulatory process;
   - Allows recognition of special crop or local circumstances in making decisions.

   Policy/Administration
   - I.L.O. Convention 99 (1951) on minimum wage fixing in agriculture provides for equal employer/employee representation (e.g. U.K. Ag. Wages Board composed of representatives of farmers, workers, "impartial persons", and chairman);
   - Also in other European countries;
   - Rates can be adjusted independently of other minimum wages.
A number of other states (e.g. Connecticut, New York, Wisconsin) make provision for payment of a lower minimum wage to minors in agriculture, either on a reduced cents-per-hour or some percentage basis.

Based on the information gathered on farm minimum wage laws in Canada and the U.S., some of the positive features and likely drawbacks from the point of view of the grower, farm worker and responsible administrative agency are summarized in Table 3.

**Rationale for Piece Work**

There are a number of factors which have encouraged the prevalence of piece work systems of payment in agricultural harvesting. From the grower's point of view, the main advantage from piece work is the stability and predictability in unit labour costs for picking. It is especially useful where the productivity of the farm labour force is either low or unknown, as where transient workers are involved or there is a high turnover of younger workers. Piece work is also flexible, and rates can be modified to match changes in crop conditions. Another advantage is that relatively little recordkeeping is needed other than the number of production units taken off by each individual harvester.

The effects of piece work on the time and costs of supervision can vary. This may be low where the quality of the product is not a major factor, or where piece rates are set sufficiently high to discourage poor picking practices (e.g. not cleaning off bushes, excessive dockage). On the other hand, where maturity, colour and bruising are important (e.g. peaches), piece work is likely to require too much supervision and more experienced, hourly-paid help is usually
needed. Piece work harvesting may also increase the overall length of the farmer's day because of the irregularity of pickers' hours, and the time expended in collection of production units from piece work locations as workers try to maximize picking time.

Another possible drawback is that overall productivity can be lowered where casual and inexperienced workers are paid on piece work. Ladders and other picking equipment may be tied up with very little useful output, damage to trees, and so on.

Piece work has a number of advantages and disadvantages from the picker's point of view. For good pickers, there is an incentive to work hard because earnings may be quite high even though the job is temporary. Casual or less adept pickers may aim at a specific "target" of production and earnings, and often like the flexibility of hours which allows them to arrive late and quit early. Disadvantages are that earnings are unpredictable, fluctuate from day to day, and may be very low unless the piece rate is raised where picking is poor.

Another negative result of piece work systems is the lack of much real incentive to develop more stable employer/employee relationships. In an industrial setting, this can manifest itself in group efforts to restrict output to discourage the employer from increasing production norms, or directly holding down piece rates. This is less likely among temporary farm workers where there is usually little common identity of interest, although a few Fraser Valley farmers did report experiences with reduced work effort by workers supplied by labour contractors where piece rates were felt to be inadequate. In other cases, there is very little incentive for an individual piece worker to continue
supplying labour to a farm towards the end of picking, if alternate work or better picking is available elsewhere. This is a major reason for the use of "stay-on" bonuses often added to piece rates in order to retain workers for the whole season. Frequent complaints about the unreliability of farm labour contractors in supplying workers when there are better field conditions on other farms is another dimension of this effect.

In summary, the very real advantages of piece work in stabilizing unit labour costs for the farmer may well be offset to a considerable extent by instability of supply, and by lower productivity or greater need for supervision in employing high turnover, casual workers. Fluctuations and irregularity of earnings from piece work, along with poor working conditions, may also discourage an important potential supply of local labour (e.g. more housewives) which could help to offset some of these problems.

Basis for Farm Minimum Wage

In developing an agricultural minimum wage standard for B.C., it is useful to summarize the past and current opinions of various organizations and interest groups on this topic:

Legislative Select Standing Committee on Labour and Justice (April 10, 1975) - "Industry reasons for desiring maintenance of piece rates seem to depend heavily on their use of a secondary labour force, especially the aged and the very young, whose individual production capacities may be considerably below average. The Committee sees no objection to the maintenance of piece rates as an incentive system above and beyond the minimum standards which should be guaranteed to all workers."
B.C. Federation of Agriculture (December 5, 1979 and later statements) - "...work that is customarily done on an hourly basis should be subject to the Minimum Wage Act...... (The Federation) believes that the industry would accept some monitoring of piece rates with a view to having the minimum wage as a guideline. The idea there is to develop an average - what the average worker would earn in the field with piece work - and then try and develop some sort of minimum wage level based on that."

B.C. Federation of Labour - Public position is that the hourly minimum wage should apply to farm labour.

B.C. Ministry of Agriculture - Favour minimum wage in principle, but recognize desire of industry to retain piece rates, especially for younger teenagers.

Canadian Farmworkers' Union (September 1980) - "It is absolutely essential that farm workers be given an hourly minimum wage, without any qualifications whatsoever. If the government's regulations state that a certain piece work rate will be deemed to be equivalent to the minimum wage, if a reasonable worker working at that piece work rate could make the equivalent of the minimum wage, then the regulation will be totally unenforceable.... There is no reason that farm workers should be treated differently than any other workers."

Clearly, it is not possible to entirely reconcile the conflicting objectives of, on the one hand, providing the same floor of wage protection to farm labour as for other groups of workers in the province while, on the other, taking into account the diversity of wage payment systems and labour supply situations in agriculture. A third major
element from the Ministry's perspective is the need for administrative feasibility and relative simplicity of formulation.

Aside from the stated objections from the industry, there are two reasons for considering that the minimum wage should not be applied to agriculture on a straight hourly basis. One is the wide spread in farm sizes and economic situation. For example, although the average orchard size in the Okanagan is only about ten acres, there is a limited number of large operations and the commonly cited rule-of-thumb is that "20% of the growers produce 80% of total production." Similarly, despite the trend to consolidate acreages into larger units in the Fraser Valley, there is likely to be a considerable number of smaller, and perhaps uneconomic, farms for the foreseeable future. (This situation contrasts sharply with a jurisdiction like California where the much larger acreages and predominance of agribusiness farms makes an hourly standard more logical.)

A related factor is the variation in the harvest labour force available to different farms. Although well run smaller farms may have no less "ability to pay" than larger farms, the former often have to rely heavily either on young local labour or on transients of uncertain productivity and reliability. Some berry farms visited in the Fraser Valley used a mix of regular pickers, high turnover locals, as well as contractor-supplied East Indian labour of varying reliability at peak periods. To impose an hourly minimum wage rate on this type of operation could deprive the farmer of needed help in harvesting a perishable product when, even if he were willing to pay higher wages, no alternative labour supply would be available at the crucial time. Confirming this point are the complaints from some of the larger growers cited above that smaller farms frequently "disrupt" the prevailing wage scale in an area by offering higher piece rates because of their inability to attract labour of sufficient quantity or quality to get the crop off.
Similarly, an hourly minimum wage could adversely affect the Okanagan cherry harvest where pensioners and younger teenagers comprise a considerable part of the labour force on some farms. This line of reasoning is less compelling, however, for other tree fruits and especially apples, where, at prevailing piece rates, it appears that an hourly rate could be met without much difficulty.

Taking the foregoing aspects into account, the following basis is proposed for the B.C. farm minimum wage:

(i) Establishment of a scale of minimum piece rates for fruit and vegetable crops customarily harvested by piece work such that a worker of "reasonable skill and diligence" can earn the minimum wage;

(ii) Piece workers under 18 years of age must be paid at least the minimum piece rate for the handharvesting of a particular crop;

(iii) Piece workers of 18 years and over must be paid at least the minimum piece rate for handharvesting crops for the first 5 days of employment in the case of full-time harvest workers, and for the first 40 hours of employment in the case of part-time or casual workers. Thereafter, such piece workers must be paid at a rate sufficient to yield the general hourly minimum wage for all hours worked;

(iv) Averaging of piece work earnings over the whole period of employment beyond 5 days, or 40 hours, as the case may be, should be used in assessing whether or not the minimum wage standard is being met by the employer.

As a criterion for determining the minimum wage, it is felt that the concept of a worker of "reasonable" skill and diligence is preferable to the idea of an "average" worker
used in some jurisdictions (e.g. Michigan). To some extent, the difference is merely semantic. However, as already suggested, it is virtually impossible to specify what constitutes an average worker because of the wide diversity in labour force composition on different farms.

A second justification of the proposed formulation is that it implies some basic combination of experience and effort in harvesting a particular crop. In the course of interviews with farmers, it was frequently indicated that, other than persons with special dexterity, pickers usually need a certain period of time to develop a good picking technique, place a ladder correctly, etc., and that this was often not mastered until the person returned to pick again the following season. A reasonable effort could be considered to be a steady work performance put in over a normal (8-hour) work day, as opposed to the long hours put in by very experienced pickers aiming at high earnings, or by those driven by economic necessity as is undoubtedly the case with many workers supplied by the farm labour contractors.

A number of the practical problems involved in estimating the productivity of a typical adult worker are discussed in the following section of the report. Even if the reported results are reasonably accurate, however, it is felt that a degree of judgement needs to be used in setting the minimum piece rates in most cases. For example, there may be a situation in which the piece rate arrived at on the basis of the data falls markedly below the rates paid during the preceding season (e.g. apples). One grower interviewed suggested that the rate be set in a strict mathematical fashion to show that farmers were not "exploiting" their workers. Aside from the fact that so low a rate would probably have no practical effect other than to discredit the regulation in the eyes of those groups who want an hourly minimum wage,
the underlying objective of trying to make coverage extend to as many workers as possible would be better met by setting the minimum piece rate at a somewhat higher amount, though perhaps not at the level of piece rates for the current season.

A second drawback to a strict application of the criterion of average or typical productivity over the season is where there is a considerable difference in the daily output of several varieties of the same crop. Examples of lower yielding varieties are some types of apples (e.g. Winesaps and perhaps Golden Delicious) and the older types of blueberries which have a much smaller berry than the popular Blue Crop. Here again, it would seem reasonable to exercise an element of judgement in setting a minimum rate above the average for the more productive crop, assuming there is a definite difference from the prevailing piece rate, in order that a majority of pickers do not fall short of the minimum wage for that period of the harvest.

It is proposed that workers under age 18 be paid at least the minimum piece rate. This age cutoff corresponds to the break between adult and youth minimum wages for the rest of the provincial labour force. The rationale is that farmers would retain their present flexibility in hiring younger workers whose earnings would continue to be directly dependent on their level of productivity or lack thereof. It should be noted that, although several of the farmers interviewed felt that the youth differential should be a factor in setting an agricultural minimum wage, none suggested that this be on the basis of different piece rates by age.

The suggested regulation would mean that most younger teenagers would normally fall below the adult minimum wage,
and probably also below the youth minimum in many cases. It is worth mentioning that, although farmers stressed the at least partially recreational nature of picking by most 12-15 year olds, there were a number of anecdotal accounts of children in this age group who had picked as much as an adult because of their desire to reach a certain level of earnings.

In addition, the average 16 or 17 year old would earn at or close to the adult minimum wage under the proposed piece rate scale. There was general agreement among farmers that dexterity at this age is at least equal to that of an adult worker, particularly among young women. Moreover, since most teenagers of this age are becoming interested in other, more remunerative employment, those who choose or are obliged to pick are likely to be serious about it.

For piece workers of 18 years and over, it is proposed that they be entitled to the equivalent of the hourly minimum wage after a minimum period of employment. The basic intent is to provide regular adult pickers, who are more likely to be primary wage earners or at least make a significant contribution to family income, with the same wage floor as applies to other workers. For this group, it is considered that the employer should be able to judge after five days whether an individual worker on piece work is producing sufficiently to earn at least the minimum wage and, if not, whether the worker's contribution to the farm's output justifies continuing his or her employment. One likely result is that farm labour contractors (as employers) would have to become more selective about the quality of pickers they supply for harvesting, a trend which some farmers suggested had already started to occur.

There are two aspects to the proposed 40-hour limit before a grower would be obliged to ensure that a casual or
part-time adult picker on piece rate was receiving at least the minimum wage. This cutoff would cover the transient worker who only wishes to work for a few days, or who frequently is aiming at a specific target of earnings. It would also deal at least partially with the situation of the pensioner who wished to work on a part-time basis, or at a less energetic rate than younger pickers. The 40-hour period would allow piece rate employment at 3-4 hours a day for the greater portion of a short season crop like cherries which lasts about two weeks. The fact that this would likely account for over half of the $250 limit before earnings have to be declared for Income Tax purposes (e.g. 40 x $3.65 = $146.) should also not be overlooked. Moreover, this arrangement could permit a pensioner to be employed on straight piece work on the same part-time basis for harvesting another crop (e.g. grapes or apples) later on in the season.

One problem with the suggested 40-hour cutoff is that, unlike the limit for full-time pickers, it would not tie in with the Employment Standards Act five-day qualification for 4% vacation pay. A number of growers felt strongly that a minimum accumulation of hours would, in fact, be a more suitable basis for qualifying. If the present proposal for the minimum wage is felt to be appropriate, it would be worth reconsidering whether there could be a modification of the regulations to harmonize these two provisions.

Under the proposed farm minimum wage, it is suggested that averaging of an adult picker's income beyond the 5-day/40-hour period be used as a test of the standard. This would tend to discount the effect of poor picking periods, low-yield varieties and other factors causing fluctuations in earnings, especially for the season-long pickers.

It is felt that the above proposal is both equitable for most of the agricultural labour force and also recognizes
the need for some degree of flexibility; given the differences in circumstances and economic situation among growers. Steady adult pickers would be guaranteed at least the minimum wage, while, for the most part, the secondary labour force of students, short-stay transients and pensioners would still be available to the farmer. Although there may be some difficulties in administration (e.g. young children picking into their parent's container), these could be minimized if the minimum wage standard was tied into the qualification and associated recordkeeping needed to administer the vacation pay provision.

In view of the expectations generated in the industry, the only other major option available is to apply the minimum piece rate scale without any qualification. This would, of course, have the virtue of simplicity and lack of disruption of established wage payment systems used by farmers. It would be much less satisfactory in ensuring that steady pickers, notably a large proportion of those employed by farm labour contractors, are assured of a basic floor of earnings protection while on piece work. There would also be much less incentive to view the minimum wage as a meaningful part of the standards package aimed at upgrading the quality of the agricultural work force.
Survey Methodology

There are a number of possible methods to attempt to estimate the range of productivity among harvest workers, or the output of a "typical" worker. These may include: (i) field study of actual harvesting operations; (ii) time and motion study of a selected group of control workers; (iii) interviews with individual farmers, agricultural officials and field workers on their subjective impressions of the level of individual output for each crop; (iv) analysis of harvest production and payroll records; and (v) comparison with the results of productivity studies elsewhere. Each of these methods has its drawbacks, particularly because of the diversity of farm type and size, and the changing composition of the farm labour force from year to year.

The approach adopted was to visit a sample of farms for each crop, combining interviews with analysis of production records where available. Names of individual farmers were obtained from several of the growers' associations, from the Canada Farm Labour Pools and, on a few occasions, from other farmers. About twenty farmers were interviewed in the Greater Vancouver area and Fraser Valley, mainly in the Abbotsford/Matsqui/Clearbrook area, and a similar number in the Okanagan.* Access to the payroll records of several Vancouver-based farm labour contractors was another useful source of picker data on berry harvesting.

As mentioned above, a schedule of approximate farm pay rates in 1980 was prepared by the six main Canada Farm Labour Pool offices in the province, and can be used as a basis with which to compare the survey results.

*This included contacts in Kelowna/Winfield, Summerland, Penticton, Osoyoos and Cawston. The Vernon/Oyama district was not visited.
The overall impression was that, although the majority of farms visited were probably above average in their calibre of operation, there was sufficient variety in size and economic situation to obtain a realistic idea of production conditions. In most cases, the farmers interviewed were quite co-operative in making production records available, and gave candid views on the implications of the minimum wage and other labour standards for their industry. One important deficiency of the study has been the lack of interviews with experienced pickers to find out if their opinions would correspond or conflict with the results obtained.

In the analysis of production records, it was decided that as far as possible, all of the output of a given crop would be recorded for each farm over the whole picking season. This procedure was intended to provide an overall "snapshot" of changes in picking conditions from start to finish. By using this method, it was hoped to reduce the effect of the many different factors which may influence average picking output. These include differences in field conditions; varying yields for different varieties; first year picking compared to mature crop production; pickers of different age and motivation; hours of work and frequency of picking; and general farm management practices.

On this basis, the number of production units harvested daily by each individual was recorded as one "picker day," regardless of the amount of output, hours worked, crop conditions, etc. Fractional production units were rounded either up or down, and where output was recorded in terms of poundage, this was recorded in 10 pound ranges (e.g. 50-59 lbs., 60-69 lbs., etc.).

The numbers of picker days were then totalled, and reconverted to production units (e.g. 22 picker days x 14
flats = 308 flats + 17 picker days x 16 flats = 272 flats, and so on) to get the total unit production. Where possible, an effort was made to check to see if the overall output recorded on this basis corresponded fairly closely to the season's tonnage as stated by the farmer, or recorded on some other basis, e.g. day by day.

In addition, information was obtained from each farmer on the type of labour force used, on harvesting piece rates and hourly wage rates paid for other work, and on the estimated hours worked on average during the picking season.

The following results were calculated and are shown in Appendix 2:

**Overall Average** - This is based on the total production divided by total picker days unadjusted for extreme values, either high or low. For example, it would count in the effect of more than one person from the same family picking on the same card, persons picking only a few hours a day, etc.

**Adjusted Average** - For each of the crops on which production information was obtained, an arbitrary lower and upper cutoff level of daily production was selected. The lower limit was intended to discount the effect of shorter hours worked, either by an individual or because of bad weather, as well as the normal drop off in picking yields during cleanup of the crop at the end of the season. The upper cutoff was intended to reduce the effect of exceptional pickers on the average, and also to eliminate the distortion caused by multiple pickers recorded on the same card. The arithmetic average was then recalculated after subtracting the total number of picker days and production outside these limits from the unadjusted totals.
Average Adjusted For 8-Hour Day - Based on the farmer's subjective estimate of daily hours worked over the picking season the adjusted average was reduced proportionately to give an estimate of typical picking in an 8-hour day. The maximum downward adjustment made was 16%, which would correspond to a 9½ hour day (8/9.5 = .842), even if average hours were estimated to be longer. The reason for this was that part of the effect of long hours had already been removed by the upper cutoff on daily production used in the calculation of the adjusted average.

Median - This is the midpoint in an ordered series of values and, as a measure of the central tendency of a distribution, it can be used to discount extreme values. In this case, it is the level of daily output which has approximately half of the picker days above and below it. The median was calculated on the total range of picker days recorded, but was reduced by the same percentage factor where there was an adjustment for hours worked in excess of eight per day.

Estimated Percentage of Picker Days Under the Daily Minimum Wage - This calculation is made with reference to the minimum wage levels in effect from July 1, 1980, on an 8-hour basis (i.e. 8x$3.40/hour = $27.20 for workers 18 and over and 8x$2.85/hour = $22.80 for workers under 18 years). It gives a rough indication of the maximum upper limit of picker days on which less than these amounts was earned, since picker days below the lower cutoff point are also included. (This measure could not be meaningfully calculated for apples because of the large unit of production.)
Frequency Distributions of Picker Days and Production

The juxtaposition of these two distributions shows the relative weighting of total production to the proportion of picker days grouped by ranges of production. This is useful in showing the link between the type of labour force hired and how the crop actually comes off. Alternatively, it shows roughly how much production would have to be harvested in other ways, if below-average pickers were not hired by the farmer.

There are a number of possible sources of error in the data as presented:

(i) **Errors in recording and calculation** - These may occur at any point during the collection of production data from the farmer's records or during a subsequent stage of data manipulation. In the few cases where it was possible to reconcile production totals recalculated from picker days with the farmer's estimate or recorded tonnage, the margin of error was found to be 5% or under.

(ii) **Sample size** - The statistical reliability of the results is heavily dependent on the number of pickers for whom production data was recorded. In several cases, it is noted where the number of observations would almost certainly be "insufficient to yield a reliable estimate" (e.g. Farms 10,11). Even for much larger groups of workers, it was not possible to apply any standard statistical test within the time available and, in retrospect, it might have been sensible to use one of the available canned computer programs (e.g. SPSS - Statistical Program for the Social Sciences) for analysis, considering the volume of data collected.
(iii) **Crop coverage** - Most effort was devoted to collecting data on the three main berry crops in the Fraser Valley. The only vegetable crop on which any production information was obtained was brussels sprouts (two farmers only). Further information will have to be gathered for several other types of vegetables (e.g. peas, sweet corn, mushrooms, hops) which are reported to be harvested at least partly on a piece rate basis. This could be either production data or information from the Canada Farm Labour Pool if the amount harvested commercially is relatively limited.

In the Okanagan Valley, a considerable number of cherry farmers were visited and data recorded for this crop which is one of the more sensitive in terms of labour cost. A fairly good sample of apple production was also obtained. Unfortunately, no actual production records for pears and soft fruits were available at the farms visited. However, grower information on piece rates and estimates of typical daily production suggest that daily earnings for the average picker do not tend to be markedly different than for apple picking.

(iv) **Average hours worked** - Clearly there is a considerable potential for error in relying on growers' "guess-estimates" of average daily hours worked over the harvest period. Only in two instances was there even a record of the hours of berry picking supervisors, and these are likely to have been somewhat in excess of hours for the majority of pickers. In making an adjustment for hours worked, another assumption used in a few cases was that workers living on Fraser Valley farms during the harvest would likely have somewhat higher hours than workers transported out from Vancouver by farm labour contractors.
(v) In-season and year-to-year variation - The overall adjusted averages presented do not reflect either in-season or variety differences within specific crops. These are discussed below where mentioned by the farmers or evident from the data. The possibility of fluctuations in labour productivity from annual crop differences is also referred to since, in most cases, it was possible to collect production data for only a single year.

It is interesting to compare the method adopted with a study carried out in the State of Texas in developing a piece rate standard for the harvesting of field crops and citrus fruits in that jurisdiction. This study was carried out over a three year period (1969-1972) and involved the collection of data on about 5,700 Hispanic piece rate workers. Sample crews were selected on a random basis, and field information gathered on such aspects as harvest methods, worker productivity, container types and dimensions, plant characteristics, and prevailing weather conditions. Production information was recorded for each worker, along with his work time, name, sex, age and experience in harvesting. In order to determine the average hourly productivity for a given crop, computer techniques were used to calculate the median production of the sample of workers and this result was then divided into the hourly minimum wage to arrive at the minimum piece rate.

The design advantages of this type of study are that it allows for the control of many more variables, particularly in terms of the labour force characteristics and variation in harvesting conditions. Aside from the time involved, the main drawback would be the cost of organizing and carrying out such a sophisticated survey.
Another American jurisdiction which is reported to carry out field studies of piece rate harvesting is Michigan through the State University in Lansing. No details are available on results of these surveys.

Considering the relatively small size of the B.C. agricultural sector, it is suggested that at least a limited spot check of harvesting productivity should be carried out to extend or correct the results of this survey and the initial schedule of piece rate levels. This could be designed by the Research Branch, and carried out either by Industrial Relations Officers assigned to cover the agricultural areas of the province or, alternatively, by summer students working for the Ministry.

As already indicated, cooperation with Canada Farm Labour Pool offices would be another method of verifying the piece rate information.

Survey Results

Raspberries

The major area of production is the Abbotsford/Matsqui/Clearbrook area, and to a lesser extent, in the Chilliwack and Langley areas. In Richmond, there are only about 50 acres of raspberries under commercial cultivation. The total area under cultivation has increased dramatically from 2,300 acres in 1979 to an anticipated 5,000 acres in the coming season (Table 4). The main reason for this was that product prices received by farmers were abnormally high in 1978 and 1979, about $0.90/lb., because of poor harvests in the United States. Many new farmers put in added acreage despite warnings that the average price would drop, which it did to less than $0.40/lb. in 1980. The unit cost of production estimated by the Ministry of Agriculture for Income Insurance purposes
<table>
<thead>
<tr>
<th>Year</th>
<th>B.C. Production for Fresh Sales (000 lbs)</th>
<th>B.C. Production for Processed Sales (000 lbs)</th>
<th>Grown Processed Price (¢/lb.)</th>
<th>B.C. Production Totals (000 lbs)</th>
<th>3.C. Production Value ($'000)</th>
<th>B.C. Acreage (acres)</th>
<th>B.C. Foreign Exports (000 lbs)</th>
<th>Alberta (acres)</th>
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Source: W.S. Peters, Ministry of Agriculture, Horticulture Branch, Abbotsford.
was $.45/lb. in 1979 and will be about the same for 1980.

In all, there are about 300 raspberry farmers in the Fraser Valley, of which 180 are in the Raspberry Growers' Association. According to the Association, only 10 of these farms produce over 100 tons of raspberries. Well over 90% of the crop goes for processing. The Association is currently seeking the establishment of a marketing board with price setting powers for the industry.

Raspberries can be harvested mechanically as well as by hand pickers. There are estimated to be about 70 raspberry picking machines in the Fraser Valley, and several of the farms visited used a combination of handharvesting and machine picking. One effect of machine picking is a loss of perhaps one ton/acre of production which offsets the large reduction in unit labour cost, but not to any great extent.

Seven raspberry farms were visited, and the records of four contractors were also used to obtain production information. In analyzing the latter, it was not always possible to clearly distinguish raspberry and strawberry flats because of overlap of the two harvests and the fact that the same rate per flat was paid to the contractor's workers for both crops.

Flat sizes reported ranged from 15 to 17 lbs., and piece rates paid varied considerably. For groups of East Indian pickers staying on farms in the Abbotsford area, the rates ranged from $2.00-$2.15/flat, or $.13-.14/lb., with a $2.50 rate for the final week's picking in one case. The general rate for pickers brought in by labour contractors was $2.25 per flat, about $.15/lb., with the contractor receiving from $2.95 to $3.15/flat for both raspberries and strawberries.
Smaller farms using local labour tended to pay more: from $2.45 - $2.60/flat including stay-on bonus and allowance for self-transportation at the farms visited. Again, there was some variation with size of picking units. The Canada Farm Labour Pool indicates that smaller farms often pay higher rates but also tend to require more weight.

Rates for the Chilliwack area are reported to be $.25/flat above those in the Abbotsford area. The one farm visited paid a maximum of $2.85/16 lb. flat, or more than $.17½/lb., for pickers staying over the whole season.

The prevailing picking rate quoted by Abbotsford Farm Labour Pool for both strawberries and raspberries was $.15/lb. for 1980. The piece rate assumption used in raspberry Income Insurance for 1979 was $.13/lb. and for 1980 was $.15/lb. (This appears to represent typical piece rates paid to pickers not the per flat rate paid to labour contractors by the farmer.)

Estimated average productivity varied sharply between the farms using local labour, mainly young people and a few housewives, and operations with live-in adult pickers or those using contractors. For three farms in the first category, the adjusted average was very consistent, 8-8½ flats, or 128-135 lbs./day. The extreme example was one small operation of six acres (#6) which used 122 pickers, of whom only 22 stayed the whole season. The average was under 5 flats/day reflecting the high turnover and lower earnings of the younger teenagers. Not surprisingly, the owner complained of "babysitting," and many of the cheques were so small they had not been picked up in mid-August. For all of these farms, 70% or more of the total picker days showed earnings below the youth minimum wage calculated on a daily basis ($22.80).
For the East Indian workers living on farms or employed by contractors,* the overall picking averages varied between 13 and 17½ flats, or up to 260 lbs./day. With adjustments for estimated hours and excluding the low and high extremes of production (under 5 and over 30 flats), this range was reduced to 11½ to 14 flats, or 172-210 lbs./day. For these farms, there was quite a wide range in the proportion of picker days falling below the adult minimum wage for last summer calculated on a daily basis ($27.20), but it appears that typical earnings for raspberry pickers come close to that level.

Several other subjective estimates of average productivity are as follows: C.F.L.P., Abbotsford, Assistant Manager, 12-13 flats/day; (ii) Raspberry Association President, 18-22 lbs./hour = 144-176 lbs./day; (iii) One of the larger growers, "2 flats an hour." (iv) Canadian Farm Workers' Union President, 1 flat/hour at beginning of season rising to a little over 1½ flats/hour at peak.

From the above information, the suggested basis for setting a minimum piece rate for raspberries is 12.5/15 lb. flats or 187.5 lbs./day. At the current minimum wage of $3.65/hour for an 8-hour day, this would result in a calculated piece rate of $.155/lb.

Strawberries

As with raspberries, there has been a large expansion in strawberry cultivation from 1,900 in 1978 acres to an estimated 3,300 bearing acres in 1981 (Table 5). At a meeting with representatives of the Strawberry Growers' Association in October, it was indicated that some farmers

*It should be mentioned that many of those interviewed felt there was a higher degree of commitment and productivity among workers staying on the farm compared to those brought in from Vancouver by labour contractors.
<table>
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<tr>
<th>YEAR</th>
<th>B.C. PRODUCTION FOR FRESH SALES ('000 lbs.)</th>
<th>B.C. PRODUCTION FOR PROCESSED SALES ('000 lbs.)</th>
<th>GROWER PROCESSED PRICE (c/lb.)</th>
<th>B.C. PRODUCTION TOTALS ('000 lbs.)</th>
<th>B.C. PRODUCTION VALUE ($'000)</th>
<th>B.C. BEARING ACREAGE (acres)</th>
<th>ALBERTA (acres)</th>
<th>SASK. (acres)</th>
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<td></td>
<td>22,000</td>
<td></td>
<td></td>
<td>330</td>
<td>10</td>
<td>350</td>
</tr>
</tbody>
</table>

Source: W.S. Peters, Ministry of Agriculture, Horticulture Branch, Abbotsford.
were going to reduce their production of strawberries mainly because of concern over the labour situation. It seems equally likely that the large increase in potential output may in itself be an incentive to reduce strawberry production. Other factors are the fact that attempts to mechanize commercial strawberry harvesting have not so far been successful, as opposed to raspberries, and the plant maturity cycle is shorter (3-4 years compared to 8-12 years for raspberries) which also facilitates crop shifting.

Product prices for strawberries have been somewhat less volatile than for raspberries. These are established with the processors through a negotiation/arbitration process under the B.C. Vegetable Commission. The average price received by the grower was $.455/lb. in 1979 and $.47/lb. in 1980 for processed berries which account for 80% of the crop. The Income Insurance cost of production estimate was $.435/lb. in 1979 and $.50/lb. in 1980.*

All of the farms visited and records looked at for strawberries involved East Indian pickers. Piece work rates varied from $2.00 to $2.25 for flats of varying sizes, or $.13 to $.15/lb. The Abbotsford Canada Farm Labour Pool quotes a prevailing rate of $.15/lb., the same as for raspberries. Presumably, smaller farms also paid somewhat more, with allowance for local transportation and stay-on premiums, than was received by workers supplied by contractors or living in farm accommodation. One farm which produced for the fresh market paid $.155/lb. for strawberries and $.165/lb. for raspberries.

Overall averages for daily production run from 13.5 up to 19 flats, or 202-285 lbs. The calculation for adjusted

*Income Insurance cost of production calculations are based on a better than average farm, generally at the 80th percentile of production.
averages ranged from 12 to 16 flats, or 180-232 lbs. per day. Five of the records examined showed that from 60% up to nearly 70% of picker days were above the adult minimum wage daily equivalent and, excluding low productivity days under 5 flats, the two others would also be above 50%. This result indicates fairly clearly that a typical strawberry picker did earn at least the minimum wage.

The data indicates a difference of about 2 flats, or 30 lbs., between strawberry and raspberry productivity on average. Indirect confirmation of this result comes from information on prevailing piece rates paid in three U.S. jurisdictions (Washington, Oregon and California) where, in each case, raspberries were paid $.02/lb. more than strawberries. (One subjective factor offsetting the higher productivity in strawberries is greater physical discomfort compared to raspberry picking.)

On the basis of the data collected, the level of physical productivity on which to calculate a minimum piece rate for strawberries would be 14.5/15 lb. flats, or 217.5 lbs. per day. This would be equivalent to $.135/lb., based on the current minimum wage. A drawback is that this would be less than the rate of $.15/lb. quoted by the Abbotsford Canada Farm Labour Pool as the prevailing rate for both strawberry and raspberry picking in 1980. On balance, it is felt that, because average daily productivity for strawberries is in the vicinity of the minimum wage (slightly above or below as the case may be), it would be undesirable to set the rate at less than was paid last year.

It is therefore suggested that the minimum piece rate for strawberries be set at $.15/lb. A premium of $.01 or $.02/lb. for the minimum piece rate for picking for the fresh market is also tentatively proposed.
Blueberries

B.C. blueberry production was about 7.5 million lbs. in 1980. This makes the province a marginal producer compared to Michigan (35-40 million lbs.) and New Jersey (20 million lbs.), but is slightly more than the combined output for Oregon and Washington. The B.C. Blueberry Co-op handles about 95% of the total provincial production.

There is something over 1,500 acres in production and this is expanding by 200-300 acres a year, mainly outside the traditional area of cultivation in Richmond. Much of the area between No. 4 and No. 5 Roads was laid out in five acre strips and, since it is very difficult to operate economically at this size,* many of these are leased out to larger farmers. Urban pressures and the steep rise in property values in this area have contributed to the recent pressure for removal of 1,000 acres from the Agricultural Land Reserve.** There are a number of large blueberry farms in the vicinity of No. 6 Road and beyond, for example, on the former Western Peat site. There is also a mix of a few large and about 30 smaller farms in the Pitt Meadows/Fort Coquitlam area, and the gradual expansion of acreage in the Abbotsford area could eventually extend the demand for labour over a larger season than at present.

Blueberries can be picked mechanically, and it was estimated by one person interviewed that perhaps half the crop was taken off by machines which can harvest up to 16,000 lbs. a day with three persons. Machines tend to be used on older varieties which many pickers do not like because the

*One large grower felt 15 acres was the break even point, with 20 acres enough to make an easy living.

small berries make it difficult to earn decent wages. It is, however, often difficult to take from 15-20 feet off the end of each row to allow the machine to turn around on some older farms with small acreage. It was also suggested that the peat soil conditions in parts of Richmond make it difficult to harvest by machine.

The most popular variety is Blue Crop. This needs to be hand picked at least twice before being machine picked. In general, blueberries take 4-5 years before getting into reasonable production, but then will last indefinitely.

Besides hand picking, blueberries are harvested by using a stick and catching devices, and also using vibrators. The latter method is very hard work, and the fruit requires more cleaning.

Growers in Richmond had most complaints about the availability of harvest labour. There is often a shortage when the raspberry crop ends late, since pickers seem to prefer this to picking blueberries. There is also a problem in September after the beginning of school. Labour contractors are used in some of the bigger farms both in Richmond and in the Fraser Valley. At least one large grower expressed the opinion that the quality of workers supplied by contractors had gradually improved. Smaller farms tend to rely on family picking and locals, often elderly persons supplementing their income. U-pick is common as well on small Richmond plots ($ .70/lb. in 1980).

The average price paid to producers by the Blueberry Co-op was over $.70/lb. in 1978, a result of poor crops in the United States. This dropped to just over $.40 in 1979 and something near this level or slightly higher was anticipated for 1980. The Income Insurance estimated cost of production for blueberries was about $.50/lb. for both 1979 and 1980.
The range of piece rates recommended by the Blueberry Co-op was $.12-.15/lb. in 1979, and $.14-.15 in 1980. Most growers appear to have raised their rates by a cent or so annually for the last few years. Stay-on bonuses seem to be less common in blueberries than for strawberries and raspberries.

Records were analyzed for five blueberry producers and interviews were held with several others which had no records available. There was quite a range in rates paid, from $.11 to $.14/lb. for East Indian workers supplied by farm labour contractors, and $.15-.16/lb. for local pickers. Contractors were paid from $.155 to $.19/lb.; in one case, the grower paid $.18/lb. for the first picking, then $.19/lb. and $.20/lb. towards the end of the season, while his workers received only $.12/lb. throughout the whole season. Fresh market picking was reported to be $.20/lb. and even above.

In contrast to raspberries and strawberries, blueberries are usually picked by the pound, and weighed before cleaning. Some growers do, however, pay by buckets (in one case 27 lbs.) or other container sizes.

There was general agreement that variety differences have a big effect on productivity in blueberry picking. Estimates of up to well over 200 lbs. daily for a good picker during the peak of the season contrasted with other views that 100-150 lbs. was typical for an average worker over the whole harvest. It was clearly evident from some of the records looked at that productivity tailed off considerably in September in older varieties such as Dixies.

Averages for the farms looked at excluding daily production under 50 lbs. and over 300 lbs. ranged from 125 lbs. - 180 lbs., the range being affected by the labour force composition and the period of picking. The results
of the averages adjusted for estimated hours worked was narrower, from 125 lbs. to 150 lbs./day. It can be seen from the calculations on the proportion of picker days under the daily minimum wage equivalent for last summer that, in every case, over three quarters of picker days were below $27.20. Verbal opinions on typical earnings suggested these were usually under $25.00. The president of the Canadian Farm Workers' Union felt it was very difficult for workers employed by farm labour contractors to make the minimum wage picking blueberries.

The suggested basis for calculating the minimum price rate for blueberries is 135 lbs./day.* This translates to a rate of $.215/lb. This would represent a considerable increase; about $.05-.06/lb. more for farms employing local labour and $.02-.06/lb. more for operations using farm labour contractors. In the opinion of Oscar Austring, a former grower and member of the B.C. Federation of Agriculture's labour committee, the industry could well accommodate a rise of up to $.20/lb., but he felt that there would be some negative impact beyond this amount.

If the increase in the blueberry rate is felt to be too large for one year, it is suggested that this be set no lower than $.205/lb. which would require slightly more than 140 lbs./day on average to match the minimum wage of $29.20 for 8 hours.

Other Berry Crops

There is a large production of cranberries in the Lower Mainland area. Because of relatively low perishability and

*The basis for calculating the Michigan minimum piece rate for blueberries also appears to be 135 pounds. The rate for 1981 is to be $.20/lb. for hand picking, based on a $3.35/hour minimum wage.
mechanization, it was reported that cranberry harvesting is paid on an hourly basis. No cranberry farms were visited, but at one large blueberry farm where cranberries were also produced, pickers were paid $4.50/hour. The Abbotsford Farm Labour Pool quotes a prevailing rate of $4.00/hour. Under the collective agreement signed between Bell Farms and the Canadian Farmworkers' Union in November, seasonal workers will receive $5.80/hour in 1981 and $6.66/hour in 1982.

It is recommended that no minimum piece work rate be set for cranberries.

There is a limited acreage of blackberries and loganberries grown on the Saanich Peninsula. It is still hoped to visit one of these farms before the regulation is finalized. Information reported to the Victoria Farm Labour Pool by growers indicated earnings from (presumably) young pickers of loganberries were only $9.00-$14.00/day in one case. The rates quoted by the C.F.L.P. for 1980 were $.15/lb. for loganberries and $.20/lb. for blackberries.

Cherries

B.C. sweet cherry production was slightly more than 17 million lbs. in 1980, down about 2 million lbs. from 1979 because of wet weather. Another 2 million lbs. of sour cherries were harvested. About three quarters of the sour cherry production is done by mechanical means, using tree shakers.

Most of the cherry crop in the South Okanagan is for the fresh market. There is somewhat more stemless picking for cannery use as the crop ripens later in the central and northern parts of the Valley. As previously indicated, some of the experienced pickers follow the crop north after the first week's harvest in the Oliver/Osoyoos/Keremeos area.
Cherries are picked into either metal or plastic buckets. A few of the growers pay on piece work by the pound, but most seem to pay on a pail or bucket basis. The weight to fill a metal bucket is 10 lbs., although very large cherries might be as low as 8-9 lbs. Stemless cherries picked later for the cannery might weigh as much as 12 lbs., but are reportedly easier to harvest. Another difference is that the usual weight required to fill one of the newer plastic buckers is also 11-12 lbs. The Canada Farm Labour Pool in Kelowna has indicated that there have been abuses by some growers taking advantage of transient pickers who were unaware of the variation in containers.

There may be considerable crushing of the fruit from use of the plastic pails, or spoilage caused by bad weather, such as occurred this year. One grower felt this could be up to a third of a bucket in a poor year, but normally was about 6-7%. It was indicated that some farms deduct a certain percentage of buckets for spoilage when payment is made at the end of the season, a practice which is the source of some resentment among pickers.

As for most Okanagan crops, rates paid in the southern part of the Valley appear to be slightly higher than in the Kelowna area. Of five farms visited in the Osoyoos/Keremeos area, all paid from $1.20-$1.25/bucket in 1980, in some cases with an extra $.10 as stay-on bonus or for poor picking. Two farms seen in Kelowna and Winfield paid $.10-.11/lb. and $1.00-1.10/bucket, respectively. Another Kelowna orchardist paid $.12/lb. for fresh pack cherries using 20 lb. field lugs. He anticipated a rate of $.13/lb. for the coming cherry harvest. A Penticton grower used piece rates plus $5.00/hour for experienced help to clean up the tops of trees.
The labour force used for picking cherries is very diverse and the wide range of productivity makes the concept of an "average" picker rather nebulous. Teenagers and pensioners pick a lot in the Kelowna area; several growers stressed the partly recreational nature of this group and felt that they could actually pick more if necessary. Transients are used extensively in the South Okanagan, mainly from Quebec. Again, there are differences in effort and motivation within this group, e.g. students working to save money for the fall pick seriously, while others aim for a target of earnings and an afternoon at the beach. Finally, there is a small nucleus of very productive pickers, the local Portuguese among them, who can pick long hours and anywhere from 450-500 lbs. and up.

The general consensus of persons talked to was that variety differences would not have a significant effect on average picker output.

For most farms, the overall daily average for picking ranged from 21-26 buckets, or 210-260 lbs. approximately. However, several averaged well over 30 buckets overall, up to 37 buckets in one case where experienced and permanent workers took off much of the crop. Farm 32 illustrates the considerable difference in average productivity due to a change in labour force mix from year to year.

In calculating the adjusted averages, the lower cutoff was set at 15 bins which would eliminate much of the part-time and some teenage or pensioner production. One grower used this as the benchmark for the minimum production he would accept from a picker staying in one of his cabins. The upper cutoff was set at 450 lbs. which would cut out much of the production of experienced pickers, and some of the effect of long hours. The range of adjusted averages ran from 23-31½ buckets.
Two main factors enter into the adjustment for hours. One is the generally shorter hours of teenagers and pensioners. Another is the shorter day often worked in the South Okanagan cherry harvest during very hot July weather.

The estimated averages adjusted for hours run from 220 to 290 lbs., assuming the normal bucket weight was close to 10 lbs. Verbal estimates ranged from 240 lbs. to something over 300 lbs. The Kelowna Canada Farm Labour Pool refers to 500 lbs./day as an average but conceded that this would be for an experienced adult picker. In Michigan, the poundage basis for the cherry minimum piece rate appears to be about 315 lbs.

Taking into account the existing labour force mix, a slightly lower average seems reasonable for B.C., about 275 lbs./day. This would produce a suggested minimum piece rate of $.105/lb.

Apples

The Okanagan apple harvest was a record 10.5 million boxes in 1980, up from about 7.5 million boxes the previous year. This is small relative to Washington State where production was about 60 million boxes, and where new apple plantings may raise this to 100 million boxes in a few years. Production has also risen sharply in Eastern Canada and the U.S. states and quality, in the past much inferior to B.C., is beginning to catch up. From two-thirds to three-quarters of the provincial crop goes for the fresh market, 90% marketed through B.C. Tree Fruits.

As a result of the good harvest, average apple prices received by the growers reportedly dropped from $.10- .11/lb. in 1979 to about $.05- .06 for this year's crop. Product prices have been quite good for a number of years but are likely to remain fairly "soft" in future, given the large anticipated
increase in international production. Nevertheless, Okanagan farmers appear to favour apples for their reliability, high yields, and resistance to severe frost to which other tree fruits are more vulnerable.

The harvest labour force for apples is less diverse than for cherries. Most children are back in school and can usually pick for only a few hours, or on weekends. Some growers do not hire anyone under 16 years of age. There is quite a lot of experienced local labour in the Kelowna area, but pensioners are also used to some extent. They tend to work shorter hours, especially in October when the days get shorter and mornings are cold. In the South Okanagan where crews are smaller, growers often try to retain the better transient workers from cherry picking through August into the apple season. Where local labour is not sufficient, availability of accommodation is more important because of the colder fall weather compared to the cherry season in July. The overall availability of harvest labour was quite good in 1980, considering the extra large size of the crop in the Valley.

As mentioned, the use of chemicals for thinning has become more common because of the shortage of experienced help. Interestingly, one grower indicated that he did not use this method in order to give his regular, hourly-paid help more continuity of work, and then also used them as the nucleus for later harvesting the apple crop.

A number of factors can enter into the productivity of apple pickers. There may be a wide fluctuation in yields from year to year, but the larger size of apples in poorer years tends to offset this at least partially. Even more important is the size of the trees. There is a gradual increase in the acreage with new controlled-sized apple trees on which an 8 foot ladder is sufficient. However,
older orchards with big trees where a 12 or 14 foot ladder is required often have difficulty in attracting labour. On smaller farms, family labour is often used to do difficult picking and clean up of trees; mechanical ladders used for pruning and thinning are also employed in picking from large trees.

Experience in apple picking is also considered to be a big factor in apple productivity (better placement of ladder; less bruising). Several growers felt that the total labour cost from using inexperienced pickers needing more instruction and supervision was very high.

Another potential influence on harvest productivity is the difference in varieties of apples. Both Mac's, which are grown from Penticton north, and Golden Delicious, which are grown throughout the Valley, require more care than later varieties to avoid bruising. A few growers had Winesaps which are a smaller apple. It was generally agreed that the best picking was in Red Delicious. Most growers indicated that they attempt to "share" the less productive picking fairly among the labour force, or pay more.

Apples are picked into wooden bins holding about 800-850 lbs. which are standard throughout the Valley. Some farmers keep written records of individual bin production, but many use only numbered three-part bin tickets (picker, grower, packing house) as a basis for payment of wages.

Piece rates paid tended to be lower in the North Okanagan. For the five farms visited in the Kelowna area, the usual rate was $8.00/bin for short stay pickers and $9.00/bin for those who stayed the season. Only one farm paid more, $10.00/bin for Golden Delicious. On the orchards seen from Penticton south to Cawston, the lowest starting rate was $9.00/bin, and most were at or close to $10.00/bin,
and sometimes $11.00/bin and more. In light years or poor picking, this might rise to $12.00 or $13.00/bin.

Varieties which tend to bruise easily (Mac's, Golden Delicious) were often paid more per bin, and sometimes on an hourly basis ($5.00-$7.00/hour), or if picking was thin. One farm with relatively difficult terrain in Penticton paid a straight $5.00/hour. The grower felt he had lower labour costs because of less supervision of regular pickers and less time moving bins. Other farms would allow experienced pickers their choice of either piece work or an hourly rate, depending on picking conditions. Several indicated that their piece work rates were set so as to be roughly equivalent to an hourly figure, from $5.00-$6.00, and would prefer an hourly system, if an assured source of reliable labour was available.

The results of analyzing production records showed overall averages ranging from 3.5 up to 6 bins a day. Several people suggested a good picker was capable of 1 bin an hour. Most of the adjusted averages were between 4 and 5 bins a day.

A study carried out in central Washington State in 1971 of 1,277 pickers employed by 76 growers found an average apple picking rate of 15.7 boxes an hour.* Converting this to a bin basis (875 lbs. in Washington), this works out to almost exactly 5 bins a day. The labour force in the sample was predominantly adult (average age 38) and comprised about 60% local pickers and over 30% migrants. Average picking rates for women were about 90% of those for men.

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*Washington Agricultural Experiment Station, Labour Productivity in Apple Picking, Circular 533, April 1971.
The Washington study also examined the effect of variety in productivity. Although it was anticipated that average output of Golden Delicious apples would be less because of the need to avoid bruising, this was actually about the same as for Red Delicious. Winesap production was found to be much lower. Another indication of some of the problems involved in gauging the effect of variety on productivity is shown in the following chart provided by one of the Okanagan growers on a small time and motion study of apple picking in 1966 (Figure 1).

The calculated production basis for the apple picking rate is 4 bins/day based on the survey of farms. This would work out to $7.30/bin based on $3.65/hour for an 8-hour day. However, because even most short-stay pickers could make about or more than the minimum wage at the lowest prevailing wage, it is suggested that the minimum piece rate for apples be set at $8.00/bin, or equivalent to 3.65 bins/day.

Pears

Pears are second to apples in terms of total tonnage produced. Output in 1980 was 43.5 million pounds, up considerably from 33.3 million in 1979. Of this about 60% are Bartlett pears, which are harvested in a 7-10 day period starting around the third week in August. Anjou pears are picked from mid-September until early October.

A number of growers indicated they had reduced or eliminated production of pears because of insect problems. The Ministry of Agriculture district horticulturist also thought the general trend was to more apple growing. Others felt that pears could produce a higher yield, especially Anjous, although the time to maturity is long: Bartletts, 10 years; Anjous up to 15 years.
Pears are heavier than apples and so, the weight of a bin is approximately 1,000 lbs. Bins tend not to be overfilled.

Labour is relatively easy to obtain for the Bartlett harvest as there is no overlap with apples, whereas this is a factor at the time Anjous are picked. Most people talked to felt that it was easier to pick Anjous than Bartletts and one thought the latter should be paid at a higher bin rate. On the other hand, the Canadian Farm Labour Pool "suggested" wage rates consistently put the low range of piece rate for Anjous at $.50 above that for Bartletts (Appendix 7).

Piece work rates at the farms visited were nearly all $10.00/bin and up for both types for season-long pickers. No actual production records were analyzed, but estimates of average daily production ranged from 3-5 bins. One large grower required pickers to produce 4 bins a day if they were staying in accommodation on the farm; the bulk of his production was from hedgerow trees which are easier to pick. On another farm, 20 people produced 250 bins of Bartletts in 3½ days, an average of about 3.5 bin/day. In general, the consensus seemed to be that daily pear production would be ½ to 1 bin/day less than for comparable apple picking.

The suggested minimum piece work rate for pears is $9.00/bin, corresponding to about 3.25 bins/day. This is $1.00/bin more than the rate proposed for apples which appears to be the common differential in the Okanagan, according to actual pay rate information collected by the Canada Farm Labour Pool offices.

Other Tree Fruits

In 1979, provincial output of prunes was 7.5 million pounds. Production of apricots was just over 6 million pounds in 1979 and very slightly more in 1980. Another large
crop is peaches which is third in tonnage after apples and pears. There is only a very small plum harvest, about 359,000 pounds in 1979. Peaches and apricots are grown only in the South Okanagan, not in Kelowna.

All of these crops appear to be harvested both by hourly rates and by piece work. Peaches are mainly paid by the hour because these need to be picked over four or five times for colour and maturity. Apricots are picked over two or a maximum of three times. Smaller farmers may pick soft tree fruits themselves, or use regular help, as this is a period (late July – mid August) when there is not that much other work to be done.

For the few farms visited which had these fruits, the most common rate was $10.00/½ bin, or 400-450 lbs. One grower paid $11.50/½ bin for apricots. Peaches were $5.50/hour and in one case, $6.50/hour. At a meeting with the B.C. Tree Fruits executive last September, the range for peaches was then estimated at $5.25-5.75/hour. The ½-bin rates quoted by the Penticton Canada Farm Labour Pool range from $8.50-10.50 for both peaches and apricots, and $10.00 for plums. Hourly rates mentioned were $3.50-4.25/hour.

No production records were looked at for these crops. The feeling of those talked to was that earnings were comparable to apples, but perhaps a bit less.

Is it suggested that no minimum piece rate be set for plums because these are produced in such small quantity. For apricots and peaches, the suggested rates are $8.50/½ bin and for prunes $9.00/½ bin. All of these are the bottom end of the ranges for actual rates paid last year as collected by the Canada Farm Labour Pools (Appendix 3). Field work may be needed to verify how realistic these rates are in practice.
Grapes

According to the Grape Marketing Board, total Okanagan grape production was 18,000 tons in 1978, 9,000 in 1979 and is expected to total 14,000 tons in 1981. Production is mainly for the wineries, especially on the large acreages in the South Okanagan. Some grapes for the fresh market (e.g. Concord) are grown in the Kelowna area where, according to one grower, the soil is less sandy and yields are better than in the south.

Winery grape prices have been $415-531/ton for white, and $359-458/ton for red. Grapes do not have Income Insurance. The Marketing Board claims a recent 21% price increase for B.C. wines, mainly sold in the province, only just offset the rise in growers' costs last year.

Much of the grape harvest is mechanized on the large acreages in the Oliver area. For example, at the Inkemeep farms visited, 80% of the 264 acres are machine picked. Hand picking was used for younger vines and cleanup after the mechanical picker. Pensioners are used for picking in the Kelowna area, and like to pick grapes because of the lack of climbing and carrying containers. Housewives and transients are also used, some teenagers on weekends and sometimes groups or school parties.

Winery grapes are picked into bins, and these can weigh from 375 up to 450 pounds. Sometimes, a 40-pound lug is used. Fresh grapes are usually picked into smaller containers (4 quart), or fresh pak.

Unfortunately, no production records were obtained for analysis at the farms visited. Two or three part bin tickets were used for payment purposes in some cases. For three farms, the rates ranged from $8.00-10.00/bin for the easier to pick
9549 variety, and up to two or even three dollars more for smaller varieties such as Foche and Okanagan Riesling, or where picking was thin. One grower paid $5.00/hour in poor picking. The one rate for fresh picking was $.65 for a 4 quart basket, about 20 lbs. ($0.032/lb.).

Verbal estimates of average productivity ranged from 3-5 bins/day, depending on the labour force mix and varieties. Another important factor is the wide spread in yields, depending on age of the vines and year, which can run from 2-15 tons/acre. One grower claimed $7.50/bin would produce good wages in lush picking.

The "guesstimate" suggested as a minimum piece rate for grape picking is $8.50/bin, or a little over $0.02/lb. based on 400 lbs./bin assumption (3.4 bins/day). (The only indirect evidence to support this is that the Michigan piece rate for picking Concord grapes in 1981 will be $.02/lb. related to a $3.35 state minimum.)

**Brussels Sprouts**

Only two producers of Brussels Sprouts were contacted in the survey. One was a large corporate farm who used a labour contractor with 80-100 workers to harvest his crop in 1979. He was intending to cut his labour requirement to no more than 20 for this past year by mechanization, the whole plant is cut by hand and then stripped by machine. Dissatisfaction with the pace and quality of work by the contractor's workers was the stated reason for this shift. For 1979, the grower paid the contractor $1.80/bin and the workers received $1.25/bin. His estimate of average productivity was about 20 bins/day equating to about $25 a day. Several local women were also hired at $5.50/hour and proved to be much more satisfactory.
A bin can weigh from 20-25 lbs. depending on the size of the sprouts. There may be 15% or more of wastage with careless pickers or a poor crop.

One other grower using East Indian labour in the Abbotsford area paid $1.50/bin in 1980. Picking was from October 29th to November 23rd, with shorter hours towards the end because of less light. Analysis of his production records showed both an overall and adjusted average of 20 bins, with an increase to 22.5 bins for the stated 7 hour day.

An estimate of from 12-18 bins/day as the range of productivity was made by the Assistant Manager, Abbotsford Farm Labour Pool.

The suggested minimum piece rate for Brussels Sprouts is $.075/lb. This works out to 19½/20 lb. buckets, based on $29.20 for an 8 hour day. If the bucket weight were as high as 25 lbs. for all production, the basis would be 15½/25 lb. buckets.

Unit of Payment

Variation in the unit on which piece work harvest rates are based is likely to be an area in which problems will arise, both in drafting and enforcement of the regulations by Labour Standards. Considerable time was spent talking to growers and others on this aspect, but there appear to be no easy solutions to completely deal with some of the following points.

Container Type and Size - As indicated, the flat size used in harvesting strawberries and raspberries apparently ranges from 15-17 lbs. Plastic and wooden
flats are used; the latter may increase in weight from accumulation of moisture during wet periods which may lead to confusion or an increase in poundage demanded by the farmer. Some growers suggested a standard size of flat should be specified; others pointed out the considerable costs involved in converting from one to another. Effect on the quality of fruit is another factor, as mentioned with respect to the shift in use of metal or plastic pails in harvesting cherries.

Volume vs. Weight - Several of those interviewed felt that all fruit should be weighed on scales and paid strictly on this basis. For example, nearly all blueberry harvesting is recorded by exact weight, as opposed to strawberries and raspberries. Some cherry growers pay by weight but most do it by the bucket, both to save time and also to minimize handling of the fruit. Hand harvested grapes are paid by the bin but, in many cases, could be weighed on location by scales built into the lifting vehicles used by growers.

There are other problems in using either volume or weight as the sole criterion. For example, it was stated that there is little difference in volume, or difficulty of picking, between fresh and stemless cannery cherries, but up to 20% more weight as the sugar content of the fruit increases late in the season. Both the weight and size of strawberries and raspberries will vary by location or season depending on the amount of moisture. Careful placing of grapes can fill the bin to the required level which will then "shake down" during transport to the winery and weigh much less than anticipated.

Level of Filling Container - A major area of complaint in the Fraser Valley is where pickers feel that the farmer or field supervisor is requiring them to overfill
strawberry and raspberry flats. This can also be affected by the location where the fruit is actually picked and to where it must be carried, since there is often considerable shrinkage when the berries are left exposed to hot sun for more than a short period of time. This is one of the reasons the Canadian Farmworkers' Union has asked that there be conveniently located weigh scales in the fields, one for every 50 workers.* (The waste of working time involved in carrying flats is another reason.)

Practice among cherry growers appears to vary on whether a bucket needs to be filled level to the top or "crowned". Again, this appears to relate to changes in the weight/volume relationship as the crop matures. For other tree fruits, there are year-to-year differences in the size and weight of the crop. However, there appears to be less incentive to require overfilling of bins either because of bruising (e.g. apples) or the total weight of a filled container (e.g. pears).

Dockage - The amount of usable fruit harvested can vary substantially depending on the crop, year, quality of labour force and degree of supervision. Deduction of weight for wastage or poor quality is usually made by the processor. Blueberries is one crop where the fruit is normally "cleaned" prior to sending to the Co-op. Several growers felt that piece rates should relate to the net poundage harvested but, as indicated above, deduction from wages for spoilage is not appreciated by pickers.

The units used in the suggested minimum piece rates follow the method of indicating pay rates for each crop

*Brief to the Minister of Labour, February 22, 1980, p.8.
compiled by the Canada Farm Labour Pools. In cases where the harvesting container is fairly small (berry crops, cherries, Brussels Sprouts), the rate is set on a poundage basis. The other rates for tree fruits are set on a volume basis corresponding to current industry practice.

It is suggested that the Ministry not get involved in trying to standardize picking units or containers for various crops, although the various growers' associations should be encouraged to promote this.

To promote voluntary compliance with the minimum piece rate standard, it is proposed that the farmer or farm labour contractor be required to conspicuously post the weight and volume of containers being used, the amount of fruit required to fill a unit of production, and the resulting piece rate. However, because of some of the difficulties outlined above, it is not suggested that all fruit harvested be strictly weighed on a commercial scale at the farm.

The proposed arrangement would put the onus on the grower to ensure that the piece rate is being fairly represented to pickers, and at least meets the minimum standard. A number of growers indicated that, as the season progressed, they would reweigh two or three sample units each day, and adjust the piece rate or amount of fruit required to reflect changes in the weight of fruit and other factors. Pickers would also have an opportunity to question the fairness of the piece rate prior to the start of picking.

It is proposed that piece rates be based on the gross volume or weight of fruit picked, and that no later deduction be allowed for dockage. Again, this would put the onus on the farmer (or contractor) to provide the necessary degree of supervision and direction to pickers to ensure that the fruit harvested was of adequate quality.