Occasional Paper No. 12

THE OUTLOOK FOR THE AUSTRALIAN CANNED DECIDUOUS FRUITS INDUSTRY

BUREAU OF AGRICULTURAL ECONOMICS • CANBERRA • A.C.T.
THE OUTLOOK FOR THE AUSTRALIAN
CANNED DECIDUOUS FRUITS INDUSTRY

G.L. MILLER

Reprinted by Arrangement with the Australian Canners' Association
from the Proceedings of the 16th Australian Canning Convention,
held in Melbourne, September 1972.
THE OUTLOOK FOR THE AUSTRALIAN CANNED DECIDUOUS
FRUITS INDUSTRY*

There can be little doubt that the Australian deciduous canning fruits industry is in a situation of chronic surplus capacity in relation to the present availability of profitable market outlets. In recognition of this fact a fruit-growing reconstruction scheme, providing for the payment of a tree pull subsidy for growers in financial difficulties, has recently been introduced in an effort to assist the industry adjust to its market opportunities. Many believe that even this will not bring about adjustment quickly enough to ensure satisfactory resource returns to those remaining in the industry, although whether this assessment is justified or not remains to be seen.

While it would be irresponsible of me merely to attempt to dispel the gloom in this paper, it does seem that there is light at the end of the tunnel if the industry is able to recognise all the elements of the situation and adjust rapidly to its changed economic environment. The rate of adjustment will of course depend on a large number of factors but eminent among them will be the marketing and pricing arrangements which emerge in the next few years.

* In preparing this paper, the author has, where appropriate, drawn on work undertaken by colleagues in the BAE. The following published papers, in particular, are worthy of note:

What I would like to try to do is to survey the market outlook up to about the end of the transition period for British entry into the EEC, to draw what conclusions we can from available information, to suggest some implications for industry marketing arrangements, and to indicate some areas where I think we could only reserve judgement pending the outcome of developments in the next year or so.

The Domestic Market

The domestic market absorbs approximately one-third of Australia's total production of canned deciduous fruits. Although Australian per caput consumption is appreciably higher than it was in the mid-fifties, little growth has occurred since 1962-63 despite the fact that real prices, i.e. prices after allowance is made for inflation, have declined.

During the period since the early 'sixties, consumption of processed citrus products, of fresh and processed apples, and of canned tropical fruits - mainly pineapples - has increased considerably. This in part reflects the maturing Australian palate as average incomes rise - we have long been among the largest consumers of canned fruit in the world, while we have been relatively slow in increasing consumption of other processed fruit products.

In contrast, per caput domestic consumption of canned deciduous fruit has fallen since 1970, despite increased price competition among canners and 'speciallling' of the product in retail stores during the last two years. However, some of this speciallling seems to have been countered by higher prices during non-special periods or in non-speciallling shops. Until June this year, average retail peach prices paid by consumers, at 33c a 29 oz can, had been maintained marginally above the level of the previous year, while pear prices, at just under 32c had fallen only about 1c. Nevertheless, if an allowance is made for inflation, real retail prices have certainly been falling.

In this situation of falling consumption and falling real prices, it might be suggested that price increases or reductions have little effect on consumption. However, this seems too simple an inference. Indeed if one thinks of canned deciduous fruit as a well established commodity coming under increasing competition from alternative
forms of processed fruit, one might be led to wonder what the level of domestic sales might have been these past two years had prices been increased.

I would like to draw two conclusions regarding the domestic market from this brief discussion:

(a) if real prices of canned deciduous fruits are maintained at present levels, it will require constant vigilance in merchandising and product presentation to maintain sales through to 1980, and a 1% per annum average rate of growth might be the best we can hope for;

(b) it is difficult to see how significantly more revenue could be extracted from the domestic market in the years ahead to help support a high level of export sales.

The U.K. Market

The U.K. has been by far the most important and profitable export market for canned fruit, but we have already come under increasing competition from South Africa and the U.S., in part because of currency revaluations and in part because of duty reductions following the Kennedy Round of tariff negotiations. As Britain enters the EEC, if canned fruit does not fall under the provisions of the CAP, the rates of duty shown in Table No. 1 will be applicable to sales of canned fruit from the various destinations. Graph I clearly shows the movement in duty rates for peaches, while Graph II shows the picture for pears and apricots.

We can see from Graph I that our loss of advantage over the U.S. in terms of amount of duty payable will be quite steady, but the advantage held over France and other EEC countries will be lost very early in the transition period. Because our fruit gradually becomes eligible for duty at the rate of 24%, and EEC fruit is relieved of its 6% duty, the competitive position of EEC suppliers will be improved by a massive 30% following British adoption of the CET. In the case of Italian pears, now subject to 12% duty, the aggregate improvement in competitive position is an even greater 36%.
Table No. 1
UNITED KINGDOM TRANSITIONAL RATES OF DUTY(a) SCHEDULED
FOR UNITED KINGDOM ADOPTION OF THE EEC COMMON
EXTERNAL TARIFF
CANNED FRUIT(b)

<table>
<thead>
<tr>
<th>Item</th>
<th>Duty Payable on Fruit from within the EEC</th>
<th>General Rate of Duty</th>
<th>Duty Payable on Australian Fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANNED PEACHES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 31 December 1973</td>
<td>6.0</td>
<td>6.0</td>
<td>nil</td>
</tr>
<tr>
<td>1 January 1974</td>
<td>4.8</td>
<td>9.6</td>
<td>4.8</td>
</tr>
<tr>
<td>&quot;  &quot; 1975</td>
<td>3.6</td>
<td>13.2</td>
<td>9.6</td>
</tr>
<tr>
<td>&quot;  &quot; 1976</td>
<td>2.4</td>
<td>16.8</td>
<td>14.4</td>
</tr>
<tr>
<td>&quot;  &quot; 1977</td>
<td>1.2</td>
<td>20.4</td>
<td>19.2</td>
</tr>
<tr>
<td>&quot;  &quot; 1978</td>
<td>nil</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td>CANNED Pears AND APRICOTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 31 December 1973</td>
<td>12.0</td>
<td>12.0</td>
<td>nil</td>
</tr>
<tr>
<td>1 January 1974</td>
<td>9.6</td>
<td>14.4</td>
<td>4.8</td>
</tr>
<tr>
<td>&quot;  &quot; 1975</td>
<td>7.2</td>
<td>16.8</td>
<td>9.6</td>
</tr>
<tr>
<td>&quot;  &quot; 1976</td>
<td>4.8</td>
<td>19.2</td>
<td>14.4</td>
</tr>
<tr>
<td>&quot;  &quot; 1977</td>
<td>2.4</td>
<td>21.6</td>
<td>19.2</td>
</tr>
<tr>
<td>&quot;  &quot; 1978</td>
<td>nil</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td>CANNED TWO FRUITS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 31 December 1973</td>
<td>15.0</td>
<td>15.0</td>
<td>nil</td>
</tr>
<tr>
<td>1 January 1974</td>
<td>12.0</td>
<td>16.8</td>
<td>4.8</td>
</tr>
<tr>
<td>&quot;  &quot; 1975</td>
<td>9.0</td>
<td>18.6</td>
<td>9.6</td>
</tr>
<tr>
<td>&quot;  &quot; 1976</td>
<td>6.0</td>
<td>20.4</td>
<td>14.4</td>
</tr>
<tr>
<td>&quot;  &quot; 1977</td>
<td>3.0</td>
<td>22.2</td>
<td>19.2</td>
</tr>
<tr>
<td>&quot;  &quot; 1978</td>
<td>nil</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td>CANNED COCKTAIL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Where not less than 80% by weight consists of peaches, nectarines, pears, apricots, cherries)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 31 December 1973</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>1 January 1974</td>
<td>&quot;</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>&quot;  &quot; 1975</td>
<td>&quot;</td>
<td>9.6</td>
<td>9.6</td>
</tr>
<tr>
<td>&quot;  &quot; 1976</td>
<td>&quot;</td>
<td>14.4</td>
<td>14.4</td>
</tr>
<tr>
<td>&quot;  &quot; 1977</td>
<td>&quot;</td>
<td>19.2</td>
<td>19.2</td>
</tr>
<tr>
<td>&quot;  &quot; 1978</td>
<td>&quot;</td>
<td>24.0</td>
<td>24.0</td>
</tr>
</tbody>
</table>

(a) Completion of transition on these schedules will be subject to possible introduction of a CAP for canned fruits. (b) The rates of duty given in this table are provisional only, and are based on information received from the Department of Trade and Industry.
Graph I

TRANSITIONAL RATES OF DUTY SCHEDULED FOR U.K. ADOPTION OF THE
COMMON EXTERNAL TARIFF: CANNED PEACHES

Per Cent

25

20

15

10

5

0

1-1-74  1-1-75  1-1-76  1-1-77  1-1-78

GENERAL RATE OF DUTY

DUTY PAYABLE ON AUSTRALIAN FRUIT

DUTY PAYABLE ON FRUIT FROM WITHIN
   THE EEC
TRANSITIONAL RATES OF DUTY SCHEDULED FOR U.K. ADOPTION OF THE COMMON EXTERNAL TARIFF: CANNED Pears AND APRICOTS

Per Cent

GENERAL RATE OF DUTY

DUTY PAYABLE ON AUSTRALIAN FRUIT

DUTY PAYABLE ON FRUIT FROM WITHIN THE EEC

1-1-74  1-1-75  1-1-76  1-1-77  1-1-78
The duty rates for two fruits and cocktail tell a similar story. An important point to note here is that even now European cocktail enjoys duty free entry. Consequently, and this is more of an aside, much of the rapidly rising French peach output could be sold in the U.K. as cocktail during the next couple of years, until the duty change on peaches has its effect.

In addition to the duty shown in the tables will be the added sugar levy, which varies according to sugar content, and which I believe has been estimated to average about 6% for most popular Australian packs.

Some may be hoping that most of this increased duty will be borne by U.K. consumers, even if this does mean some loss in sales volume. However, by 1978 the U.K. will simply be part of the European Common Market, and it will no longer be possible to maintain a price differential of any significant magnitude (except perhaps for quality differences) between U.K. prices and prices in other European markets. This will be so for at least two reasons:

(a) our competitors are unlikely to sell in Continental Europe at lower prices than they could get in the U.K. They will consequently sell a higher proportion of their output in Britain than they now do, thus bringing down prices there; and

(b) even were there still strong brand loyalty for Australian fruit in the U.K. in 1978, if we tried to sell at a higher price in the U.K. than on the Continent, speculators or U.K. retailers could profit by buying our fruit in Germany at the lower prices and transporting it to the U.K. themselves for resale.

Of course, it is possible that prices in Continental Europe could improve during the next five years or so. This would mean that prices in the single European market by 1978 could provide real returns to Australian canners above the levels current in Continental Europe, but below those from the U.K. Whether this is likely or not will largely depend on the availability of supplies from competing countries, and on the rate of growth of alternative markets. Let us look at these in turn.
Supplies from Competing Countries

(a) The EEC Itself

Italian output of canned pears, at around 60,000 tons, has more than doubled over the past four years. Only a small proportion of Italian production of fruit suitable for canning, is actually canned. Output of W.B.C. pears currently totals around 270,000 tons. Superficially then, it appears that Italian output of canned pears could be increased to the full extent of U.K. imports by the end of the transition period.

Of course, limits are imposed on the amount of fruit that could be economically canned in Italy because of the geographic dispersion of production areas, by the traditional conservatism among Italy's farmers (who sell a lot of their fruit direct to the public) and by the huge demand for fresh fruit among the Italians themselves. Nevertheless, Italy holds around 16% of the U.K. canned pear market now and they pay a 12% duty - by 1978 their competitive position vis-à-vis Australia and South Africa will have improved some 36%.

Present peach production levels in the EEC are low relative to market requirements. This indicates that the European market, including the U.K., could remain heavily dependent on imports from Australia, South Africa and the U.S. at least until the end of this decade. At present, the EEC produces around 40,000 tons of canned peaches each year, and imports a further 90,000 tons.

Nevertheless, French plantings increased greatly in the 1960s. So far, canned peach production has only reached about 10,000 tons, but production of mixed fruit, a large part of which is peaches, more than doubled in the past three years, reaching 21,700 tons in 1971. There is also the possibility of increased output of peaches in the Mediterranean region, particularly in Italy and Greece.

It therefore seems that the European market for pears will be highly competitive by the end of the transition period, but there may be continuing opportunities for traditional exporters to sell canned peaches in the enlarged EEC. It is important to recall the point made earlier that by 1978 there will be one European market, with only minor price differentials, largely attributable to quality variations, between
the U.K. and continental markets. The price obtainable in this single European market will depend largely on supplies available from the following competing exporters from outside the Community.

(b) The USA

The U.S. is by far the world's largest producer of canned peaches, its output representing some two-thirds of the world total in most years. During the past decade, production fluctuated between 530,000 tons (27 million basic cartons) and 760,000 tons (39 million basic cartons) without showing any tendency either to rise or fall. However, output in 1971 fell to 500,000 tons.

U.S. canned peach exports have fluctuated widely in the past decade about a mean level of about 80,000 tons (4.1 million basic cartons) per year.

Only if one knew the answer to our basic problem, i.e. what the market situation will be in 1978, would one be confident of predicting U.S. exports. Given the Marketing Order legislation and the administrative and market research machinery that goes with it, the U.S. has the potential to raise or lower output rapidly. Exports have in the past represented only about one-seventh of total output, but given satisfactory export market conditions, this proportion could be increased rapidly. Conversely, given poor market conditions the U.S. could be expected to adjust its output in a downwards direction.

(c) South Africa

South African cling peach plantings rose rapidly in the decade ended 1966, averaging 245,000 trees per year from 1963 to 1966, compared with average removals of 136,000 trees. This left the country with a high ratio of 32% of non-bearing to total trees in 1966. Although bearing tree numbers are still increasing as a result of these plantings, it seems that the rate of planting since 1966 has slowed down to what might be considered closer to normal replacement levels.

Two colleagues in the BAE have recently developed a much more accurate method of projecting future levels of canned peach production. (1)

(1) W.R. Curran and N.M. Nicholls, op. cit.
This has been applied to the Goulburn Valley industry in a paper being prepared for publication. It is our intention to devote considerable research resources to attempt to apply this technique (with some variations) to South African output as soon as we are able to obtain up-to-date tree census information. I believe that, given the ability of the U.S. to rapidly adjust its output in line with market opportunities, the volume of South African production will be the most important variable influencing the profitability of our export canning peach sales, at least for the rest of this decade.

Canning pear production in South Africa rose steadily from around 22,000 tons (1.1 million basic cartons) in the period 1963 to 1965, to a peak of 31,000 tons (1.6 million basic cartons) in 1969. Since then it has stabilised at around that level, although it has fallen by about 1,000 tons this year. Further increases in South African output of pears are expected to come only from improved yields. It seems unlikely that the South Africans will greatly increase canning pear plantings, given present and prospective market circumstances.

In summing up this discussion of production in competing countries then, it seems that aggregate supplies are likely to expand more rapidly than available European markets, particularly for pears. Even for peaches, it seems unlikely that the single European market will provide returns to Australian canners much above those presently prevailing, unless there is further growth in non-European markets to draw some of the supplies off the European market. Before turning to consider alternative markets, however, I think it important to recall that there are two important areas where our knowledge is imprecise regarding competition from other suppliers namely, the future rate of growth in South African output, and the ability of the Italians to mobilise their industry. Further economic research is proceeding in the BAE on both these issues.

Alternative Markets

(a) Canada

During the 1960s, Canada developed as a major outlet for Australian canned peaches and pears. In 1968, it took 11% of total Australian exports of peaches, 5% of pears and 17% of mixed fruits.
Since 1968, however, largely because of competition from the U.S., exports of peaches and mixed fruits to Canada have fallen sharply, though they recovered somewhat last year. Exports of pears, after falling in 1969, have recovered to previous levels.

Major features of supplies of canned peaches and pears to Canada are:

(a) declining domestic production of peaches, which is being compensated for by greater imports; and

(b) relatively constant domestic production and imports of canned pears.

As a supplier of canned peaches to Canada, Australia competes with the United States and South Africa as well as with Canadian producers. The three exporters between them supply the greater part of Canada's requirements.

Looking to the future, there appears to be little further prospect of Canada's total imports of canned peaches rising by more than about 1.5% per year in line with population growth. Most of the gains which occurred in imports during the 1960s resulted from the substitution of imported fruit for declining domestic production. However, domestic output was only some 6,000 tons or 0.3 million basic cartons in 1969, representing an industry one-quarter the size of that at the beginning of the decade.

Australia's prospects for maintaining sales in Canada, perhaps with a small annual increase, greatly depend on South Africa as far as both peaches and pears are concerned, and the U.S. for peaches. As we have noted earlier, the U.S. can be expected to compete strongly as long as it is profitable, and whether South Africa will mount a major offensive in this market between now and 1978 depends largely on her total supply position. Certainly her peach sales to Canada rose sharply last year, and she has a small foothold in the pear market.

(b) The United States of America

The United States is a major exporter of canned fruit, but it is also a large importer, its intake being principally of canned pineapple. Of the deciduous fruits, the United States is a major exporter of canned
peaches, and even in short production years, domestic supplies are virtually assured through the substantial stocks which are normally available. For pears, however, production fluctuates widely, there being a particularly marked alternate bearing pattern, and in some years significant imports are necessary to supplement domestically grown supplies. One such year was 1968 when the United States purchased 181,000 cartons of Australian pears to supplement short supplies, resulting from a small pack in 1967.

It seems unlikely that the United States will become a regular and sizeable customer for Australian pears. Nevertheless, Australia is well placed to supply quantities when they are required and, intermittently, opportunities should exist for shipment of significant quantities, provided prices are sufficiently attractive to exporters and U.S. authorities do not take action to limit Australian sales.

(c) Japan

To date Japan has produced the bulk of its own market supplies of canned peaches and pears. Nevertheless, quantities of canned peaches are imported. Between 1963 and 1968 annual imports ranged between 30,000 and 112,000 cartons, but in 1969 they rose to 700,000 cartons, then declined to 256,000 cartons in 1970, rising steeply again this year. The United States has normally been the main overseas supplier, though Australia has become much more important this year, with a stepped up sales effort.

Consumption per head of processed pears in Japan is only about 0.2 lb per year and thus one might expect some scope for an increase, although the promotional cost could be high. Should any significant advance in consumption occur it would mainly be of imported pears unless Japanese varieties, which are currently consumed fresh, are used for canning.

The Japanese consume large quantities of fresh pears, and future increases in demand for the canned product will largely depend on its ability to compete with fresh pears.

Consumption of canned fruit as a whole in Japan is estimated to have risen from 5.1 lb per head in 1965 to 6.7 lb in 1968, and doubtless the figure has risen a little since then. Nevertheless,
consumption is still very low in comparison with North America, the U.K. and Australia. As incomes rise further, the demand for canned fruit could be expected to increase. Whether this results in greater imports will depend very much on developments in domestic production. Fruits, being intensive crops, are not subject to the same physical limitations on production, arising from shortage of suitable land in Japan, as are more extensive crops such as some cereals. On the other hand Japan, with a very substantial balance of payments surplus, is in a fortunate position from the point of view of stepping up its imports, and may be less inclined than in the past to encourage growth of its import-competiting industries. This may be a factor in favour of increased imports of canned fruits.

In concluding the discussion of the Japanese market, considerable promotional efforts would probably be needed to establish a taste for canned pears in Japan. Also, the Japanese are more accustomed to white varieties of peaches than to our yellow varieties. Nevertheless, Japanese dietary practices have an established propensity for rapid change and there would not seem to be any reason why promotion should not be successful in this market. Intense competition from other suppliers must also be anticipated, although such suppliers would not appear to have any obvious competitive advantage over Australia on the Japanese market.

(d) Developing Countries

Many developing countries with their very limited foreign reserves, are striving to sustain growth in per caput incomes in the face of rapidly rising population. Income growth can in many instances only be achieved through industrialisation, necessitating the purchase of capital goods from the technologically more advanced developed countries. Thus, capital goods and basic necessities tend to have first call on the scarce foreign currency reserves. Canned fruits, widely considered a luxury item and not regarded in the developing countries themselves as important in up-grading diets, could be fairly low on the list of import priorities for these countries.

Nevertheless, although limited opportunities exist for establishing sizeable markets in the individual developing countries of Asia, Latin America and Africa, these countries collectively contain a
large number of high income people, and it would seem on the surface that scope exists for the development of small specialist markets in many of these countries.

(e) The Soviet Union and Eastern Europe (Comecon Countries)

The Soviet Union is a significant and expanding importer of canned fruits, its total intake in 1969 being 75,600 tons (3.8 million basic cartons) compared with an average of 14,200 tons in the four years ended 1960. The Soviet Union draws most of its supplies from Eastern European countries including Hungary, Bulgaria and Romania, all of which are large exporters. Similarly, East Germany which currently imports about 12,000 tons of canned fruit, draws the bulk of its supplies from other Eastern European countries.

As a group, these countries are net exporters of canned fruits, and significant quantities of Bulgarian peaches are marketed in West Germany, in competition with U.S. and Australian canned peaches. Further expansion of the Soviet Union market might divert some such fruit away from the West German market, leaving a gap which might be filled by Australian (or U.S.) fruit. As far as direct sales of Australian fruit to the USSR are concerned, there is little information available from which to form a judgement on the potential development of this outlet. Import demand in the USSR is limited by the supplies of convertible currency available to importing agencies. By 1978 it is possible, of course, that the USSR could have greatly stepped up its trade with the West. In this eventuality prospects for increased sales of canned fruits in the Socialist countries could have improved substantially, but the possibility of increasing sales there, even in the present environment, should not be dismissed.

Summary

Export Prospects

Now where do we come out of this analysis of market prospects? Although there are many unknowns and although a great deal of market research is still needed and indeed under way, I think we do have to form some judgement on the basis of available information, and it seems that the further research will mainly serve to sharpen the focus of our knowledge of the outlook rather than to present an entirely different picture.
Certainly the profitability of Australian sales in the U.K. by 1978 will be down, and it seems that our returns in that market will be little better than those in other common market countries.

Nevertheless, it appears that there will be sufficient growth in world markets to absorb some of the increasing supplies, and sufficient growth in non-European markets to allow some diversion of supplies from European markets. Consequently, the possibility that real returns from all markets, might be a little better than returns from sales to the Continent have been during the past couple of years, cannot be discounted. Although it seems that the prospects might be a little brighter for peaches than for pears, the two markets are of course closely inter-related.

Even if average returns from the enlarged European market did rise above recent returns from the Continent, however, average real returns per carton exported from Australia could still be down from current levels if output is maintained. This possibility is schematically demonstrated in Figure I.

Looking at the first diagram in the Figure it can be seen that, in very simplistic terms, we have three markets (or groups of markets) with three levels of profitability. Roughly one-third of sales go to each market. The highest prices are obtained on the domestic market, followed by the U.K. with low prices in other markets. Now, oversimplifying the picture, the effects of present industry marketing arrangements are to 'slice-off' the top 50c per basic carton from domestic sales, and use the fund so created to bolster returns from sales on other markets (when funds permit, such sales are supported to the level of profitability of U.K. sales). This gives a single average price for sales in all markets. The level of the average price under present arrangements is marked, according to our simplified picture of things, on the middle diagram of Figure I.

The diagram at the bottom of the Figure represents an attempt to show the effects of loss of U.K. profitability on Australian average returns, on the assumption that, by the end of the transition period, prices are a little above those presently prevailing on Continental markets.
Figure I
HYPOTHETICAL REPRESENTATION OF THE EFFECT ON INDUSTRY AVERAGE PRICES OF REDUCED PROFITABILITY OF SALES TO THE UNITED KINGDOM
Assuming we 'slice off' the same amount of revenue from the domestic market, it now has to be spread over all export sales, and we can see that its effect is consequently very much diluted. In fact it adds only half as much per basic carton to the average returns from export sales as it did previously. The new average price for all Australian fruit, marked on the bottom diagram, is considerably lower than the present average price, despite our assumption of an improvement in returns from Continental markets.

It can be readily seen, then, that the average returns to the Australian industry in the years ahead will be greatly dependent on the volume of production. Other things being equal, the more we produce, the lower will be our average market returns.

**Australian Output**

Australian production of canned deciduous fruit almost doubled during the past decade, but as output reached the high levels of the early 'seventies, adverse market conditions resulted in the accumulation of stocks at unprecedented levels, and cannery quotas, rather than availability of fruit, have become the operative constraints on output.

For pears, output from existing plantings is likely to continue to increase for the remainder of this decade. Plantings were heavy until 1967-68 and, since trees do not reach maximum bearing until 15 years after planting, further increases in yield can be expected throughout this decade. Of course, what actually happens to pear production will be influenced by the trees pulled, whether under the tree pull programme or on an individual basis by growers. At the present time, however, it is difficult to see other than continuing surplus capacity for pears. In terms of the Figure shown earlier, this would mean a higher proportion of fruit in the export market, and lower overall average returns to the industry from pear sales.

For peaches the outlook for 1978 seems to be somewhat brighter, even though that is hard to see in the present situation of surplus stocks. Recent work by Curran and Nicholls of the BAE suggests that given the present age structure of the tree population, canning peach production in the Goulburn Valley could fall by about 24% between 1970 and
1979. Thereafter with 'normal' replacements, output should rise until 1985, and then converge towards a stable level of around 47,000 tons of fresh fruit. The projections curve derived from their analysis is shown in Graph III.

In order to clearly understand the meaning of these projections, it is necessary to have some understanding of the basis of them. Graph IV shows the age structure of the 1970 Goulburn Valley tree population. The dotted line shows the age structure of a 'steady-state' tree population (i.e. one where the rate of replacement each year is constant and output fluctuates - according to seasonal conditions - around a constant level of output) producing an average of 47,000 tons of fresh fruit per year. It can be seen that, compared with a 'steady-state' age structure, we have too many trees in the 10 to 12 year age group, and too few in some other age categories largely because of the floods in the late 'fifties.

By closely studying past removal practices by growers, Curran and Nicholls have derived average age-specific removal rates for the Goulburn Valley. Now, taking the tree population shown in Graph IV, and assuming that growers remove and replace trees at approximately the same average ages as they did in 'normal' circumstances in the past (i.e. eliminating floods and other disasters), and that no net change in the tree population takes place, the projections curve shown in Graph III can be derived.

Now, with some understanding of the basis of the projections, it can be seen that the extent of the fall in output up to 1979 could be increased if accelerated removals take place in the next few years, but the fall could be decreased to the extent that growers defer replacements during the current period of apprehension regarding market circumstances.

This model has not yet been applied to other major producing areas, and their plantings certainly display a different pattern from the Goulburn Valley. Nevertheless, if a 20% reduction in total peach output by 1979 were assumed a substantial improvement in average returns to the industry from peach sales could be expected. In terms of sales, the reduction would fall entirely on the export market, and would result in a reduction in exports of approximately 32%. As can be recalled from
Graph III
CONVERGENCE OF SUPPLY FROM PRESENT PLANTINGS TO THE STEADY-STATE

Fresh Fruit ('000 Tons)

AGE DISTRIBUTION OF PLANTINGS IN THE 'STEADY-STATE' AND THE 1970 GOULBURN VALLEY ORCHARD CENSUS

Graph IV

Percentage of Total Acreage

Source: W.R. Curran and N.M. Nicholls, op. cit.
our earlier Figure, average returns would then be considerably above what they otherwise would have been.

Before drawing any inferences about the peach situation towards the end of the decade, two further points need to be borne in mind:

(a) on the assumptions of the projections model, if normal replacements continued, output would again rise between about 1979 and 1985, but this time the rise would only be about 5%, before gradually declining towards a steady and stable level;

(b) under present industry marketing arrangements, returns to canners and growers for peaches are affected by the pooling of revenue from sales of peaches and pears.

It is important that the consequences of short term decisions to remove or replace trees be constantly monitored, if the industry is to regain the stability of earlier years. Apart from the further work in projecting output from current information, up-to-date new information on tree populations emerging from the census committees and the reconstruction authorities will need to be plugged into the projections models in the next year or so, to study the longer term consequences of decisions now being taken regarding tree pulls, replacements and new plantings. At the same time continuing reassessments of market prospects in overseas countries and of the productive potential of competing suppliers will be needed.