Growing and marketing Yates for profit

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Cover Page Footnote
This article has been prepared in collaboration with Mr. H. J. Price of the Illawarra Orchard Pry. Ltd., which for many years has demonstrated that with proper attention to growing, handling and storage techniques, Yates apples can be very remunerative.
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THE YATES APPLE is a late maturing red variety which because of its good storage qualities enjoyed a prominent place on the late market for many years. The trees grow and crop well, the only disabilities are insufficient colour under some circumstances, small size fruit and a tendency to shrivel. All these troubles can be successfully overcome by appropriate management.

The average market return for Yates has declined considerably in recent years although there is still an excellent demand for really prime fruit, well coloured, crisp and 2½ inches or larger in size. The main reason for the decline is the rapid increase in production of this variety as a consequence of an expansion in plantings over the past 10 years resulting in over-supply on the local market.

The demand for smaller sizes at an economic price has diminished rapidly and there is virtually no demand for poor quality fruit. It seems probable that in future heavy crop years the Apple Sales Advisory Committee (a statutory authority) will find it necessary to eliminate 2¼ inch size and smaller.

Some loss in popularity of Yates can also be attributed to the increase in the availability of high quality Red Delicious which compete for the medium to late market. Yates are often not attractive to the consumer as a result of delayed picking or faulty storage.

If Yates are to retain their place as an economic variety then it is essential that growers adopt proper orchard techniques, ensure that the fruit is harvested at the right stage of maturity and adopt correct storage procedures. Much can also be done to educate shopkeepers to handle the fruit properly once it is in their care.

This article has been prepared in collaboration with Mr. H. J. Price of the Illawarra Orchard Pty. Ltd., which for many years has demonstrated that with proper attention to growing, handling and storage techniques, Yates apples can be very remunerative.

A large section of a comparatively affluent society is prepared to pay good prices for the proper fruit. However, prospective purchasers tend to cease buying when the fruit is of poor flavour, even if moderately priced.

In the orchard
New plantings

Although there is limited interest in planting Yates, at the present time, anyone planning to expand plantings should seriously consider using trees worked on the semi-dwarfing MM106 stock.

Trees on MM106 stock can be planted much closer together in hedgerow fashion to facilitate orchard operations. The trees bear at an earlier age and fruit size and colour is improved. Practically all cultural operations can be performed from the ground. However, careful management must go into the development of the trees and effective crop control must be applied.
Fruit colour

Apart from seasonal conditions the two most important factors responsible for good colour are adequate light obtained by developing and maintaining an open tree and a balanced fertiliser programme avoiding excess nitrogen.

Good light penetration can largely be achieved by selecting a minimum number of leaders and encouraging well spaced permanent and secondary arms with ample fruiting wood. Under this system the amount of fruiting wood is not less than under the old spur pruning method which creates dense growth and is not recommended, but it is arranged differently.

If older and fairly vigorous trees have been trained under the multiple leader system, the complete removal of excess limbs is an economic proposition. The remaining fruiting wood could be allowed to extend into the available space.

Under local marketing regulations the minimum colour requirement for fancy grade is 20 per cent. However, premium or even satisfactory prices are rarely obtained unless there is high colour, say 70 per cent.

Thinning

As the Yates is naturally a small apple, adequate thinning is essential to ensure acceptable market size. Chemical thinning is not as effective as on other varieties but properly applied, N.A.A. is reasonably satisfactory. It should be used at a concentration of 10-15 p.p.m. plus Tween 20 at 4-7 days after full bloom. Temporary flagging of the foliage usually results from the use of N.A.A. but this has no permanent ill effect. N.A.D. and Carbaryl are ineffective for thinning Yates.

While chemical thinning is usually insufficient on its own, the early removal of fruitlets does promote better bud development for the following year. It also reduces the cost of subsequent hand thinning which is necessary to reduce the crop to practical limits and break up clusters.

Irrigation

A continuous consistent rate of fruit growth is needed to ensure satisfactory size of Yates at harvest. If the trees are stressed for moisture during any period of the growing season, no amount of subsequent watering will offset the temporary stoppage of growth. A sound irrigation programme is vital.

Mites by devitalising the foliage will act in a similar way to drought in restricting fruit growth and at the same time adversely affect colour development.

Orchard control of fruit rots

Rots can cause serious losses of stored Yates particularly when stored in polythene. Infection takes place in the orchard but the presence of the fungus is not apparent until after a considerable period in cold storage when brown patches of rot appear on the skin.

Infection can be appreciably reduced by three applications of Captan: the first one in November shortly after petal fall and two others in autumn at intervals of approximately six and three weeks prior to harvest. Ideally the autumn sprays should be timed to precede rain and thus act as a protectant. For the spring spray it must be remembered that any application of spray containing oil, within three weeks either before or after Captan, can cause defoliation.

As a means of cutting down on man-power requirements, instead of spraying all Yates, a particular block could be sprayed with Captan and the fruit set aside for polythene storage.

Harvesting

As with other apple varieties, Yates must be picked at the correct stage of maturity to give the best quality and longest storage life. Yates develop a pink colour well ahead of normal harvest. This changes to a bright red with characteristic bloom as the apple matures and then passes to various shades of dark red coupled with loss of bloom.

The ideal stage for harvesting Yates for long storage storage is when the apples are bright red with good bloom. In a normal year this falls within the period—last week of April to say May 10th. With later picking the apples become darker in colour and lose their bloom. This latter fruit is suitable only for shorter storage (generally not later than mid September) and should be carefully marked for early sale.
In the event of the Granny Smith harvest running into the optimum period for picking of Yates a special effort is required to ensure that the long storage Yates are harvested and placed in cold store at the correct time even if it means holding the later picked Granny Smiths for the local market. The Yates picked first will keep longest and these should be well marked and placed at the back of the store for marketing last.

The application of a stop drop spray of N.A.A. just prior to harvest can be most useful in reducing fruit drop. It should not be used for the purpose of delaying harvesting, as the fruit continues to rippen just the same.

Cold storage

Some Yates are marketed direct from the orchard in May, June and July. Shed storing beyond June is, however, not recommended, as fruit quality and market demand suffers and the marketing programme for stored apples is upset. The demand and price for Yates in June and July ex cold store is just as good and often more satisfactory than later in the season when many apples have lost their appeal.

Experience has shown that for best results Yates should be cold stored. There should be no delay in getting freshly picked fruit into cold store. Each day's delay may mean the loss of storage life of one week or more.

If the fruit is shed-stored for a few days, especially under draughty conditions, appreciable shrivel is perceptible, rendering such fruit definitely unsuitable for long storage. Rapid cooling is an advantage and the fruit temperature should be maintained close to 31° F.

A close check must be kept on temperatures by means of correct reading thermometers placed in strategic positions. A thermometer located in an air stream does not give a true indication of fruit temperature. The temperature can vary by as much as 3° F. within a storage chamber, depending on the type and placement of refrigeration units. Placing the thermometer in a container of water will ensure readings much closer to fruit temperature. Annual checking of thermometers for correct reading is important. Most standard thermometers in use vary considerably.

While good storage is essential it must be remembered that this will not overcome fruit faults occasioned by late picking. Yates lose moisture very readily and shrivel unless steps are taken to prevent it. It is essential to aim for a minimum humidity of at least 85 per cent. and preferably higher for normal storage, but to maintain the fruit in a perfectly fresh condition polythene should be used.

Polythene storage

Yates respond very well to polythene storage and properly handled will come out of store looking as fresh as when they went in. The normal method is to fill pre-sorted and pre-sized apples loose into boxes lined with 1.5 thou film bags and fold over the top of the bag before storage. Tying the top of the bag to seal the fruit is not recommended, as in some years serious damage can be caused to the apples in store as the result of restricting ventilation. Folding the bag over will give excellent control of wilting.

Late-harvested fruit should not be used for polythene storage. On no account store ordinary packed Yates in the same chamber as polythene packs as excessive moisture loss will occur to the ordinary packed fruit.

Controlled atmosphere storage

There is mounting evidence that Yates can be stored very successfully in C.A. and have an even better shelf life than from polythene storage.

Only early-picked fruit should be C.A. stored and provision made to prevent wilting. This has been done by the use of polythene sheeting. After the initial cooling down to approximately 31° F. the tops of stacks are completely covered with polythene sheeting. It is most important to protect the fruit from the drying effect of the air stream from forced draught coolers.

As it is not feasible to keep opening up C.A. chambers for taking temperatures it is necessary to have accurate means of reading temperatures outside the chamber.

Marketing

Although Yates are not subject to some of the serious storage disorders affecting other varieties they nevertheless must be carefully watched during storage to ensure
that the fruit is marketed before serious deterioration sets in. Yates turn mealy if over-stored and also develop stale off-flavours.

From August onwards regular samples, particularly of the later picked fruit should be removed from store and held at room temperature for a few days to allow defects to show and enable condition to be assessed. Any sign of mealiness would indicate that the fruit should be disposed of without delay. There is also opportunity to observe whether rots are starting to develop.

It is generally advisable to dispose of wrapped Yates in ordinary cold store by the end of September or early October. The late market should be supplied with re-stored polythene stored fruit or C.A. fruit.

Costly publicity is useless as a means of quitting an excess of poor quality fruit whether the cause be late picking, delayed or incorrect storage or poor marketing procedure. When consumers find the fruit deteriorating they restrict purchases and may cease buying altogether. Once this has happened no amount of publicity will radically change the consumers' reaction.

Rarely has there been such discount for poor quality fruit as in recent years as the quantity of Yates available has increased. There is never any difficulty in disposing of really first class fruit of preferred sizes. In a comparatively affluent society there is a fairly large group of consumers willing to pay prices for top quality and equally unwilling to purchase fruit of poor flavour even if moderately priced. Buying poor quality does not pay and market sales indicate that consumers are rapidly reaching this conclusion.

There is much room for improvement in all sections of the industry as far as Yates are concerned, and if this useful variety is to retain its popularity a co-operative effort by growers, cold store operators, market people and also retailers is necessary.

Tighter controls on the sale of Yates have been applied by the Apple Sales Advisory Committee in recent years and further restrictions can be anticipated. Growing good quality Yates may seem difficult and uneconomic in view of the attention needed, but growers who have specialised in this variety have achieved excellent results and premium prices as a result and have clearly demonstrated that the effort is worthwhile.
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