

develops, and in seasons when it does develop there are certain trees the fruits of which show little browning, and even from those trees most of the fruit of which show bad browning certain apples will remain entirely sound in cool storage.

It can be said definitely that certain apples of the same variety and size, picked on the same days and by the same pickers from the same trees, and stored within twenty-four hours, have kept well in one cool store, while in another they have developed flesh-collapse abundantly. Moreover, the valley country that in 1921 we deemed in New Zealand to produce the most resistant fruit gave a considerable amount of flesh-collapse in 1922. Our evidence does not confirm the view of Ballard, Magness, and Hawkins; on the contrary, my report made in 1922 recorded that "the matter of locality would appear to be relatively insignificant concerning the cause of this disease." On the other hand, we have shown that overmaturity does contribute to the amount of damage from flesh-collapse. The results secured by these three investigators might therefore possibly be explained by the variation in the degree of maturity in the fruit under observation. I would certainly hold that, so far as New Zealand is concerned, locality in itself is a minor matter in connection with the development of flesh-collapse in cool stores.

Weather, Cultivation, Fertilizers, and Age of Trees.

While weather conditions may have some slight bearing upon the occurrence of flesh-collapse, there is actually no evidence to show that the nature of the weather ever made it appreciably more difficult to store the fruit. In fact, in seasons when the weather conditions were suspected we find fruit from the same trees keeping well in one cool store but developing flesh-collapse in another.

Cultivation is also held to play but a minor part. It would certainly help to neutralize any extreme weather conditions, but as a factor inducing or preventing flesh-collapse little more importance than this is ascribed to it.

Ballard, Magness, and Hawkins state as a result of their experiments with fertilizers: "In general it may be said that the results have been negative so far as causing or preventing browning through fertilizers is concerned."

It is often held that the fruit from young trees is more liable to flesh-collapse than that from older trees. New Zealand experiments show definitely that Sturmers from seven- and eight-year-old trees are capable of perfectly satisfactory cool storage. It is inconceivable that the abundance of flesh-collapse we have met with in the past three years developed because the injured fruit came from trees of less than eight years old.

Maturity.

Experiments instituted early in 1922 demonstrate clearly that apples cool-stored at different stages of maturity show marked differences in their susceptibility to flesh-collapse. There is no doubt that this aspect of the question has not received the attention it deserves. The Australasian Refrigerated Tonnage Committee drew attention to this fact in September, 1922. Certain investigators have published