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Preliminary Observations on the Storage of Avocado Pears

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SUMMARY AND CONCLUSIONS

1. An account is given of preliminary investigations into the storage behavior of avocado pears with a view to fostering an export industry from West Indian Islands to northern and British markets. Trial shipments made in the past have not met with a constant measure of success: in many instances extensive wastage has been the rule.

2. Investigations conducted elsewhere, chiefly in California, indicate that this fruit can be held at low temperatures (40°F. or lower) for considerable periods without undue loss. In view of the rather different genetical constitution of Trinidad varieties, growth conditions, etc., it was not anticipated that com parable records would be obtained.

3. In all, fruits from 33 different trees—each treated as a separate lot- were used. This selection included dark green, pale green and purple pears, smooth and rough skinned fruits, adherent and loose-stoned fruits and a range in shape from sub-spherical to bottle-necked.

4. An account is given of the storage behavior of the several varieties at the following temperatures: 80°F. (average tropical temperature), 70°F., 53°F., 45°F. and 40°F.

5. Even at 40°F., fruit slowly ripens during storage. Of the 33 varieties used 22 were apparently not sufficiently cold-resistant to stand a temperature of 40°-53°F. for a period of 15-20 days without developing a characteristic in ternal discolouration. The remaining 11 varieties ripened normally at 70°F. after 15-20 days at 40°F. or 45°F. With the exception of three varieties, all showed traces of internal discolouration when maintained at 40°F. or 45°F. for 30 days.

6. The internal discolouration repeatedly observed is regarded as a direct result of over-refrigeration or chilling. It is, in fact, a physiological disease, comparable with the internal breakdown sometimes observed in other fruits.

7. Other factors to which attention has been directed include the maturity at which to pick, cognate problems, and loss in weight during storage.

8. Observations on the rate of cooling in packs indicate a considerable lag between fruit-flesh temperature and that of the circulating cold air. This may have important bearings where large bulk consignments are concerned.

9. Wastage through vitiation in the holds is not likely to be a serious difficulty in handling this commodity, since it can apparently stand relatively high concentrations of CO_2 without sustaining external or internal damage. In general it is thought that this fruit should lend itself to preservation by gas-storage methods in conjunction with

refrigeration.

10. Fungal wastages in stored fruit has been very slight, **Botryodiplodia theobromae** and **Colletotrichum gloeosporioides** being the principal fungi isolated from stem-end rot, spots, blemishes and soft rots.

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