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REPORT ON COASTAL-GROWN ORANGE PRICES.
AN INTERPRETATION OF MARKET TRENDS AND THE CONDITIONS
OF RETAIL DISTRIBUTION

BY

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1. INTRODUCTION.

The statement here presented was originally intended to provide a working summary of market price trends for New South Wales coastal-grown oranges over the last few seasons. It was subsequently expanded to include a brief commentary on the relationship between wholesale and retail prices and what is commonly termed "the spread between producer returns and retail prices." When a beginning was made to put this information together, there was no thought of later publication in mind. Departmental convenience, however, indicated that there should be some



VALLEY BOTTOM, CONTOUR, AND HILLSIDE CITRUS ORCHARDS IN THE
GOSFORD DISTRICT.

(Photo. Govt. Tourist Bureau.)

examination made of the periodic complaints by producers of retail "overcharging" on oranges and, more importantly, into the possible effects of "high retail prices" in depressing wholesale market clearances. It has now been decided to publish this statement, firstly, because the information that has been collected may be of general interest, and, secondly, by way of illustrating the intrinsic difficulties, both statistical and practical, involved in the preparation of price and market surveys of this type.

In July, 1948, the senior author of this article (C.J.K.) was appointed Chairman of an Inter-departmental Committee required to report upon various issues relating to the marketing of fruit and vegetables in the

Sydney metropolitan area.* When entering this controversial field, the committee soon became aware, as had been prior anticipated, of the difficulty of obtaining precise information upon particular points under discussion, and of persuading competent observers to agree among themselves in furnishing definite opinions upon trade and industry conditions or in suggesting ways by which these might be improved. One of the strongest forces underlying controversy in regard to marketing and distribution issues, it was made very clear, is the sense of frustration, and even outrage, felt by many sections of producers and the general public at large, at the apparent "spread" between the returns received by growers and retail prices. This question may perhaps be best summed up in the contentious and somewhat intangible inquiry "*Does Distribution Cost Too Much?*" Few other questions would appear to cause emotions to run so high, when latent mistrusts occasionally flare up into newspaper and industry controversies. At such times, blame runs headlong before the winds of agitation, and it is usually quite impossible to reconcile the preference of competing interests for one-sided briefs rather than for objective analyses. Two

**Of the previous inquiries into matters concerning the production and marketing of fruit and vegetables in New South Wales, the following are the more important:—*

- (1) *Prior to 1918, four Royal Commissions in Australia investigated the fruit industry, one appointed by the Commonwealth Government, two by the New South Wales Government, and the fourth by the Government of Victoria. The Commonwealth Commission (1913-14) had as its task the consideration of export markets and the provisions necessary for maintaining an increasing export trade under conditions most favourable to the Australian producer. The earlier in date (1913-14) of the New South Wales reports by Mr. T. R. Bavin, later Premier and Supreme Court Justice, dealt chiefly with matters of domestic trade, while the second report (1915) constituted a general review of the basic problems involved in the marketing and distribution of foodstuffs and was the work of a Captain Carmichael who made most of his inquiries abroad.*
- (2) *In 1918 the Interstate Commission issued a series of reports concerning trade within and between the States. Report No. 10 of its Prices Investigations covers fruit and vegetable production and marketing.*
- (3) *Since 1926, three marketing and distribution conferences have been held in New South Wales. The first of these was convened and organised at Bathurst in September, 1926 (Producers and Consumers' Conference). It was this conference which directly resulted, in 1927, in the passage of the Marketing of Primary Products Act (1927-40), which set up a State Marketing Bureau and enabled various agricultural marketing boards to be formed in New South Wales. (Subsequently, in 1943, this State Marketing Bureau was amalgamated with the Economics Division of the Department of Agriculture to form the Division of Marketing and Agricultural Economics.) A second conference of producers and consumers was held, also at Bathurst, in May, 1931.*
- (4) *In 1937, J. E. McCulloch, S.M., was appointed Royal Commissioner into the fruit industry. This inquiry extended over a period of fifteen months and involved the examination of 157 witnesses in Sydney, and 279 at country centres. The report as finally published in 1939 is a considerable document of 594 pages, excluding evidence.*
- (5) *In March, 1941, a further Marketing and Distribution Conference was held at Sydney under the auspices of the Department of Agriculture. Otherwise, during the years of World War II the affairs of the fruit and vegetable industries were under almost day-to-day examination by responsible State and Commonwealth departments in relation to price fixing determinations, production controls, canning programmes, fresh foodstuff supplies, etc. The great body of the evidence collected in the course of these inquiries is, however, not available in printed form.*

issues, are, however, at all times quite clear, the first being the majority consumer viewpoint, which is that the final retail price is all that counts, whether that is attained by high or low ratios of production and marketing costs; the second, the majority viewpoint of producers, which does not proceed beyond consideration of the net returns which they receive. It is the border lands where these interests impinge—marketing and distribution—in which controversy arises, and since judgment on these issues must necessarily be arbitrary, there is ample room for differences of opinion. The safest approach lies in confining questions involving marketing or distribution issues to some aspect of efficiency or waste and to a strict comparison of existing systems with practical alternatives.

A further difficulty encountered in all inquiries of this nature, is that of pinpointing individual items and of relating such analyses to consumer buying habits and spending power as these are influenced by market alterations in an ever-changing supply position. It is quite clear, for example, that even though producers of vegetables can have few common interests with producers of fruit, and that within both industries there is the widest possible diversification, questions relating to the retail prices of fruit and vegetables are inextricably bound up together, since both have to be purchased by housewives from the same shops and out of the same limited household budgets. There is little doubt, for instance, that a prevailing State-wide shortage of vegetables in the winter months of 1948 and very high wholesale and retail prices ruling at the time, inevitably exercised an appreciable effect in reducing the consumption of fruit and depressing wholesale markets. There is evidence to suggest, also, that the second effect was to cause retailers to increase their profit margins on fruit in order to make up for smaller margins on the relatively higher priced vegetables. It is unwise, however, to infer too much from occasional interruptions to supply conditions such as the example here given. Whilst broad tendencies may be indicated, it must not be overlooked that in the Sydney metropolitan area alone there are about 2,000 avenues of retail distribution and that retailer business methods vary as between shop and shop, even in the same suburb, being mainly based upon shop customers' ability and readiness to pay and the existence or otherwise of effective competition. These facts are given mention in order to make clear some of the reasons why it is so difficult to speak authoritatively on the question of retail prices and retail profit margins. Further sources of difficulty become evident in the report itself, which has this advantage, that it deals with one commodity item alone.

The selection of coastal grown oranges as the subject for a markets survey was suggested also for other reasons. Since 1945-46, citrus growers in the four eastern States of Queensland, New South Wales, Victoria and South Australia, have been showing concern at the reduced prices which they have received for their fruit, compared with the relatively high prices ruling during the war years. Statements have been made that whereas market prices have dropped to little above pre-war levels, inescapable but considerably increased post-war production and marketing costs, on the other hand, are now tending towards a "depression" or "crisis" in the citrus growing industry. There has been in consequence quite a good deal of discussion in industry circles concerning production, marketing and distribution problems. Suggestions have been made in some quarters that industry surveys should be carried out, but useful as such investigations might well be, it is important to

realise that they would involve necessarily lengthy inquiries, so that by the time sufficient data had been collected and conclusions drawn, the overall Australian market outlook may well have changed and the surveys thus become out-dated by circumstances. These facts also indicated the need for a preliminary inquiry into prices as affecting conditions in New South Wales, in view of the obvious interest of local producers in this question.

It is here relevant to refer briefly to certain other matters concerning the citrus industry. In July, 1945, following representations by the Victorian Central Citrus Association and the Murray River Citrus Association, an investigation was commenced by the Commonwealth Bureau of Agricultural Economics in regard to the future of citrus growing in Australia, particularly in relation to possible War Service Land Settlement schemes. The conclusions drawn from this survey have since been published by the Bureau in the form of two bulletins, the first being "Report on the Citrus Industry Survey, 1945," and the second, "Economic Outlook for the Horticultural and Viticultural Industries." These reports are valuable and, in fact, indispensable documents for presenting a broad picture of citrus production in the Commonwealth as a whole, and of the long-term prospects of this industry, but naturally they do not refer in detail to domestic conditions of internal trade.

Very briefly, the citrus industry in New South Wales—the same would appear to be broadly true of the position in other States—is now finding that supplies at times of average or peak production are more than sufficient to meet present consumer demands. Export market outlets have been limited, and the fulfilment of overseas orders interrupted, due to shipping and trade difficulties⁽¹⁾. Factory demands for fresh fruit have also been affected by a considerable carry-over of stocks of fruit juices, cordials, extracts and other citrus by-products which manufacturers were holding at the cessation of the war⁽²⁾. Even though citrus growers generally had been warned on all sides that market returns

⁽¹⁾ Cf. "The Citrus News," July, 1948, p. 98.—This article gives a short but informative comment concerning the difficulties and competition that have been encountered by Australian citrus exporters in building up overseas markets in the immediate post-war period.

⁽²⁾ Very little orange juice was canned in Australia pre-war. Service demands during the peak war years, however, led to a considerable production, and there is now a large carry-over of stocks. Public demand in Australia is mostly for fruit juice cordial and not for canned juice, whilst there is some prejudice against tinned orange juice processed by present techniques. Both in Australia and overseas considerable research is being undertaken to improve the method of processing. Experiments by the U.S. Department of Agriculture are designed to ascertain why fresh orange juice and the canned variety rarely if ever taste alike. Its scientists are attempting to isolate the volatile flavouring element in the fresh product in order to study the chemical changes that occur in processing. Frozen orange concentrate, a new development in processing, may perhaps provide at least part of the answer to this question.

It has been reported that in 1948 the California Citrus Exchange processed as juice and by-products 35 per cent. of the production of its members as a salvage operation. United Kingdom purchases of U.S. citrus juice have been made under the Marshall Plan. It is believed that stocks that have been acquired in this way are heavy, and that this is the major reason why there has been a ban on the importation of fruit juice in small cans and severe restrictions on the importation of bulk juice. (*The Queensland Producer*, 1st June, 1949, p. 13; *The Citrus News*, June, 1948, p. 95, and March, 1949, p. 41.)

would decline sharply from the high level reached during the peak years of World War II, many growers would appear to have been quite unprepared for the market recession which has occurred. There had been an assumption that because of the anticipated increase in consumer spending power associated with full employment, the maintenance of industrial prosperity and a rise in population, pre-war parity would have been preserved in market values so that increased costs would have been more than counter-balanced by increased returns. Hopes had also been legitimately entertained that with wider recognition of the nutritional value of fresh fruit and vegetables on the part of the consuming public, growth in consumer demand for the valuable citrus fruits would have taken care of full production by the industry, both of the better and less popular qualities of fruit. The Sydney metropolitan market for oranges, however, as with the metropolitan markets in other States, has been generally depressed for the past two years. The result has been that producers have been receiving for some time returns approximately 10 to 15 per cent. higher than they were pre-war, whereas their production and marketing costs have risen proportionately higher.

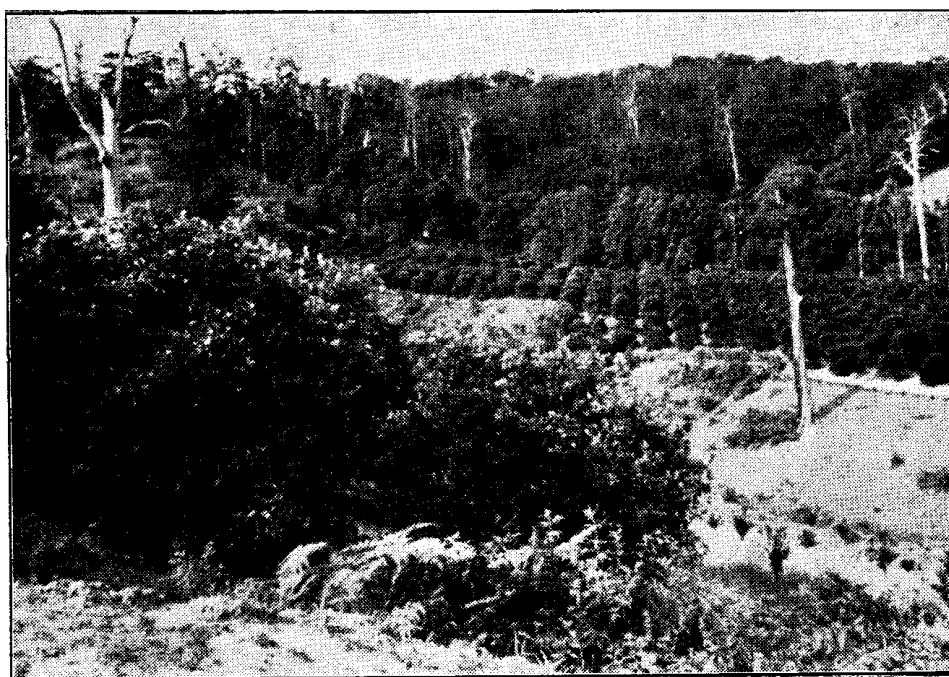
Temporary market setbacks have to be distinguished, however, from obvious conditions of "over-production." It is extremely difficult to sort out the complexities of an agricultural industry or to even partially diagnose its problems, and it would be most unwise for these reasons to offer opinions which are unsupported by the fullest information. It may well be believed, however, that with a return to conditions of full industrial production and employment, the re-entry of processors on the market, both for fresh fruit and citrus by-products, some further openings in the export trade and normal conditions of production in which both fruit and vegetables would be in seasonably full supply, the citrus industry will in its turn become stabilised at market levels which will not be unattractive to producers. Wholesale markets are affected by many different influences, some of which will be here given mention. It is most important when considering the welfare of an industry, that these influences should at all times be kept in mind, particularly by those sections of producers whose immediate livelihood is involved.

It may be asked, in what ways may producers themselves influence the return to better markets? It is obvious that there are no short cuts. Citrus growers would be well advised to strongly support their existing producer organisations and co-operative packing-house establishments. Advertising campaigns have also a considerable value. But, above all, the plain fact, as fully recognised by many qualified observers in the industry itself but, unfortunately, not by all growers, is the essential importance of quality and grading in the preparation of market packs. It is fully recognised that some of the factors that are involved in producing fruit of uniformly good quality on the orchard are as yet unknown, but, nevertheless, the conclusion that in the production of all types of fruits and vegetables the successful grower is the one who gives the most consideration to these factors, appears inescapable. That also would appear to be one of the main conclusions of an important

citrus industry conference which met at Melbourne on 29th January, 1946. Among the resolutions passed at this conference was this important affirmation:

“This conference is of the opinion that citrus production, while taking into account proximity to markets, should emphasise the quality factor as being vital in relation to increased consumption on home markets and ability to stand up to export selling conditions and successfully meet overseas competition on a quality basis.”

It must be made clear, in concluding this introduction, that where opinions are expressed in this article, these represent the personal views of the authors only. The report does not presume to provide an exhaustive analysis of the coastal citrus industry nor of its problems. It is being offered solely as a contribution towards such an understanding.



A COASTAL CITRUS ORCHARD, WELL PROTECTED BY HILLS AND VIRGIN TIMBER.

2. PRODUCTION CENTRES OF NEW SOUTH WALES.

It is advisable, firstly, to consider the main production centres of New South Wales, the characteristics of their fruit and their natural markets.

(a) Murrumbidgee Irrigation Area.

This area produces a very large proportion—approximately one-quarter—of the citrus produced in New South Wales. There is a tendency for Valencia orange production to increase, but this is mainly counterbalanced by a decline in Navels, overall plantings over the last few years having been fairly stable. Actual production, of course, varies according to seasonal conditions. Oranges from the Murrumbidgee Irrigation Area have good keeping qualities and the great bulk of the production is exported to markets outside New South Wales, principally to New Zealand, with smaller quantities to Queensland and

the Near East. Whilst good export markets remain open it is unlikely that first-class oranges from the Murrumbidgee Irrigation Area will compete to any extent on the Sydney market with fruit produced in coastal districts. Continued high prices on the Sydney market, however, resulting from low coastal production or other causes, might tempt growers to allot greater quantities for sale on the metropolitan market.

(b) Timbregongie and Talbragar Shires (including Narromine district).

This area produces relatively small quantities of oranges which are generally of good quality. A small percentage is forwarded to the Sydney market where it brings above-average prices, but most of the production is absorbed in western districts of New South Wales.

(c) Manning Shire (Moorland district).

This district produces slightly more oranges than the Narromine area, but production would not be likely to have any marked effect on Sydney market supplies and values, taken over a whole season. The crops are mainly destined for North Coast markets and Queensland. Growing conditions are difficult, as hot, dry spells affect the size of the fruit and encourage the attacks of "Black Spot" disease (*Guignardia citricarpa*).

(d) Murray Valley.

This area, which includes the Shires of Wakool, Murray and Berri-gan and the County of Wentworth, produces approximately one-eighth of the citrus grown in New South Wales. Production is marketed mainly outside this State, either in Victoria or New Zealand, although occasional consignments come to the Sydney market. During the peak of coastal seasons, prices in Sydney are likely to be too low to be a profitable proposition for growers in the Murray Valley region.*

* Whilst this statement is generally true, interstate disposals of comparatively small quantities of selected grades of oranges may be occasionally profitable. For example, on January 12, 1949, the Murrabit Packing Co., Victoria, forwarded to the Brisbane market 611 cases of Valencia oranges, packed on January 6 and 7, on behalf of seven of its grower members, and originally intended for New Zealand. A delay in the New Zealand sailing enabled the Company to replace this quantity with freshly packed fruit and at the same time to respond to a Brisbane, Queensland, appeal for special orange supplies. While the fruit was in transit, prices on the Brisbane market fell owing to increased supplies from New South Wales, and a few days after its arrival in Brisbane, the market was so depressed that the receiving agents decided that the excellent quality and condition of the fruit would justify its being cool-stored for a more favourable market. Subsequently, this fruit was sold in the first three weeks in February to special buyers, at prices ranging from 18s. to 22s. a case, even though the Brisbane market was at the time over-supplied with "inferior" New South Wales fruit selling at 4s. a case. There had been very little loss from wastage. Other examples may be given, but it is sufficient to note that at all seasons of the year and under any set of market conditions, selected quality fruit may be moved in interstate trade to meet the special needs of discriminating buyers. ("Citrus News," Feb. 25, 1949, p. 20.)

(e) Coastal Areas.

- (i) *"Hawkesbury River" districts.*—This term is usually used to embrace the "earliest" growing districts, from a seasonal point of view, and includes such districts as the Municipalities of Windsor and Castlereagh and a considerable portion of the Colo Shire. Orange production is mainly of the Navel variety, although appreciable quantities of Valencias are also marketed.*
- (ii) *Gosford and Wyong Shires and the Mangrove Mountain District.*—These growing areas are the largest producing centres in the State and, with the addition of the neighbouring "Hills" district, supply more than one-third of the total production in New South Wales. The Mangrove Mountain district, which lies in the Gosford Shire, is slightly later in production than the Gosford region and can normally withhold its fruit from the market for a longer period, without undue loss of quality.*
- (iii) *Baulkham Hills and Hornsby Shires.*—The orange-growing districts included in these Shires are usually referred to as "Hills" districts as the orchards are generally on higher ground than in the Gosford-Wyong Shires. Districts included in the Baulkham Hills Shire are Castle Hill, Baulkham Hills, Dural, Glenorie, Kenthurst and Annangrove. Hornsby Shire includes Arcadia and Galston.
- (iv) *Other Coastal.*—Other coastal districts worthy of specific mention are Camden and Kurrajong. These two areas are able to hold oranges on the tree later than all other coastal districts and are thus in a position to obtain any benefits offering from end-of-season shortages and higher prices. The quality is generally good although production is relatively small. Only certain orchards in the Kurrajong district, which is situated in the earlier-producing Colo Shire, are suitable for the end-of-season marketing, and elevation and soil conditions appear to be the principal determining factors. Camden orange growers produce Valencias almost exclusively.

3. CHARACTERISTICS OF COASTAL PRODUCTION.

It is now proposed to inquire more closely into the characteristics of coastal orange production.

(a) Seasons.

The length of the production periods and the commencing and finishing times will vary slightly from year to year according to weather, marketing and other conditions. It will also vary widely with the growing conditions at the particular orchard, such as aspect, elevation or shelter. In general, however, the "Hawkesbury River" areas are the earliest producers in any one season and are followed soon after by Gosford-Wyong, Mangrove Mountain, "Hills" and other coastal districts in that order. The periods normally accepted as the correct marketing ones are broadly as follow:—

*For a very good short description of production and labour conditions in these districts, as observed by a visiting South African scientist, see article reprinted in "The Citrus News," August, 1948, p. 14.—Dr. V. A. Wager, Officer-in-charge, Botanical Station, Durban, in "The Citrus Grower" (South Africa).

Valencias—“*Hawkesbury River*” (*Windsor-Castlereagh-Colo*): September to mid-November.

Gosford-Wyong: Mid-September to early January.

Mangrove Mountain: October to January.

“*Hills*” *Districts*: October to mid-February.

Camden and Kurrajong: January to March, few to April.

Navels (Washington or Thompson varieties).—

“*Hawkesbury River*”: May to July.

Gosford-Wyong, “*Hills*” and *Mangrove Mountain*: Late-May to September (with some second crop continuing into October).

(*Note*.—Other varieties grown are Siletta, Joppa, Parramatta and Seedlings of the Parramatta type. These are not of any great importance, however, and are omitted from this present survey.)

The periods stated above are generally accepted to be the correct periods for marketing as it is contended that fruit marketed too early is liable to be lacking in colour and bitter to the taste. In addition, it is likely to clash with the late production of the previous season (of the supplementary variety). Similarly, fruit held on the trees later than the approximate dates given above usually shows evidence of a decline in quality, in that juice content is smaller, the fruit reverts to a greenish colour and loses acidity, the pulp is coarser, and the oranges are prone to be seriously lacking in keeping qualities. Some second-crop fruit may be marketed later than the above dates, particularly *Navels*, but in a normal season the main crop production is by far the most important. Second-crop fruit is not popular with discerning buyers. In addition it will clash with the new season fruit of the incoming variety.

(b) Keeping Quality.

The experience of persons engaged in wholesale trading in oranges, such as farm produce agents and producer selling agencies, country order suppliers, exporters, shipping provedores and the like, has been that the keeping quality of a very high percentage of coastal production is inferior to that of oranges grown in other districts of New South Wales. For orders involving delay during transit, even of only a few days, most wholesalers would prefer oranges from the Murrumbidgee Irrigation Area, whilst most of them are agreed that coastal, and in particular, the *Gosford-Wyong* fruit, is generally unsuitable for export outside New South Wales. Yet several have pointed out that this is a comparatively recent development as, in the years between the two World Wars, it was possible to purchase oranges almost anywhere in the market from a variety of districts, for shipping orders. Prior to World War II, coastal oranges, including *Gosford* fruit, were consigned more extensively to country towns, to Hobart and Brisbane, and to Singapore, Hong Kong and other Eastern areas. They were also marketed in New Zealand before the year 1932. The keeping quality, it is claimed, was then very much higher than in recent years.

It is important to note, at this juncture, however, that the keeping qualities of Gosford and other coastal oranges are quite satisfactory for the Sydney metropolitan retail trade if the fruit is marketed within the correct period. Early in the season, when the fruit is at its best, the keeping quality meets country-order requirements fully and export of selected fruit is also possible. The decline in keeping qualities becomes



HEAVY YIELD AND GOOD
QUALITY.

more marked as the season advances and the percentage of waste is particularly high when any district attempts to hold the fruit beyond the normal marketing period for that district. With the normal sequence of production by districts, therefore, oranges of fair to good keeping quality are available at most times during the year for the metropolis where consumption takes place fairly quickly. It is where transport delays between the market and the consumer are unavoidable that the

DROUGHT-AFFECTED
VALENCIA ORANGE.



decline in quality over recent years becomes fully apparent. The effect of this will be commented upon later in the section on marketing and market prices. It will be as well, however, to set down some of the factors having a bearing on keeping quality insofar as they can be ascertained.

The opinions here quoted are trade opinions only and are not necessarily those of the technical services of the Department of Agriculture. They are included merely to give the viewpoint of traders and their explanation of the various factors associated with keeping qualities.

It is important to remember that seasonal conditions, particularly the amount of rain received, are over-riding factors and fruit which is good in one season might have turned out to be of poor size and quality under different conditions.*

**It is of some interest to note that because of serious wastage in Australian oranges exported to the United Kingdom, a five-year programme of investigations was commenced by the Council for Scientific and Industrial Research (Food Preservation Division) in 1935—in co-operation with the Departments of Agriculture of New South Wales, Victoria and South Australia and the Universities of Melbourne and Adelaide. Wastage during refrigerated transport overseas, or during cool storage in Australia, has been found to consist mainly of serious skin blemishes, of which storage spot, or pitting, is the most important. Mould wastage (*Penicillium* rot, i.e., blue and green mould) is often serious under refrigeration, and it is the main cause of wastage at higher temperatures. The most important requirements for successful control are avoidance of injuries to the skin and of contamination with mould spores, by strict attention to care and sanitation during handling. Chemical antiseptics can be used and refrigerated storage should be employed whenever practicable. The development of storage spots is due to low temperature injury associated with the activity of latent fungal infections in the skin. Although much information has accumulated regarding this type of wastage, its control still remains a problem. The best storage conditions are those which avoid cold injury whilst not encouraging mould wastage and staling of the fruit, and a temperature of 38-40 deg. F. is found generally to be the best compromise.*

(cf. Published Reports by Food Preservation Division, C.S.I.R.)

It had been intended prior to the war to carry out an intensive investigation of citrus keeping, storage and handling problems, with particular reference to New South Wales coastal grown citrus fruit, concerning which much trouble was being encountered. Owing to the outbreak of war, however, this citrus industry work had to lapse for the time being, and the equipment that had been purchased was stored. Under a joint arrangement between the C.S.I.R.O. and the New South Wales Department of Agriculture, a Citrus Research Laboratory has now been built and established at Gosford in a part of a newly erected citrus packing establishment made available by the Gosford Bulk Loading Rural Co-operative Society Ltd. (1948). This laboratory, it is proposed, will carry out research on a number of projects, included within which are the following:—

- 1. Handling and processing treatments designed to reduce or eliminate attacks by mould.—These will include washing, fungicidal and waxing treatments, use of special wraps, and storage disorders other than those caused by fungi.*
- 2. Handling Factors.—Methods of handling in the orchard, from the orchard to packing house, in the packing house, and design of washing, waxing and grading machines to reduce damage to the fruit.*
- 3. Prevention of Transit Disorders.—Methods of packing, road and rail transport, stacking and ventilation of cases.*
- 4. Orchard Factors.—Relationship between general cultural operations and orchard hygiene to the storage life of fruit.*
- 5. Treatment of fruit for the removal of scale.*
- 6. Investigations relating to the curing and storage of winter lemon crops.*

Further research on production problems is planned by the New South Wales Department of Agriculture at stations which it is proposed should be established at Mangrove Mountain in the Gosford district and Coomealla, and of processing problems at a cannery which is now in course of completion at Hawkesbury Agricultural College.

It is of further interest to refer to the recent announcement of the discovery by Dr. T. B. Kiely, of the Biological Branch, Department of Agriculture, of the cycle of development of Black Spot in citrus fruits, and of suggested means for its control. Black Spot disease is widespread in coastal districts, and its successful control would be of incalculable value to the producers of this area.

Factors Considered to Enhance Keeping Quality.

- (i) Aged trees with no manure, or a minimum of nitrogen in a complete mixture, with moderately good rains. (In a dry season under the other conditions given, it is claimed that the fruit would probably not have sufficient size and that production would adversely affect the life of the tree.)
- (ii) At the peak of maturity, older trees are best in a normal wet season.
- (iii) Fruit from trees on high sandy ground is thought to be best, in a wet season, although in a dry season the fruit might be too small for market requirements.
- (iv) It is claimed that, when rains are light, young trees with only moderate manure treatment give the best fruit.
- (v) Apart from the use of fertilisers, soil conditions on each orchard are considered to be important as some orchards produce fruit of renowned keeping quality, whilst orchards not far removed are greatly inferior. New orchards which can produce good crops without fertiliser, provide good fruit.

Factors Considered to be Detrimental to Keeping Quality.

- (i) It has been pointed out that prior to the recent war when many orchardists could not afford fertilisers (with particular reference to ammonium sulphate), and during the war, when supplies were short, the fruit had better keeping qualities. Now that fertiliser is easily obtainable and is widely used, the keeping quality has declined. Wholesalers feel that there is a definite connection and, further, that in a wet season, when the trees take up more fertiliser, the keeping quality is more adversely affected.
- (ii) It is claimed also that the time lag between picking and arrival at the market is too great. Prior to World War II, fruit for the Monday's market was customarily picked and packed during the week-end and frequently on the Sunday. Several growers of high-grade fruit still pack during the week-end for a Monday's market which is a good one as a rule. But some fruit has been picked as far back as the previous Wednesday and packed on Friday, which renders it more than four days old before it is sold to the retailer and perhaps as much as seven days before it is sold to the consumer. Some sellers claim that in humid weather, or towards the end of the season when keeping quality is declining, this time lag is far too great and adversely affects prices and rates of clearance. It is not uncommon for the fruit to arrive with several oranges in each case showing mould.

- (iii) Fruit grown on low-lying rich soil appears to lack keeping quality in a wet season.
- (iv) Some wholesalers contend that the washing of oranges is detracting from their keeping qualities. There is evidence, however, that, properly carried out, washing is not detrimental.
- (v) Quite apart from the general question of the keeping qualities of oranges during their normal season whilst the fruit is at the peak of its maturity, there is the question of the practice by some growers of holding fruit on the trees, after it has reached its maturity, in an attempt to obtain end-of-season or between-season prices. This was particularly noticeable during the Valencia season just ended (1948-49) when Gosford oranges were still coming on to the Sydney market in February and March, and Mangrove Mountain and "Hills" fruit as late as March and early April. Complaints of "break down" were prevalent and clearances generally slow because of lack of con-



A CLEAN CULTIVATED SOIL SURFACE.

Too frequent stirring of the soil to maintain a condition such as this results in depreciation of the soil's physical condition, necessitating increased applications of organic materials to maintain fertility.

fidence on the part of the retail trade. This was reflected in prices, as most of the Gosford district fruit was from 2s. to 4s. per case cheaper than "Hills" fruit of corresponding size, whilst both were considerably cheaper than oranges from the Murrumbidgee Irrigation Area which, whilst past their prime, still possessed good keeping qualities. It is significant to note that, during the month of December, 1948, best coastal Valencias were bringing 18s. per case, and occasionally to 22s. Many growers who could have marketed at that time held back in anticipation of a higher market in the New Year, but this did not eventuate. In a high percentage of cases, "lowland" coastal fruit had been held longer than its keeping quality would warrant and was sold subsequently at little better than

10s. for best sizes. When the fruit will hold up, the grower might be justified in gambling on an anticipated rise, but, as with beans and cool-stored apples and pears, holding oranges past their normal marketing season is seldom a payable proposition. In the season just ended, however, there were some unusual features and some growers claim that the Valencia crop was divided into a light main crop and a heavier "late main" which did not reach full size and maturity until January, the fruit being of lower quality. Some allowance must be made for unusual conditions at all times. Given ideal conditions, also, some slight extension of the marketing season for each district might be possible, but not all orchards can "hang" successfully.

(c) "Eating" Quality.

In the foregoing remarks the "keeping" qualities of coastal oranges have been considered and some deficiencies have been pointed out. It is not the case, however, that the coastal product, at the peak of its maturity, is in any way inferior in its "eating" qualities. On the contrary, coastal fruit compares more than favourably with fruit produced in other areas and many buyers actually prefer the eating quality of sound coastal oranges to that of fruit from the Murrumbidgee Irrigation Area.

4. MARKETING AND MARKET PRICES.

(a) Marketing Procedure.

The present procedure for the marketing of citrus fruits is the same as for other fruits and vegetables. The grower consigns to a licensed Farm Produce Agent, or to a growers' selling agency, which he has chosen to sell on his behalf. He may consign direct or through a packing shed. In the latter case the grower still has the right to nominate the agent he desires to handle his fruit. The agents' commission for selling is $7\frac{1}{2}$ per cent. of the sale price with a minimum of 6d. per case.

After most careful investigations it may be stated, without qualification, that nearly all the oranges sold in the Sydney Municipal Markets are sold in first hands by the agent to whom they are consigned, direct to a retailer who is going to serve the general public, or to a provedore or country-order merchant. "Forestalling," jobbing, or the operations of middlemen in market trading with oranges are practically non-existent. The retailer who wants even a single case has usually the choice of several agents prepared to meet his requirements, particularly when supplies are plentiful and prices low. (A small number of merchants, catering for high-class shops, do operate in the markets and re-sell fruit at a small profit. They perform a personal service for which their particular retailer-clients are prepared to pay and the quantity which they handle is relatively insignificant.)

The agent's duty is to obtain the best possible price for his grower principal, which incidentally gives him the best possible commission. Prices in the main are determined by the supplies available and the over-all demand from the distributors. Agents vary their prices according to the state of the market, the number of cases in each sale, the "count" and quality of the fruit and their own anticipation of market changes. In a bountiful season prices usually are low and clearances from the market difficult to maintain. Any temporary slackening in supplies, however, such as that resulting from rain in the growing areas, usually results in an immediate rise in prices. But the grower must look to factors having their origin outside the wholesale market if he is disturbed by low returns for his fruit. The wholesale market is only the melting pot where such factors as supply, retail demand, sellers' and buyers' skill, and size and quality are fused into a market price.

Producers with comparatively little first-hand knowledge of the intense competition which normally prevails in the larger wholesale markets are sometimes confused by the wide ranges shown in wholesale price quotations. A common error is for the individual grower to over-value the quality of his own fruit, preferring to believe in the existence of a higher price level than that on which he has been paid, and attributing the lower price which he has received to the greed or inefficiency of his agent. No means are possible for removing these suspicions other than for the growers who are so concerned to supervise or be present at the sales of their fruit, or by concerted action to arrange for market representatives to act on their behalf. It should be made clear that buyers of fruit on the larger metropolitan markets are not all retailers working on the same distributing margin or gross profit basis, but include other primary wholesalers who may not be receiving, for the time being, consignments of the desired grade or quality; secondary wholesalers or dealers supplying small or casual metropolitan dealers or country retailers; buying agents or contractors for non-retail buyers, such as hotels, shipping companies or factories; or, lastly, householders, for a very small proportion of sales. In consequence, the prices that individual buyers can afford to pay to wholesalers for a uniform line of fruit may vary according to circumstances of turnover, location and competition. Premium prices are charged on certain lines of fruit, whilst on others discounts may have to be allowed in order to promote market clearances. In the collection of wholesale price quotations, allowances must be made for these complicating factors, the aim being always to provide a comprehensive picture of actual market conditions and sales on a particular trading day. Interpretation requires not only knowledge of the prices fetched, but also an exact appreciation of supply and demand conditions, differences in counts and packing standards, and marked distinctions in quality as between alternative brands, and even within individual packing shed or grower brands.

(b) Analysis of Prices.**(i) War Years.*

The war-time years saw an unprecedented boom in prices for oranges. In the years 1936 to 1938, 14s. per bushel had been the highest ruling price for coastal Valencias in Sydney even on the strongest markets, but during 1939 a general rise had been apparent with the market reaching 17s. early in the year. These were not average prices, however, as they were obtained only for best sizes of fruit of the best quality. The trend for coastal Valencias from the 1939-40 season onwards is set down briefly in the following table:—

*An interesting comparison may here be drawn with Melbourne wholesale market prices for oranges. The following extract gives a sufficient summary:—

MELBOURNE WHOLESALE MARKET SALES.

		5 Seasons 1936-41.	4 Seasons 1942-46.	Season 1946-47.	Season 1947-48.	Late June 1948.
		s. d.	s. d.	s. d.	s. d.	s. d.
Navels	Early districts	8 3	17 9 (a)	{ 21 0 16 0	16 1 10 1	11 6 8 6
	Intermediate and late ...	6 2				
Commons	Early... ..	7 3	19 3 (a)	{ 17 6 15 4	11 0 8 3	8 0 ...
	Others	6 3				
Valencias— (To December, 31) ...	Early... ..	10 4	22 5 (a)	{ 23 0 20 0	16 10 13 0	......
	Others	8 8				
Valencias— (To March, 31) ...	Early	12 3	22 5 (a)	{ 25 4 22 11	17 11 15 5	......
	Others	12 0				
Lemons—	Early... ..	8 7	17 11 (b)	{ 20 0 16 9	12 8 11 9	8 6 8 0
	Others	7 9				
Grapefruit— (To December, 31) ...	Early... ..	9 3	14 0 (c)	{ 16 9 15 6	13 0 11 7	8 6 6 9
	Others	7 4				
Grapefruit— (To March, 31) ...	Early... ..	10 1	14 0 (c)	{ 17 7 17 2	13 3 14 7	......
	Others	9 3				

(a) Case sales only; in 1943-46, 25 per cent. of orange production compulsorily diverted to defence foodstuff factories at wholesale market equivalent of 15s. 3d. a packet bushel.

(b) Case sales only; in 1943-45, 50 per cent. of crop, and in 1945-46, 33½ per cent. of crop, diverted to factories at packed equivalent of 13s. a bushel; in pre-war years, 40-50 per cent. of country lemons sold to factories at approximate market parity.

(c) Represents 100 per cent. diversion to defence foodstuff factories during three seasons 1943-46 at £28 15s. a ton.

(The Citrus News, June, 1948.)

VALENCIA ORANGES.

Variations in *Maximum Ruling Prices*
from month to month.

Season.					
1939-40	...	September to November	...	...	9/6 to 14/-
	...	December	...	...	18/-
	...	January	...	...	23/-
	...	February to April	...	...	28/- to 30/-
1940-41	...	October to February	...	...	10/- to 14/-
	...	March to May	...	...	8/-
1941-42	...	September to November	...	...	9/-
	...	December	...	...	13/-
	...	January	...	...	20/-
	...	February	...	...	24/-
1942-43	...	March	...	...	28/-
	...	August	...	...	16/-
	...	September	...	...	25/-
	...	October to December	...	...	26/6 (FMP.)
1943-44	...	January to March	...	...	31/6 to 32/- (FMP.)
	...	September	...	...	21/-
1944-45	...	October to March	...	...	26/- (FMP.)
	...	September to January	...	...	21/- (FMP.)
1945-46	...	February to April	...	...	23/- (FMP.)
	...	September to April	...	...	20/- (FMP.)

(FMP.—Fixed Maximum Price).

The above table gives the variations in maximum prices only and takes no account of the less popular sizes or of fruit of poor appearance and quality which would sell at very much lower levels. However, as the prices for the less preferred counts tend to change in sympathy with the maximum rates, analysis of these maximum ruling rates is sufficient to indicate the broad changes in price levels over the war-time years. It will be obvious from the above table that the 1942-43 season was the peak one. In addition to the increase in maximum rates, an important feature of very high markets at times of acute scarcity is that average prices for all sizes of fruit tend to be well up towards the maximum levels, for the reason that buyers are, of necessity, less selective and the range from highest to lowest tends to contract.

Prices for Navels, whilst not as high in general as Valencias, showed a corresponding increase. In the years 1936 to 1938, maximum prices varied from 8s. to 12s. per bushel case and it was not until the end of the 1939 crop, in September and October, that any marked increase occurred. In the September of that year prices were as high as 15s., whilst in the following month they reached 18s. Thereafter, during the war years, the trend was as follows:—

NAVEL ORANGES.

Variations in *Maximum Ruling Prices*
from month to month.

Season.					
1940	...	April	...	...	26/-
	...	May	...	...	14/-
	...	June to November	...	...	8/- to 11/-
1941	...	May to October	...	...	7/- to 12/-
1942	...	April to June	...	...	18/- to 22/-
	...	July	...	...	14/-
	...	August	...	...	20/-
	...	September	...	...	30/-
1943	...	May to October	...	...	20/- to 21/- (FMP.)
1944	...	April	...	...	26/-
	...	May to October	...	...	18/- (FMP.)
1945	...	April	...	...	23/-
	...	May to July	...	...	16/-
	...	August	...	...	20/-

The effect of the war-time conditions in the seasons from 1942 onwards is apparent. Prices were maintained at comparatively high levels, best fruit bringing approximately 20s. in most months.

A combination of factors was responsible for the war-time boom. Firstly, there was a widespread shortage of practically all fruit and vegetables arising from the heavy demands by the armed forces, both Australian and allied. Secondly, it is certain that the spending power of the public was then much higher than normal, as a result of the war-time inflationary trend. Consumers with high incomes, resulting perhaps from several members of the family being in employment, were less inclined to query the price of an article and probably bought more than they would in normal times, perhaps to supplement the foods which were in such short supply that rationing of them was necessary. This boom obviously could not last in the post-war period, if only because of the sharp curtailment of service demands, but, in addition, the retail trade has reported an increasing tendency on the part of the consumer to query the price and to prefer the article which offers the best general value.

The 1946 Navel season and the 1946-47 Valencia crop may also be considered to have fallen within the influence of the war-time boom, although seasonal conditions also played a part. Top prices for Navels ranged from 16s. to 20s., rising to 25s. in September and to as high as 28s. in October. Valencias reached 22s. and 24s. before the turn of the year and continued to rise in 1947, top price in January being 26s., in February 30s., in March 34s., whilst in April the all-time record of 38s. to 40s. was obtained in a few instances for selected counts. This was the end of the boom. Investigation of the two following Valencia and Navel seasons, when production was fairly heavy, will now be necessary in order that the tendency of prices in the post-war period may be observed.

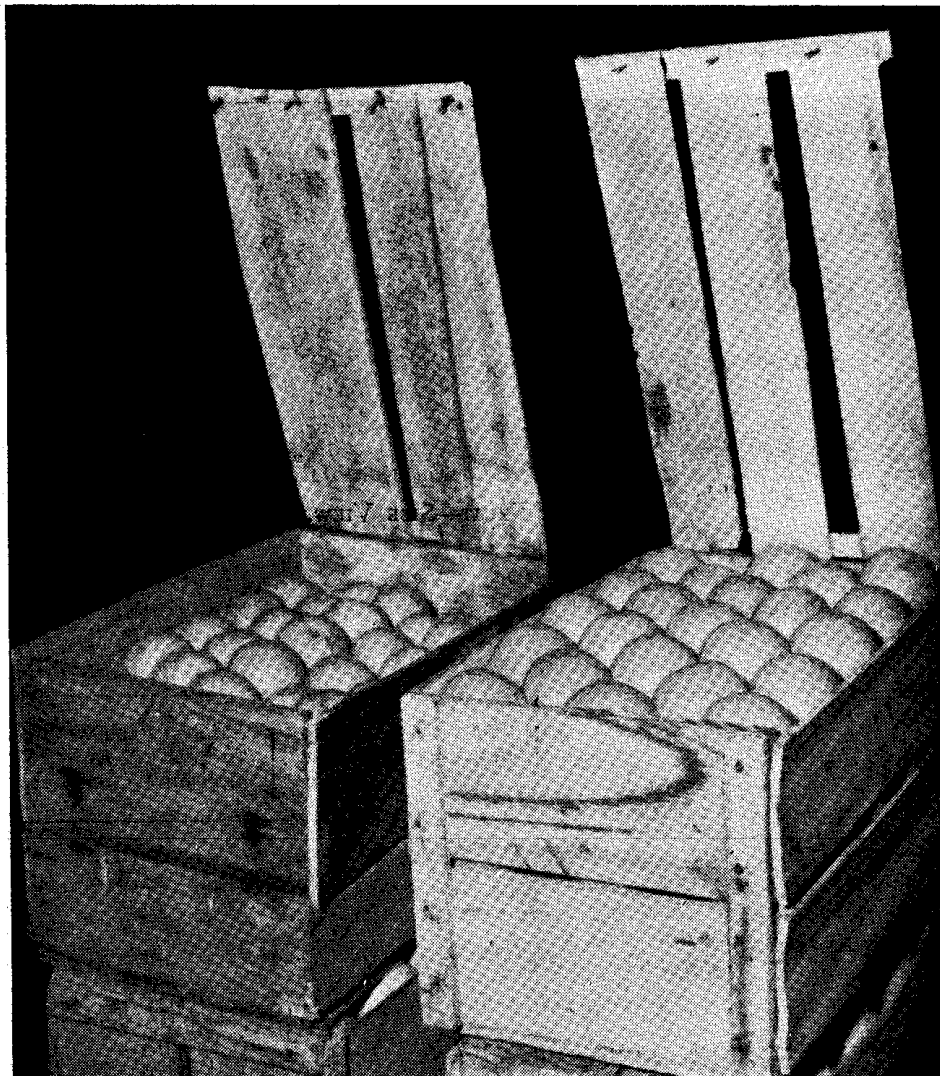
(ii) *Post-war Years—Market Trends and Prices.*

Prices ruling for coastal oranges in the last two Valencia and Navel seasons, as abstracted from the official records of the Division of Marketing and Agricultural Economics, are shown in Appendix A attached. Pages 1 and 2 of the Appendix give the weekly ranges of prices with all sizes of Standard Grade fruit included. The range is a wide one for the reasons given in footnote (b) to those pages. On page 3 an analysis has been made showing in broad outline the most general maximum price for oranges of best sizes during each season. The seasons chosen are fully representative of post-war conditions in that the 1947 Navel and 1947-48 Valencia crops were fairly large, whilst the two more recent seasons have produced heavy crops. It will be seen, therefore, that in a good season, prices for Valencias tend to settle at about a 16s. per bushel maximum, whilst Navels are lower at 12s. or 14s.

This analysis, also, tends to over-estimate the position, rather than the reverse, as, in some weeks, the general level of prices may have been below the maximum for the week, which may have obtained on only one day following a temporary shortage. To analyse several seasons from day to day, however, would involve too much detail for present purposes and would not enable any more accurate predictions to be made in view of the number of conditions which are free to

vary from season to season. It is sufficient to say that, given post-war economic conditions such as the present measure of spending power of the public, it appears likely that prices will not exceed 16s. a case for Valencias and 14s. for Navels, of best sizes, during the greater part of any season in which production is near the maximum.

It is not an easy matter to decide, even approximately, what the gross price which the producer will average for all sizes will be, when the most popular counts are bringing the prices quoted above. In the first place, a percentage of fruit, usually the smallest sizes, may be sold direct to processors and thus may not reach the open market. Secondly, it is not possible to ascertain the quantities of fruit of each size and at each price within the range; in other words, a weighted average cannot



'THE WRONG WAY TO PACK—AND THE RIGHT WAY.

The above photograph shows two packs as received at the markets. The one on the left was branded "110," the other "113." Fortunately, packing as unsatisfactory as that shown on the left is not common. Some "shaking-down" in transit has added to the effects of the original defective packing.

be calculated. The simple average price over all sizes, based upon recorded sales but not weighted according to the quantity at each size and price, has been calculated as follows:—

Standard Grade—

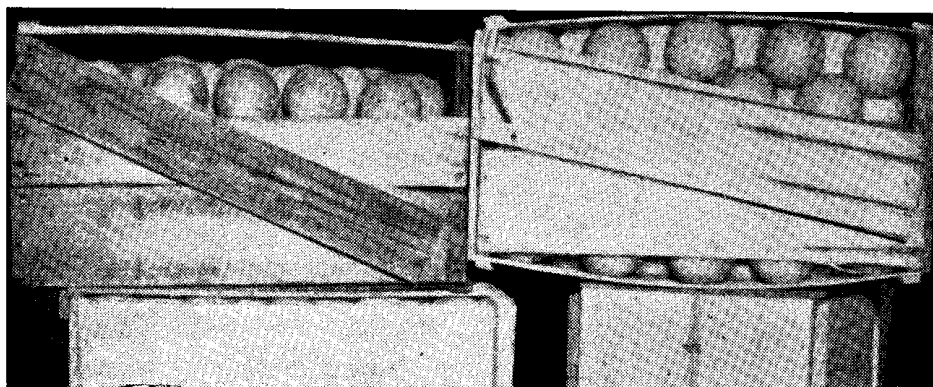
Valencias, 1947-48 season, 12s. 4d. per bushel.

Valencias, 1948-49 season, 10s. per bushel.

Navels, 1947 season, 12s. 5d. per bushel.

Navels, 1948 season, 9s. 10d. per bushel.

These figures would tend to be lower than the actual, however, as under simple methods of averaging, undue influence is exerted by the lowest prices which might have ruled for only a very small percentage of the crop, usually very small sizes, or fruit branded as Standard Grade, but of inferior pack and appearance. A third difficulty encountered is that the size and quality of the fruit will vary from orchard to orchard and the average gross returns to orchardists will vary accordingly.



THE SAME FRUIT—SIDE VIEW.

Apart from the average of recorded wholesale prices given above, one method which would give an approximate average gross return is the following:—

NAVELS.

Counts.	Proportion of crop in a normal season.	Prices which would rule on a "14/- maximum," market.
82—100—113	One third	10/- 12/- 14/-
123—138—150	One third	14/- 14/- 14/-
163—180—198—216	One third	12/- 10/- 8/-
	Total	108/-
	Average price (all sizes)	12/-

VALENCIAS.

	Proportion of crop in a normal season.	Prices which would rule on a "16/- maximum," market.
100—125—138	One quarter... ..	16/- 16/- 16/-
150—163	One quarter	13/- 14/- 14/-
180—198—216	One quarter	12/- 11/- 10/-
234—252—270	One quarter	10/- 8/- 7/-
	Total	147/-
	Average price (all sizes)	12/3

The above method is, of course, only approximate and represents the likely average price on the market, for choice fruit only. Any grower with a high percentage of small fruit in the crop or with a large percentage of plain grade would average less. Fruit of poor quality also would be sold at lower levels. Fruit sold in the markets to processors at as low a price as 4s. per case has also been disregarded in this latter method, as generally this applies only to very small sizes and a better return can be obtained by the grower if he can sell such fruit in bags direct from his orchard to the processors.

Other methods of calculating the average gross return per bushel would be to interview a large number of growers who may have kept complete records of their account sales, ascertain their gross returns and quantities, and take an average. (It is more than probable, however, that there would be singularly few growers maintaining such complete records.) Net prices are more easily obtained from account sales, but this would add further complications such as freight, packing-shed charges where the fruit was forwarded through a packing-shed, and the like. The gross return is the best starting point. To obtain the information by this means, however, would be a long, expensive and difficult procedure. Alternatively, this information could be obtained by extracting from the record books of the main Farm Produce Agents handling citrus fruits, details of the number of cases of oranges sold and the gross prices realised. This also would entail considerable clerical work and would need to cover several "normal" seasons to be effective. Consideration would have to be given, also, to the differences in the prices realised for fruit from the various districts. Fruit sold by growers direct to processors, also, would be left out of the calculations.

It will be seen, therefore, that, failing an orchard-to-orchard investigation, it is not possible to arrive at an accurate average gross price per bushel for oranges in any season. Factors such as size, quality, time and method of disposal (factory or market) present insurmountable

difficulties at the market end. From the foregoing analysis, however, it appears reasonable to assume that in a normal season an orchardist growing good quality fruit would realise approximately an average of 12s. per bushel for Valencias and Navels. Some growers might realise more, whilst others would receive a lower average gross return. The question then arises whether an orchardist, growing good quality fruit, can make his orchard pay in a normal season of heavy production, at these prices. This will depend mainly, of course, on such factors as the size of the orchard, the fruitfulness of the trees, and the amounts expended in fertilisers, orchard equipment and hired labour. These factors would possibly provide material for an exhaustive cost of production analysis but, for obvious reasons, fall outside the scope of this present report on coastal citrus prices. It is relevant, however, to consider the costs which are incidental to the marketing of the fruit.

(c) Grower's Marketing Expenses.

From the time that the fruit is picked, the Gosford grower who sends through a co-operative packing shed is required to meet the following charges in the marketing of his fruit:—

<i>Local Cartage to the Shed.</i>	s. d.
(Varying from 3d. to 7d. according to location),	
say	0 6
<i>Packing Shed Charges</i>	2 11*
Consisting of—	
(i) Hire of field picking case (1d.).	
(ii) New case (1s. 8d.).*	
(iii) Packing charges.	
(iv) Freight, <i>either</i> bulk loading from Gosford to Darling Harbour and subsequent cartage from Darling Harbour to Markets, <i>or</i> road cartage from Gosford to City Markets.	
<i>Agent's Commission, 7½ per cent.</i> (say, on an average of 12s. case)	0 11
	4 4
	4 4

(In addition there is a small charge for stamps and stationery debited against each consignment to an agent or producer-selling organisation.)

The above figures are those which would have to be met by a grower in the Gosford region who markets his fruit through a packing shed. There would be slight differences in charges from other districts because of different local cartage and freight charges. In some districts, also, packing sheds are not accessible, or the grower may prefer to grade and pack his own fruit. In some instances, by packing his own fruit and using cheaper cases (second-hand or "dump"), a grower may be able to cut these expenses appreciably. The above, however, may

*More recently, increased by 2d.

be taken as fairly representative of marketing costs from coastal districts and are sufficiently accurate for Gosford fruit, with which this report is primarily concerned. It will be seen, therefore, that, assuming the average gross realisation per case over the whole crop to be



PRIMITIVE HANDLING METHODS SPELL DISASTER.

about 12s., the net return to the grower in a season of full production would be 7s. 8d. per case approximately. This figure is little more than a guide, however, as conditions vary from orchard to orchard and the net return will vary accordingly. Nevertheless, short of an examination of the records of individual growers, it would be difficult to arrive at an estimate with any greater degree of accuracy.

Naturally, these marketing costs are higher than pre-war, and by way of illustration, two further examples may be quoted:

(a) *Yenda Producers' Co-operative Society Ltd.*

July, 1948—Cost of placing a bushel case of oranges on the Sydney market:—

	Per case.	
	s.	d.
Packing and carting to the packing shed	1	0
Packing shed costs, including case ..	4	0
Freight (bulk trucking rates)	1	4½
Market charges, including commission ..	1	0
Total ..	7	4½

(Whereas bulk trucking rates for the carriage of a bushel case of oranges to the Sydney market amounts to 1s. 4½d. per case, the rate by passenger train is 3s. per case, and an additional 1s. 6d. if delivered in the city. This, on top of the high cost of cases and packing charges, is said to cramp direct country order trade.)

(b) *Batlow Packing House Co-operative Limited.*
 (Handling Apples, Pears and other Fruits, but not Citrus.)
 1939 *Packing Charges (Shareholders)*—

					s.	d.
Case	..	..	..	..	1	0
Wraps	..	..	..	..	0	2
Strawboards (4)	..	..	..	..	0	1½
Labels, Nails, etc.	..	..	..	..	0	1
Labour (grading and packing)	..	..	..	..	0	5
Depreciation	..	..	..	..	0	0½
Total	..	..	..	..	1	10

July, 1948, Packing Charges (Shareholders)—

Case	..	..	..	..	2	5½
Wraps	..	..	..	..	0	7½
Strawboards	..	..	..	..	0	3
Labels, Nails, etc.	..	..	..	..	0	1
Labour (grading and packing)	..	..	..	..	1	3
Depreciation	..	..	..	..	0	1½
Total	..	..	..	..	4	9

(Freight and cartage to the Sydney markets amounted to 10d. in 1939, but in 1948 to 1s. 2d., that is, an increase of 40 per cent. In 1939 the cost of landing a bushel case of fruit on the Sydney market amounted in all to 2s. 8d., whereas in 1948, it totalled 5s. 11d. per case. To these costs have to be added Agent's Commission charges, cold storage and, of course, inescapable production costs. In 1939, for example, whereas the ruling rate for an orchard hand in the Batlow district was £3 12s. 0d. per week of 48 hours, in 1948, this was £6 11s. 8d. for a week of 40 hours.)

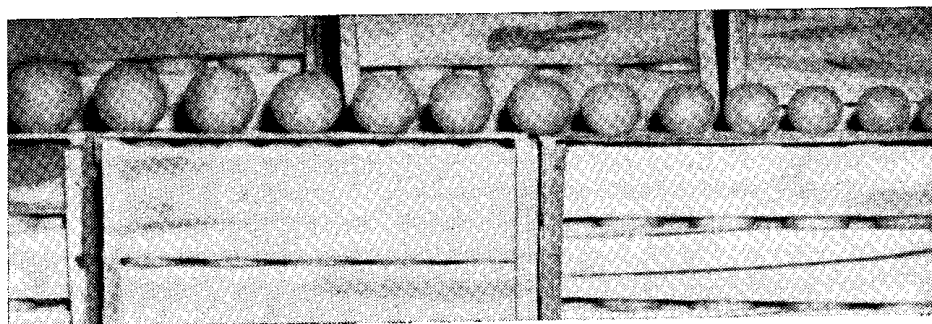
5. RETAIL DISTRIBUTION.

(a) The Commencement of the "Spread" between Producer and Consumer*.

Turning now to the question of retail distribution, citrus growers have, from time to time, expressed concern regarding the level of retail prices and have claimed that, whilst the return to the grower is low, the price to the consuming public seems to remain high. Many growers are impressed by the wide "spread" of costs and profits between their net return from the market and the price to the consumer, claiming that frequently it exceeds 100 per cent. It must first be pointed out, however, that, if an average net return to the grower of 7s. 8d. per case is assumed, as in the previous analysis, the marketing costs alone (including agent's commission) total 4s. 4d., which represents, from the grower's point of view, a margin of 56½ per cent. between his return and the price to the retailer on the market floor. The retailer's percentage of profit must then be calculated on this market price, plus an

*Whilst there is some intrinsic interest in dissecting costs in this way so as to arrive at the "spread" between wholesale and retail prices, no support can be given to those who would rather pointlessly argue, as is quite frequently the case, that "the role of distribution as compared to production is a parasitic growth drawing its sustenance from the economic body and in large part nullifying the

allowance for cartage to his store. For suburban retailers, however, cartage on individual cases can be neglected, as it is comparatively small and is partly offset by the proceeds from the sale of the second-hand containers. The point remains, however, that the retailer's profit must be computed in terms of the market price which is probably more than 60 per cent. above the net return to the grower, when prices are moderate or low. The "spread" between the grower's return and the price to the consumer has, therefore, commenced to grow at an increasing rate. Where the retailer purchases direct from the markets the growth ceases at this point. This would apply to most of the fruit sold in the Metropolitan area. But some small shops and mixed businesses obtain their



HOW MUCH ARE ORANGES? THAT DEPENDS—ON SIZE AND QUALITY.

The above photograph (Navel) illustrates the range of counts from "64" to "198" with a "252" at the right-hand end. When such influences as freshness of supplies, skin blemishes, diseases, keeping quality, juice content and sweetness are added to the factor of size, the reason for wide variations in prices will be clear.

results achieved through improvements in efficiency of production." This claim is altogether too facile and denies the facts of the complex organisation of modern society. Published surveys by the United States Department of Agriculture show that over the last thirty years or so the farmer's share of the consumer's dollar has ranged from less than one-third to more than half. By some this has been interpreted to mean that the efficiency of marketing increases or decreases in inverse ratio to changes in the percentage of the consumer's dollar taken by non-farmers, so that the larger the percentage, the smaller the efficiency, and vice versa. This marginal approach to the distribution problem is much abused by many controversialists and requires, if there is to be adequate refutation or interpretation, the closest statistical and economic examination of all the facts that are involved. The principal fallacy underlying the use of "price spreads" as indicators of efficiency in distribution, lies in the tacit assumption that distribution is non-productive. It is very evident, on the contrary, that distribution, both wholesale and retail, performs most useful and indispensable tasks and that its services both to the producer and consumer are vitally important. In a modern society the chain of distribution for practically all goods and services grows as the society increases in size, specialism develops and opportunities for direct selling and barter gradually becomes less frequent. The city of Sydney, for example, with a population of one and a half million people now requires a large productive capacity to support it in foodstuffs. The production centres have gradually extended further and further from the city itself. It is no exaggeration to say that the foodstuffs supplying points for the city of Sydney now occupy the whole of the eastern half of the continent of Australia. These facts are of importance in view of the oft-repeated suggestions that producers of fruit and vegetables, in order to cheapen and shorten the chain of distribution, should enter into more direct selling with consumers and the considerable agitation that there has been for some years by persons unfamiliar with the complexities of this issue, urging the establishment of decentralised and suburban markets. Too much, then, should not be read into discussions on "price spreads" and "retail margins."

supplies from provedores and wholesale suppliers, which further enlarges the "spread" and is responsible for some of the very high prices noticeable at times away from the main shopping areas. This might apply in particular to far distant country areas in which there is no local production of citrus fruits.

(b) Counts or Sizes.

In order to understand the way in which a retail price is arrived at, it is necessary to consider the various sizes in which oranges are packed for the market. The fruit is graded according to size and all oranges in any one case are, or should be, uniform. The counts per case will vary as follows:—

		Counts per bushel case.			
		(Case filled and packed with a "bulge.")			
		VALENCIA.		NAVEL.	
Large	...	{ 100 113 125		{ 72 80 88 96 100 113	Large ...
Medium	...	{ 138 150 163 175 180		{ 125 138 150 163 175 180	Medium ...
Small	...	{ 198 216 234 252 270		{ 198 216	Small ...

The retailer's preference for particular sizes may change from day to day, according to the price. Conversely, strong demand for a particular size or group of sizes will tend to increase the price for these sizes. No general rules regarding popularity of sizes can be enunciated, but the following comments are valid under most circumstances:—

- (i) A shop with a luxury trade (*e.g.*, city area) will purchase some large fruit even when prices are high.
- (ii) When prices are low, demand for medium and large fruit will be good, whilst smaller sizes will probably be neglected.
- (iii) When prices are high, the preference of most retailers will be for medium and small sizes.
- (iv) In a season when the crop includes a heavy percentage of large fruit, prices for smaller sizes will tend to be higher comparatively, because of their scarcity. When the crop is mainly small, large fruit will bring prices well above the general market level. (In the foregoing analysis of prices it was assumed that the crop was fairly well distributed over all sizes.)
- (v) When prices are at moderate levels, most suburban retailers will endeavour to purchase at least two sizes, large oranges to sell at 2d. or medium to sell at 1½., and small to sell at 1d. each.

(c) Retail Price Rates.

It is the final consideration above which is of most value in an analysis of retail prices. Retailers find that the prices which are most suitable to retail selling are as follow:—

3d. each	2d. each.	1s. a dozen,
2½d. each.	1½d. each.	14 a shilling.*
5 a shilling.	10 a shilling.*	9d. a dozen.*

**These prices less common in retail fruit trading.*

When buying oranges in the market, therefore, retailers will have the above possible selling prices in mind. They will be influenced by four factors which they will endeavour to combine in their purchasing, viz. :—

- (i) The retail price(s) at which they prefer to sell.
- (ii) The margin of profit which they aim to make.
- (iii) The count.
- (iv) The wholesale price, which the agent is asking. As stated earlier this is the resultant of supply and demand conditions on the day of sale.

(d) Retail Profits.*

It is the second item, the margin of profit, to which consideration must now be given. It is difficult to decide upon this factor, as the margin of profit will vary according to the circumstances of the individual retailer, his location, clientele, and particularly his turnover. At the time of sale, however, selling agents usually take into account the probable margin of retail profit and, in arriving at the wholesale price, they must give consideration to all the factors which influence the retailer in his buying. The most successful salesmen have come to know the requirements and type of business of their various retailer-clients and adjust their prices accordingly. For example, an agent would be more inclined to drop his price by 1s. to meet a buyer who works on a large turnover and a small margin of profit than he would be in the case of a retailer whom he knows will extract a large or a comfortable margin. Some buyers, usually the large-scale retailers, merely ask the agent for oranges to sell at a certain price, *e.g.*, "3d." and "eight-a-shilling," and leave it to the agent to provide the counts which will have the best selling value, taking into account the size and margin of profit at the prices quoted. Several agents questioned have stated that, in arriving at the wholesale price, they assume that the retailer will want from 5s. to 7s. per case profit, although a few very big handlers might be prepared to work on a margin of 4s. Some agents have also stated that, on occasions, they allow for as much as a 10s. margin. From 5s. to 7s., however, is the margin on which the suburban retailer with a large turnover and catering for the average suburban population is believed to work. It is on this assumption that wholesale prices are determined by agents, given the supply position obtaining at the time of sale. Nevertheless, there is nothing to prevent other retailers, who work on a smaller turnover, from buying at the same figure as the large-scale retailer, on the pretence that they intend to charge a certain retail price, and subsequently selling at a higher retail figure, thus

**It is here of interest to note the results of Melbourne experience on these same issues. In July, 1948, at a meeting between the Federal Citrus Council and representatives of Melbourne retailers, discussions took place concerning the retail selling of oranges and other citrus fruits:*

† 16361—2

increasing their margin to 10s. or more. It would be a difficult matter to prove that this is the case without an exhaustive check of retail shops including measuring the fruit with the sizing rings specially designed for this purpose, but it is firmly believed in the wholesale trade that this policy is followed by large numbers of retailers, and that it has an adverse effect on the rate of clearance from the market, and consequently the return to the grower. During the 1948 bountiful Navel season, when vegetables were selling at almost prohibitive prices, many retailers stated openly that they were making up on oranges the profit they were unable to obtain from vegetables. The result of this policy, of course, was to penalise the orange grower, to create false demand and prices for vegetables which were sold almost at cost, and thus to transfer some of the returns which should have gone to the citrus

"On the citrus association's side, the retail representatives were told that citrus growers were complaining:—

- (1) *That the high retail distributing margins on oranges and other citrus fruits were restricting sales; and*
- (2) *That there was a disinclination on the part of growers to spend money on publicity if the principal beneficiary was to be the retailer.*

"From the retailer's point of view, it was maintained:—

- (1) *That both the press and growers based their views of retail fruit margins on those charged by high-rental city shops and paid insufficient attention to the moderate and low margins observed in the suburban areas, where the bulk of the oranges were sold;*
- (2) *That up to the beginning of July this year (1948) the new season's oranges were not sufficiently sweet to encourage volume sales;*
- (3) *That the current high price of vegetables left the average housewife very little money for the purchase of fruit—not only for oranges but also for apples and bananas;*
- (4) *That any increase in price on the early July level for oranges would be reflected in slower sales; and*
- (5) *That, as regards the reported neglect by retailers of some brands and marks, the retailers remembered that last year (1947) they received insufficient allowance for waste or had been compelled to pay inordinately high prices then and in the preceding year.*

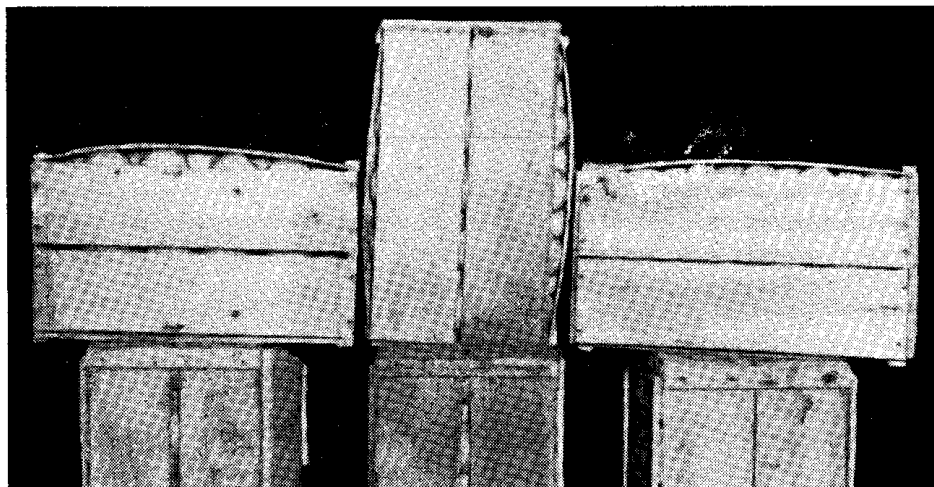
"The retailers' representatives also emphasized the average suburban shopkeeper's desire to stock only good quality fruit. On this account, they deprecated comparisons with comparatively cheap lines of oranges (that were quoted in the discussions). The suburban fruiterer, they declared, wanted to continue selling oranges throughout the season and the only way he could encourage his customers to come back for more oranges was to stock good quality at the outset. More and more people were becoming conscious of orange quality, and some of the oranges sold as 'catch lines' would not encourage customers to buy them again . . . The discussions ended with both retailers' and growers' representatives acknowledging a fuller understanding of each other's problems and difficulties."

(Report in "The Citrus News," July, 1948, pp. 101-106.)

From personal enquiries that have been made, there is some evidence to show that whilst the bulk of shopkeepers constituting the Melbourne retail fruit trade are reported as being prepared to accept "reasonable profit margins" on oranges, some have expressed an unwillingness to sell oranges at less than 10s. a case, profit, irrespective of whether they buy at 10s. or 20s. The Federal Citrus Council, in an endeavour to reduce retail profit margins, some time since, privately circularised retailers in the inner Melbourne metropolitan area with an orange buying and selling chart, indicating 4s. to 7s. range as a permissible margin, according to price paid and shop location. The guide also showed the actual margins at different wholesale prices and retail price tickets. At the same time, wide publicity was given by press and radio that oranges of certain sizes should be selling at so many a shilling.

industry into the pockets of those vegetable growers fortunate enough to have supplies available on a high market. Where wastage is obvious at the time of sale, the wholesale price is usually adjusted by agents to make suitable allowance, a point which is often overlooked. Where wastage becomes apparent only during unpacking, the retailer who is a regular customer can frequently persuade his agent to make him an allowance on the following day. The wastage borne by the retailer is principally that which arises from unforeseen delays in the clearance of his stocks*.

Apart from the above aspects of the problem, however, it is quite definite that there are many efficient retail shops working on a large turnover and a small margin of profit, and it is considered that complaints by growers do not always take this sufficiently into account. It is most likely that growers' complaints regarding high retail prices in Sydney spring principally from the prices charged by retailers working on a small turnover and in a location where competition is not keen, or, secondly, other complaints, such as that of oranges bringing 4d. or 5d. each, may arise from wrongly identifying as local fruit, oranges brought from interstate sources to meet the requirements of Sydney's "luxury" trade. One such brand of oranges ("Olivewood," South Australian) for example, realises 25s. per case in the markets almost the



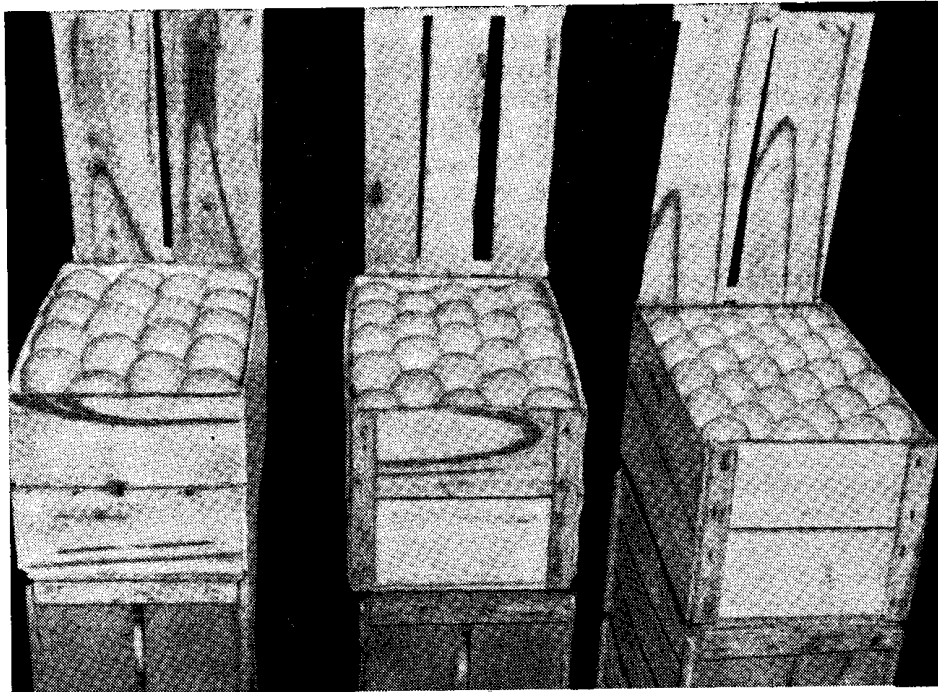
THREE WELL-PACKED CASES OF NAVELS—COUNTS 72, 113, AND 180.

whole season through, and larger sizes would sell legitimately at 4d. and 5d. each. There are times, also, when the market is high, that large local oranges may cost 3d. each in the market (e.g., 22s. for a case of 88 Navels) and retailers who have the necessary clientele might be justified in charging 4d. or more. But it is quite definite that oranges in the suburbs sell mainly within the range of from "one shilling per dozen" to "five for a shilling," as enumerated earlier. Any excess profits which are made are acquired by making use of the various counts and by taking advantage of the fact that differences in size between the counts are relatively small and difficult for the consumer to judge by visual inspection alone.

* The profit margin allowed by Price Control Regulation is 25 per cent. on cost into store without allowance for wastage, or a minimum of 3s. 6d. per case where the cost is less than 15s.

(e) An Analysis of Typical Conditions in Practice.

From the foregoing, therefore, it appears that in a normal season, with Valencias at 16s. and Navels at 14s., maximum price, the grower would average approximately 12s. per case gross or about 7s. 8d. net, whilst the wholesale and retail prices would probably be as shown in Appendix B. It is obvious from column 3 of the schedule in this appendix that there are several possible rates at which retailers may sell. In addition, when it is considered that the wholesale prices in column 2 are not by any means fixed and may be varied by the seller to suit



THE SAME CASES—OPENED TO SHOW THE SIZES OF THE FRUIT AND THE METHODS OF PACKING.

individual retailers, it will be seen that the number of possible combinations of wholesale and retail prices makes any decisive comment or criticism practically impossible. One point which emerges from the analysis is that even the smallest possible change in the retail price rate may exert a great influence on the gross return for the whole case, and consequently on the percentage of gross profit. May we take, for example, Valencia oranges counting 150 to the bushel and costing 14s. in the markets. If the retailer sells at 1½d. each (8 for 1s.) he will make only 4s. 9d. profit, which he may not consider sufficient, particularly if a percentage of waste in the shops is likely, such as with end-of-the-season fruit. The next highest price, 7 for 1s., is not popular with either the consumers or the retailers, so that if the retailer advances the retail price to 2d. this increases his gross profit by 6s. 3d. on the case to 11s. Other examples will be obvious in the appendix. In practice, the retailer who works on a wide margin would pay the 14s. in the markets without query and might be induced to pay more. The retailer who works on a large turnover and a small margin, however, would attempt to buy at 13s. Most agents would be inclined to

meet a good customer in this way. This is only an isolated example of the continuously varying circumstances operating throughout the entire distribution system. It will be noticed also that the percentage of profit tends to be particularly high on small oranges. It must be borne in mind, however, that much more labour and expenditure on paper bags is involved and many retailers avoid very small sizes for this reason. It is reasonably clear, nevertheless, from the examples which have been given, that if the practice of selling oranges at "so many for a shilling" could be popularised, rather than "so much per dozen," the problem referred to of sudden jumps in profit margins when a change to a higher retail price rate is necessary, would partly be overcome. Some concerted attempts to popularise such a system of selling have been taken by citrus interests in Melbourne.

(f) Profits as a Percentage of Turnover.

In Appendix B an additional column has been included to show the gross profit as a percentage of turnover. This has been done for the reason that the value of most retail businesses is assessed in this way when the businesses are being offered to prospective buyers. Many retailers think of their profits only in terms of the percentage on turnover, but the Price Control Regulations are clear in their intention that profit must be calculated as a percentage on total cost into store. (This matter was considered fully by the Royal Commission of Inquiry into the Fruit Industry (J. E. McCulloch, 1939, page 209).

(g) Some Conclusions Regarding the "Spread."

One point which becomes clear on final analysis, however, is that the "spread" between the return to the grower and the price to the consumer is inevitably a large one even where the retail profit margin is not unduly high. The following examples will illustrate this point:—

"150" Valencias on a "16s. Maximum" Market.

	s.	d.	
(1) Gross price in market	14	0	
(2) Return to grower (approximate)	9	8	
(3) Retailer's profit at 1½d. each	4	9	(34%)
(4) Cost to consumer	18	9	
(5) "Spread" between (2) and (4)	9	1	= 94%

"100" Valencias on same Market.

(1) Gross price in market	16	0	
(2) Return to grower (approximate)	11	8	
(3) Retailer's profit at 3d. each*	9	0	(56%)
(4) Cost to consumer	25	0	
(5) Spread between (2) and (4)	13	5	= 114%

"216 Valencias on same Market.

	s.	d.	
(1) Gross price in market	10	0	
(2) Return to grower (approx.)	5	8	
(3) Retailer's profit at 14 for 1s.	5	5	(54%)
(4) Cost to consumer	15	5	
(5) Spread between (2) and (4)	9	9	= 172%

*Large oranges at 3d. do not sell briskly when smaller sizes are plentiful at lower prices.

It is obvious, therefore, that even under the streamlined system by which the agent sells on behalf of the grower, directly to a retailer, and middlemen are thus avoided, a margin of approximately 100% between grower and consumer is inevitable under present cost and profit conditions. Retailers who charge more than a "fair and reasonable margin" greatly extend this "spread." When retailers are in a position to work on smaller margins, the "spread" will be reduced but will still be significantly large compared with the growers' returns. Lower distribution costs should have the effect of reducing retail prices, thus stimulating demand in the wholesale market with ultimate benefit to the producer. The growers, too, or their co-operative organisations, may be able to reduce the margin and raise the net return, by reducing their packing and marketing costs in the future.

Producer Co-operative packing sheds, however, along with privately-owned businesses of a similar type have now to meet the higher costs of present day conditions. These are generally accepted to have increased by at least 50% on the pre-war figure. It may be here of interest to quote an extract giving some illustrations of American experience:—

"During the year achievements by fruit and vegetable co-operatives were characterised by economies of operation, adopting new methods and procedures, and developing improved merchandising practices.

"Careful study, analysis, and planning will be required to solve some of the perplexing problems confronting the fruit and vegetable co-operatives.

"Prices being paid for labour, materials, equipment, transportation and other expense items have continued to increase, whereas prices received for many fruits and vegetables have declined sharply. Citrus provides an outstanding example. While individual co-operatives are rendering noteworthy service there is need for a co-ordinated distribution system to merchandise the ever-increasing volume, particularly in Florida and Texas.

"Many of these fruit and vegetable associations, particularly in the processing field, experienced considerable difficulty in liquidating inventories accumulated during and immediately following the war. Increased demand and accelerated production from the wartime stimulus have made it difficult for some of the associations to readjust their operations to peacetime demands and lower price levels.

". . . . Producers of citrus, dried fruits, nuts, and many other commodities are in the same dilemma. The increased volume of production stimulated by wartime demand cannot find satisfactory outlet in our domestic markets.

"Increased transportation cost is proving a serious handicap, particularly to producers in the north-west and on the west coast, who are far removed from eastern consuming centres. These and many other problems challenge the best efforts of our fruit and vegetable co-operatives.

"Progress Made on Broad Front.

"But from the broader view, co-operatives in this group have made progress along many fronts. In processing, for one example, the Florida Citrus Canners Co-operative of Lake Wales in 1948 began marketing a new product, part of it under the famous Donald Duck brand—a concentrated fresh-frozen juice made under a process developed after years of research. It processes this juice in a new plant completed in February, 1948. . . .

"The Arizona Citrus Growers, Phoenix, has been successful in handling fruit in bulk from groves to packing houses, eliminating cost of field boxes, and effecting economies.

"Fruit and vegetable co-ops. have come up this year with a number of new plants and have modernised and added new equipment whenever they could. The Dade County Co-operative Growers' Market, Miami, Fla., is making extensive improvements in its facilities for handling both retail and wholesale business. Two warehouses are in the course of construction and when completed 48 carlots and 100 trucks can be handled at the same time. Floors are being built at truck level so machinery can be used to unload vehicles. With these new facilities, the co-op. plans to serve a population of a million people.

"Co-operatives are gradually becoming more active in the field of consumer size prepacking—more advance being reported during the last two years than in any previous period. Citrus fruit, apples, and white potatoes were among the items most frequently prepackaged. Chain stores and wholesalers buying in carlots offer the chief outlet. The associations currently engaged in prepackaging stress the following advantages—increased quantity sold per consumer makes for easier and better retailing, permits brand identification and advertising, makes a cleaner and neater display, increases shelf life, reduces waste, and makes for economical handling.

"However, they also are faced with a number of problems—among them the higher hand labour costs or more expensive equipment needed. The fresh citrus co-operatives in the Rio Grande Valley, all members of the Texsun Citrus Exchange, Welaco, installed overhead conveyors and automatic tyers last season to help overcome these problems. One of these firms estimated that the savings in hand labour effected by this mechanisation will be sufficient to pay for the cost of the equipment within two years.

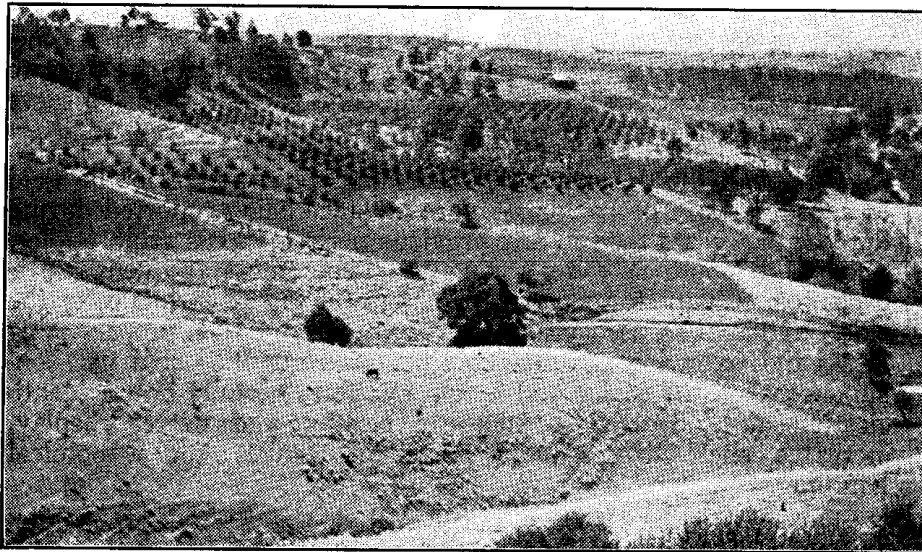
"Several associations have portable belt conveyors much like the overhead ones except they have no automatic mechanism for tying the bags or for separating the bagged fruit by size and grade. Other associations have built special wooden racks on which a substantial quantity of bagged fruit can be stacked and then moved by hand trucks. . . . "

("Fruits and Vegetables Solving Some Problems," by M. C. Gay, Principal Agricultural Economist, Farm Credit Administration, in "News for Farmer Co-operatives," January, 1949, pp. 19-20.)

6. CONCLUSIONS.

The effectiveness of a producer co-operative depends on its turnover and the amount of support given to it by producer members. In the citrus industry in New South Wales, as with the Australian fruit industry at large, improvements in marketing are to be hoped from an expansion of the co-operative packing shed movement and the continued growth and success of those sheds already established.

The purpose of this report has been to set down in logical sequence some of the factors involved in the marketing and distribution of oranges from coastal districts rather than to draw conclusions and make recommendations. Some conclusions, which have appeared to follow readily from the facts outlined, have been reached in the body of the report. They are mainly to the effect that the number of likely variations in conditions and factors is so great that any precise criticism or comment, which would apply in all cases, would be impossible.



MAXIMUM CITRUS YIELDS CANNOT BE EXPECTED UNDER THE CONDITIONS PICTURED ABOVE.

Undulating land which has been cleared of all natural shelter and planted to citrus, which fail to thrive because of excessive exposure to wind and impoverishment through soil erosion.

The possible variations in conditions start right at the orchard. Such basic factors as the size and location of the orchard, its elevation, its soil conditions and whether it is sheltered or exposed to the elements can have an important bearing on production and therefore on the economic well-being of the grower himself. To this must be added factors such as the number, health and age of the trees and the over-riding seasonal factors which can influence the size of the total crop, its time of maturity, the size of the fruit and the prevalence of disease. The actions of individual growers, also, have an important bearing on their financial success or otherwise. Pruning, spraying and manuring all affect the crop, whilst the degree of efficiency in the growers' arrangements of labour and machinery is of extreme importance. Production

and marketing costs vary widely and a net return which might maintain one grower would be far too low for another. Time of marketing and elements of chance can account in part for unpredictable success or failure.

In the wholesale market, the standard of grading and presentation, the keeping and eating qualities of the fruit and the skill of agent and buyer, all play a part and account for much variation in prices. Coastal growers in many instances do not give sufficient consideration to the relationship between appearance and price. Many packs of oranges seen in the markets are so unattractive as to repel buyers. Even with packing shed fruit, the stage has not been reached where buyers can buy "on the label." Growers who dictate to the shed a grading policy for their fruit and demand that grading be lax and "just within the law" destroy buyer confidence in the shed label. The packing shed, being a co-operative organisation depending on voluntary support, is not always in a position to take a firm stand. For that reason growers who request the shed to set a high appearance and grading standard with their fruit would be well advised to ensure that their name appears on each case of their produce in the markets. Regular clients will then buy their fruit, without inspection, "on the label." Quality will always sell, and growers of quality fruit will be the last to suffer in a market slump.

Other factors which influence clearance and prices in the market operate through the retail sphere. Such influences as the effect of weather on consumer demand, the availability of and preference for substitute fruits, the level of the prices of essential vegetables and the economic position of the community generally, all have a bearing. Slackening in demand frequently is noticeable after a holiday period such as Christmas or Easter. As mentioned earlier, the retail profit margins, by raising or lowering retail price rates, can restrict or stimulate the rate of clearance from the wholesale market.

What, then, are the conclusions or suggested remedies? It cannot be claimed at present that there is over-production of oranges in a normal season, but it has been shown that prices tend to drop to fairly low levels particularly from the point of view of the grower and his net return. What are the possibilities? There appear to be only two, to raise wholesale prices or to reduce costs. The costs in the wholesale market are already fairly low; agent's commission at $7\frac{1}{2}\%$ does not amount to much on low markets. Whether the other production and marketing expenses can be reduced is, apart from costs of labour and materials, a matter of organisation on the part of the growers, and their packing sheds if they market through this medium, although it is known that most packing sheds have cut their costs to the barest possible minimum under present conditions. Increased supplies of materials and greater competition may in time reduce the price of certain production requisites. Orange growing in the pre-war years provided relatively small returns to growers, in seasons of full production, and demanded maximum economy on the orchard with a

supplementary income where the orchard was a small one. The post-war prospect appears to be much the same. Anticipated medium crops in the near future, with resultant better average returns per case and lower overall marketing costs, may cloud the issue for a season or two, but the 1947 and 1948 seasons have been definite pointers to the likely position in times of full production and growers would be unwise to allow their perspective to be distorted by a temporary boom.

With regard to the first possibility, the raising of the wholesale price, there appear to be two possible methods—relieving the local market by export, or reducing retail distribution costs. Export, which includes greater distribution in country centres, is dependent on improvement in the keeping qualities of the fruit and the opening up of suitable market outlets which are not by any means assured at present. Improved distribution within New South Wales is partly dependent also on the provision of cheaper fast transport than the passenger train service at present employed, which costs approximately 3s. per case. The reduction of distribution costs, on the other hand, is apparently dependent on greater competition between retailers, which must occur as the consuming public becomes more selective. There is, however, the possibility that the return of keen competition in the post-war period can be accelerated by publicity. The problem, then, is a complicated one and no ready-made solution is likely to appear at short notice. If this report, however, has given prominence to the relevant issues and countered some of the misconceptions which are current in certain sections of the industry it has served its immediate purpose.

Appendix A.

COASTAL CITRUS PRICES.

ORANGES—NAVEL.

Weekly Ranges of Prices for Standard Grade Fruit of all Sizes.

1947 Season.		1948 Season.	
Week ended.	Per bushel case.	Week ended.	Per bushel case.
April 11 ...	22/- to 28/-	April 16 ...	.....
18 ...	22/- to 28/- few to 30/-	23 ...	15/- to 22/-
25 ...	14/- to 35/-	30 ...	14/- to 20/-
May 2 ...	12/- to 20/-	May 7 ...	22/- to 24/-
9 ...	10/- to 18/-	14 ...	7/- to 12/- few to 16/-
16 ...	10/- to 16/- few to 18/-	21 ...	6/- to 12/-
23 ...	10/- to 18/-	28 ...	7/- to 12/-
30 ...	10/- to 16/-		
June 6 ...	10/- to 14/-	June 4 ...	7/- to 12/-
13 ...	7/- to 13/- few to 14/-	11 ...	6/- to 12/-
20 ...	7/- to 12/- few to 14/-	18 ...	8/- to 14/-
27 ...	7/- to 12/- few to 14/-	25 ...	8/- to 12/-
July 4 ...	7/- to 12/-	July 2 ...	5/- to 10/-
11 ...	8/- to 12/- few to 14/-	9 ...	6/- to 10/-
18 ...	6/- to 14/-	16 ...	5/- to 10/- few to 12/-
25 ...	9/- to 13/- few to 14/-	23 ...	4/- to 10/- few to 12/-
Aug. 1 ...	9/- to 13/- few to 14/-	30 ...	5/- to 10/- few to 11/-
8 ...	8/- to 13/- few to 14/-	Aug. 6 ...	5/- to 10/- few to 11/-
15 ...	7/- to 13/- few to 14/-	13 ...	6/- to 12/-
22 ...	7/- to 13/- few to 14/-	20 ...	6/- to 12/-
29 ...	7/- to 14/-	27 ...	5/- to 12/-
Sept. 5 ...	8/- to 15/- few to 16/-	Sept. 3 ...	6/- to 12/- few to 13/-
12 ...	7/- to 16/- few to 18/-	10 ...	9/- to 13/-
19 ...	8/- to 20/- few to 22/-	17 ...	9/- to 14/-
26 ...	8/- to 20/-	24 ...	7/- to 15/-
Oct. 3 ...	8/- to 16/-	Oct. 1 ...	6/- to 16/-
10 ...	6/- to 22/-	8 ...	7/- to 14/-
17 ...	8/- to 22/- few to 24/-	15 ...	8/- to 14/- few to 15/-
24 ...	8/- to 22/- few to 24/-	22 ...	8/- to 16/- few to 17/-
31 ...	10/- to 18/-	29 ...	10/- to 20/- few to 22/-
		Nov. 5 ...	10/- to 12/- (a)
		12 ...	6/- to 12/- (a)
		19 ...	6/- to 12/- (a)

Notes:

- (a) Second crop.
- (b) "All sizes" includes fruit in counts ranging from 216 to 72 per bushel case.
- (c) The above weekly price ranges are derived from the daily ranges decided upon by the Department's market representatives after questioning sellers. The wide variation between highest and lowest prices results mainly from buyers' preference for particular counts and almost total neglect of others (usually the smallest sizes on a low market), which may be sold eventually to factory buyers. To a lesser extent keeping qualities of the fruit and market fluctuations during the week are responsible also. The highest price at the end of the general range is the best indication of the state of the market (e.g., 7s. to 12s., few to 16s; 12s. would be the highest "general" price). Higher realisations for isolated special brands are usually either not recorded or quoted as "few higher."

COASTAL CITRUS PRICES.

ORANGES—VALENCIA.

Weekly Ranges of Prices for Standard Grade Fruit of all Sizes.

1947-48 Season.		1948-49 Season.	
Week ended.	Per bushel case.	Week ended.	Per bushel case.
1947.		1948.	
Sept. 19 ...	.....	Sept. 17 ...	8/- to 10/-
26 ...	.....	24 ...	8/- to 10/-
Oct. 3 ...	8/- to 14/-	Oct. 1 ...	6/- to 11/-
10 ...	6/- to 16/-	8 ...	5/- to 12/-
17 ...	6/- to 16/- few to 18/-	15 ...	6/- to 14/-
24 ...	6/- to 14/- few to 15/-	22 ...	5/- to 16/-
31 ...	4/- to 16/-	29 ...	4/- to 16/- few to 18/-
Nov. 7 ...	4/- to 16/-	Nov. 5 ...	3/- to 16/-
14 ...	4/- to 16/-	12 ...	4/- to 16/-
21 ...	4/- to 16/-	19 ...	4/- to 16/-
28 ...	7/- to 17/-	Dec. 3 ...	3/- to 18/- few to 20/-
Dec. 5 ...	7/- to 18/-	10 ...	3/- to 16/- few to 20/-
12 ...	12/- to 18/- few to 20/-	17 ...	3/- to 16/-
19 ...	9/- to 20/-	24 ...	4/- to 18/- few to 22/-
24 ...	7/- to 15/-	31 ...	6/- to 18/- few to 22/-
1948.		1949.	
Jan. 2 ...	10/- to 20/-	Jan. 7 ...	6/- to 16/- few to 20/-
9 ...	6/- to 18/- few to 20/-	14 ...	6/- to 16/- few to 18/-
16 ...	6/- to 14/- few to 16/-	21 ...	3/- to 18/- few to 20/-
23 ...	6/- to 18/-	28 ...	6/- to 10/- few to 14/-
30 ...	8/- to 16/-	Feb. 4 ...	6/- to 18/-
Feb. 6 ...	8/- to 18/-	11 ...	6/- to 18/- few to 20/-
13 ...	8/- to 20/-	18 ...	5/- to 16/- few to 18/-
20 ...	8/- to 16/- few to 18/-	25 ...	4/- to 12/-
27 ...	6/- to 16/-	Mar. 4 ...	5/- to 12/- few to 17/-
Mar. 5 ...	6/- to 16/- few to 20/-	11 ...	5/- to 20/-
12 ...	5/- to 12/- (a)	18 ...	8/- to 16/- few to 18/-
19 ...	5/- to 12/- (a)	25 ...	4/- to 12/-
26 ...	4/- to 12/- (a)	April 1 ...	4/- to 10/- few to 12/-
April 2 ...	4/- to 22/- (a)		
9 ...	6/- to 22/- (a)		
16 ...	3/- to 16/- (a)		
23 ...	3/- to 14/- f. to 16/- (a)		
30 ...	3/- to 16/- (a)		
May 7 ...	6/- to 16/- (a)		
14 ...	3/- to 10/- (a)		
21 ...	3/- to 8/- (a)		

Notes:

(a) Second crop.

(b) "All sizes" includes fruit in counts ranging from 270 to 100 per bushel.

(c) The above weekly price ranges are derived from the daily ranges decided upon by the Department's market representatives after questioning sellers. The wide variation between highest and lowest prices results mainly from buyers' preference for particular counts and almost total neglect of others (usually the smallest sizes on a low market), which may be sold eventually to factory buyers. To a lesser extent keeping qualities of the fruit and market fluctuations during the week are responsible also. The highest price at the end of the general range is the best indication of the state of the market (e.g., 7s. to 12s., few to 16s; 12s. would be the highest "general" price). Higher realisations for isolated special brands are usually either not recorded or quoted as "few higher."

ANALYSIS OF COASTAL CITRUS PRICES.

Weekly Maximum Prices for Oranges from Gosford and "Hills" Districts.

Maximum price for the week.	NAVEL.		VALENCIA.	
	1947 (25 weeks).	1948 (25 weeks).	1947-48 (22 weeks).	1948-49 (23 weeks).
	(Weeks ended 16th May to 31st Oct.).	(Weeks ended 14th May to 29th Oct.).	(Weeks ended 3rd Oct. to 27th Feb.).	(Weeks ended 17th Sept., to 25th Feb.).
	No. of weeks. (a)	No. of weeks. (a)	No. of weeks. (a)	No. of weeks. (a)
10/- or more ...	25	25	22	23
11/- " " ...	...	23	...	21
12/- " " ...	25	21 (b)	22	20
13/- " " ...	...	11	...	...
14/- " " ...	24 (b)	9	22	18
15/- " " ...	...	6	21	...
16/- " " ...	12	4	19 (b)	16 (b)
17/- " " ...	...	2	11	...
18/- " " ...	9	1	10	11
19/- " " ...	...	1	...	...
20/- " " ...	5	1	5	7
21/- " " ...	...	1	...	...
22/- " " ...	4	1	...	2
23/- " " ...	...	...	...	...
24/- " " ...	2	...	...	...

Notes:

- (a) This column shows the number of weeks during the season in which it was possible to obtain the price shown in the left-hand column, or more than that price, for best counts.
- (b) Note the rapid fall in frequency after this point in each column. This figure, therefore, represents a rough average price for best sizes, in that it is exceeded only infrequently during the season whilst maximum prices at times drop below it.
- (c) The scarcity of essential vegetables in 1948 and the very high prices ruling for these commodities adversely affected demand for fruit. Values for oranges were depressed as a result and the 1947 season is probably a better indication of prices under normal conditions.

COASTAL CITRUS PRICES.

ORANGES—NAVEL.

Weekly Ranges of Prices for Standard Grade Fruit of all Sizes.
1949 Season.

Week ended.					Per bushel case.
May	6	...	...	...	14/- to 20/-, few 22/-
	13	...	...	...	10/- to 16/-
	20	...	...	...	10/- to 16/-, few 18/-
	27	...	...	...	10/- to 20/-
June	3	...	...	...	10/- to 18/-
	10	...	...	...	8/- to 15/-, few 16/-
	17	...	...	...	10/- to 20/-
	24	...	...	...	8/- to 24/-, few 26/-
July	1	...	...	...	8/- to 16/-, few 18/-
	8	...	...	...	10/- to 18/-
	15	...	...	...	8/- to 16/-

Notes:

- (a) The footnotes on page 1 of this appendix are also applicable here.
- (b) The above figures show the weekly ranges of prices during the current Navel season to date of going to press. The wide range at the end of June resulted, in part, from irregularity in supplies due to flood conditions. Although the crop for the 1949 season is considerably lighter than normal, and although pome fruits are lightly supplied, it is significant that in seven out of the eleven weeks, prices have not exceeded 18s. per bushel for best counts and that in those weeks 16s. has tended to be the more general maximum level.

Appendix B.

NAVEL ORANGES.
Analysis of Probable Retail Profit Margins.
"14s. Maximum" Wholesale Market.

Count. (1)	Wholesale Price(s) (per case). (2)	Retail Price Rate(s). (3)	Gross Retail Returns (per case). (4)	Retailer's Gross Profit.		
				Amount. (5)	Per cent. on Outlay. (6)	Per cent. of Turnover. (7)
	s. d.		s. d.	s. d.		
88	10 0	5 for 1/-	17 6	7 6	75	42
	12 0	5 for 1/-	17 6	5 6	46	31
		3d. each	22 0	10 0	83	45
	14 0	3d. each	22 0	8 0	57	38
100	12 0	2d. each	16 8	4 8	38	28
		5 for 1/-	20 0	8 0	66½	40
		3d. each	25 0	13 0	108	62
	14 0	5 for 1/-	20 0	6 0	42	36
		3d. each	25 0	11 0	78	44
113	13 0	2d. each	18 10	5 10	45	31
	14 0	5 for 1/-	22 6	8 6	69	37
125	14 0	2d. each	20 10	6 10	46	32
138	13 0	1½d. each	17 3	4 3	32	24
	14 0	2d. each	23 0	9 0	64	39
150	14 0	1½d. each	18 9	4 9	32	26
		2d. each	25 0	11 0	78	44
163	12 0	10 for 1/-	16 3	4 3	35	26
		1½d. each	20 4	8 4	69	41
180	10 0	1d. each	15 0	5 0	50	33½
		10 for 1/-	18 0	8 0	86	44
		1½d. each	22 6	12 6	125	53
	12 0	10 for 1/-	18 0	6 0	50	33½
		1½d. each	22 6	10 6	87	46
198	8 0	1d. each	16 6	8 6	106	51
	10 0	1d. each	16 6	6 6	66	39
216	8 0	1d. each	18 0	10 0	125	55
		14 for 1/-	15 4	7 4	91	47
		9d. dozen	13 6	5 6	68	40
		8d. dozen	12 0	4 0	50	33½
	10 0	1d. each	18 0	8 0	60	44
		14 for 1/-	15 4	5 4	53	34

Notes:

- (a) The retail price "2½d. each" has been disregarded, being approximately equal to "5 for 1s."
- (b) For full explanation of the above schedule see paragraph 5 of the foregoing report, particularly sub-paragraph (e). It is freely admitted that there is a large number of possible variations in the wholesale rates to suit individual buyers, and the retail price rate selected and resultant gross profit, therefore, will vary accordingly. However, the above is fairly representative of a "14s. maximum" Navel market.

VALENCIA ORANGES.
Analysis of Probable Retail Profit Margins.
"16s. Maximum" Wholesale Market.

Count.	Wholesale Price(s) (per case).	Retail Price Rate(s).	Gross Retail Returns (Per case).	Retailer's Gross Profit.		
				Amount	Per cent. on Outlay.	Per cent. of Turnover.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	s. d.		s. d.	s. d.		
100	16 0	5 for 1/- 3d. each	20 0 25 0	4 0 9 0	25 56	20 36
113	16 0	5 for 1/- 3d. each	22 6 28 3	6 6 12 3	40 76	29 43
125	16 0	2d. each 5 for 1/-	20 10 25 0	4 10 9 0	30 56	23 36
138	16 0	2d. each	23 0	7 0	45	38
150	13 0	1½d. each	18 9	5 9	44	39
	14 0	2d. each	25 0	12 0	92	48
	14 0	1½d. each	18 9	4 9	34	25
		2d. each	25 0	11 0	78	44
163	14 0	1½d. each	20 4	6 4	45	31
180	10 0	1d. each	15 0	5 0	50	33
	12 0	10 for 1/-	18 0	8 0	80	44
		10 for 1/-	18 0	8 0	50	33
198	11 0	1d. each	16 6	5 6	50	33
		10 for 1/-	19 9	8 9	79	44
216	10 0	1d. each	18 6	8 0	80	44
		14 for 1/-	15 5	5 5	54	35
234	10 0	14 for 1/-	16 8	6 8	86	40
252	8 0	8d. dozen	14 0	6 0	75	43
		9d. dozen	15 9	7 9	97	49
270	7 0	6d. dozen	11 3	4 3	66	37
		8d. dozen	15 0	8 0	114	53
		9d. dozen	16 10	9 10	140	59

Notes:

- (a) The retail price "2½d. each" has been disregarded, being approximately equal to "5 for 1s."
- (b) For full explanation of the above schedule see paragraph 5 of the foregoing report, particularly sub-paragraph (e). It is freely admitted that there is a large number of possible variations in the wholesale rates to suit individual buyers, and the retail price rate selected and resultant gross profit, therefore, will vary accordingly. However, the above is fairly representative of a "16s. maximum" Valencia market.