Storage and Market Diseases of Fruit. III

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DEEP OR SOFT SCALD OF APPLES

This is a form of low-temperature breakdown that occurs below 38°F. Usually it can be prevented by storing at 36°F for the first month, 34°F during the second month, and thereafter at 31–32°F.

Further reading

Trout, S. A., Tindale, G. B., and Huelin, F. E. (1940).—Investigations on the storage of Jonathan apples grown in Victoria. Bull. Coun. scient. ind. Res., Melb. No. 135.

JONATHAN SPOT OF APPLES

This is a superficial disorder which is worse at higher storage temperatures and which may occur even if harvested fruit is kept at ambient temperatures. It takes the form of slightly depressed brown spots which sometimes coalesce and which develop around the lenticels, mainly on blushed portions of the skin (Fig. 10, on Jonathan apple). Susceptibility to the disorder is greatly increased by delaying picking, for example, to allow the fruit to develop a better red colour.

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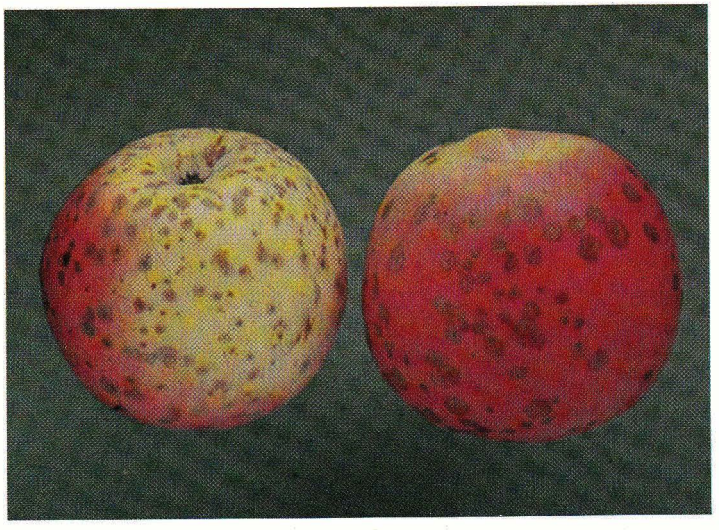
Deep (or Soft) Scald on Jonathan apple (Fig. 9). Soft, sunken, sharply defined areas on the surface that are often irregular or banded characterize this disorder. The middle of the fruit is generally affected and damage extends deeply into the flesh. Initially the lesions are light brown but following secondary fungal attack they frequently turn black.

Late rains and delay between picking of fruit and cool storing often increase the disorder. Fruit from light crops and strongly growing trees on heavy soils is most susceptible and should be segregated and marketed early. Jonathan, King Cole, and Rome Beauty are susceptible varieties.



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Jonathan Spot on Jonathan apple (Fig. 10). Jonathan and Rome Beauty are the varieties mainly affected by this disorder.

To control Jonathan spot:

- Do not store over-mature fruit.
- Cool promptly after picking.
- Maintain correct storage temperature.
- Store in an atmosphere of 2% carbon dioxide, or higher, either in a controlled-atmosphere store or in sealed polyethylene bags. (Such storage is suitable only for fruit with low susceptibility to breakdown.)

Further reading

Carne, W. M. (1948).—The non-parasitic disorders of apple fruits in Australia. Bull. Coun. scient. ind. Res., Melb. No. 238.

Trout, S. A., Tindale, G. B., and Huelin, F. E. (1940).—Investigations on the storage of Jonathan apples grown in Victoria. Bull. Coun. scient. ind. Res., Melb. No. 135.

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SENESCENT BLOTCH OF APPLES

This disorder appears as a grey or grey-green superficial discoloration on green-skinned (unblushed) varieties after long storage, particularly when the fruit is removed from storage in warm weather and also when it is held at ambient temperatures for some time. Although the disorder usually develops as blotches, a speckled appearance is common and the affected areas frequently have a slightly russeted texture (Fig. 11, on Granny Smith apple). Senescent blotch may also be of the green late scald type (Fig. 12, on Granny Smith apple) which consists of blotchy areas in which the original green colour of the skin is largely retained and which are often extensive, and less russeted and denser than the more common type.

Granny Smith is the most susceptible variety but Sturmer and Cleopatra also can be affected. A grey, speckled scald often appears on Sturmer.

The use of controlled-atmosphere storage and a diphenylamine treatment reduces the incidence of this disorder, as does avoidance of over-long storage, storing over-mature fruit, and high storage temperatures.

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