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### Here's the answer

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# HERE'S THE Answer!

## STORAGE OF ORANGES

*I understand that the Department of Agriculture recently carried out some experiments concerning the cool storage of oranges. My orchard carries a number of Washington Navels and a larger number of Valencias. If I could pick the whole of the Valencias before Christmas and store them it would save a lot of work in the hot weather and give me more time for watering in January, February and March. I am fortunate in having an ample water supply and could keep the Valencias on the tree until late March or even April but I would welcome any information in regard to storage, especially concerning the temperatures they should be held at and whether any different treatments would be needed for Navels and Valencias. How long will they last in storage and would they require to be wrapped?*

The work on orange storage, mainly with a view to export, was carried out by Mr. F. Melville, of the Horticulture Branch, during 1951. The main difficulties encountered in the storage of oranges are loss of moisture, breakdown of the fruit due to moulds, and rind disorders resulting from cool storage. For satisfactory results the fruit must be treated to minimise this damage.

The most successful method has been to dip the fruit before storage in a mixture consisting of:

Brytene Wax—1 part.

A solution of 4% borax and 2% boric acid in water—4 parts.

This mixture should be maintained at a temperature of approximately 110° F. during the dipping operation and the fruit should be allowed to dry before packing. The wax has the effect of restricting moisture losses while the borax and boric acid reduce fungal breakdown. Wrapping in sulphite tissue is an added advantage.

Navel oranges were stored successfully for six weeks during July and August in common storage, while Valencias were stored in good condition for 11 weeks during December, January and February at 45° F.

From a technical point of view such storage proved quite successful, but from a practical and economic point of view you would encounter numerous difficulties. Firstly, it is impossible to prevent some loss of moisture, which means that a shrinkage would take place in the fruit during storage.

Secondly, it is impossible to entirely overcome losses from breakdown no matter what treatment is used.

These two factors would necessitate either repacking each case before sale, or running the risk of buyers becoming hesitant to purchase fruit. In some years, enhanced prices late in the season would compensate for the cost of treatment and storage, but in other seasons a loss would be incurred.



A further difficulty is obtaining suitable storage. A temperature of 45° F. is approaching the ideal, and serious damage may result if the temperature falls below about 37° F. It is not usual for commercial cool stores to run chambers in the vicinity of 45° F. and the size of the rooms usually precludes the possibility of setting a special room aside for this purpose.

Taking all the factors into consideration it would appear that in your case it would be more satisfactory to retain the fruit on the trees until marketing time, rather than consider storage. Should the dropping of Navel oranges be a problem this could be largely overcome by the use of a 2,4-D pre-harvest drop spray. In the case of Valencias, if regreening becomes serious in fruit left on the trees, re-colouring could be carried out by the use of ethylene gas.

#### DEPRAVED APPETITE

*I have 500 sheep, ewes and wethers, running together and today when I put them into a new paddock I found them eating rabbit droppings. Would you please advise if there is likely to be a mineral deficiency in their diet and could you suggest a suitable remedy.*

Depraived appetite is commonly observed in sheep in Western Australia during the summer months. It results from the inability of the dry grazing to supply the animals with their full nutritive requirements. Sheep so affected will not only consume animal droppings but also carrion, bones, bark and other rubbish. The ingestion of rabbit droppings will cause no harm, but should carrion be consumed there is a very serious risk of toxic paralysis which may lead to heavy mortalities.

There is no practical means of preventing this craving. Rations may be fed which will provide the sheep with their full nutritive requirements and so overcome the depraved appetite, but these are generally too costly to have any practical application under field conditions.

On the other hand, sheep may be immunised against toxic paralysis by inoculation with botulinus toxoid and you would be well advised to treat your sheep with this product at the beginning of summer in future years. Leaflet No. 650, "Toxic Paralysis (Botulism)", may be obtained free of charge on application to the Department of Agriculture. This will supply much more detailed information on the subject.

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