

CHESTNUT QUALITY ASSURANCE REQUIREMENTS:

The following are the Australian Chestnut Quality Parameters that should be adhered to:-

- 📌 Chestnuts need to be harvested every day or two, depending on temperature.
- 📌 Although chestnuts are durable compared with most other fruit, they are still susceptible to physical damage, surface mould development, internal rots and moisture loss / softening.
- 📌 Cooling chestnuts quickly, and keeping them cool, is a key to maintaining quality after harvest.
- 📌 To maintain quality and maximize shelf life, chestnuts should be cooled as soon as possible after harvest. This will also retain moisture within the fruit; while products are warm, they are losing water.
- 📌 The best way to reduce moisture loss is to cool chestnuts quickly. Once they are cold (zero), chestnuts will lose moisture extremely slowly, if at all.
- 📌 Internal and external moulds and rots are the most serious postharvest issue for chestnuts, especially those stored for extended periods. Contamination can occur during growth and at harvest but does not necessarily develop until after a period of storage.

Internal rots

Internal rots are a major issue facing the industry, the symptoms manifesting as brown lesions in the chestnut kernel. The disease is not externally visible and thus presents a challenge for growers and consumers alike.

Detection.

The majority of internally rotted fruit can be detected by putting them into water. Although some rotten fruit will still sink and some good fruit will float, this will help cull numbers of internally diseased fruit. Nuts sinking to the bottom of the tank can then be picked up either through direct suction or a mechanical conveyor.

Unfortunately some varieties are prone to floating, even when they are not internally diseased.

This particularly includes 'easy peel' varieties such as Purtons Pride, which can contain internal air spaces. In some fruit up to 40% of such fruit may float, even though no internal disease is present.

To test nuts the following procedure **MUST** be undertaken with each batch harvested:

- Cut open a large sample (~100 fruit) and check for signs of internal decay.

- If <5% of fruit actually have internal decay, then place the fruit in the cold room.
- Select a further large sample (~100 fruit), keep for a week at room temperature, then cut open and check again for signs of decay.
- If rates of internal decay are low (<5%), and fruit show no external signs of rots, then pack as normal.

Chestnuts should be checked by cutting a sample as a standard quality assurance process.

Sanitisers.

External moulds are a common issue with chestnuts, particularly on the hilum area.

The most common way to control these moulds is by using a sanitiser.

These are generally cheap and easy to use. Sanitisers kill mould spores on contact, but they do not provide residual or systemic protection. For this reason, some growers have found it useful to re-dip fruit during long-term storage, especially if mould spots start to develop on the fruit hilum. Keeping the packing area, bins and storage room clean is essential to prevent re-infection of the fruit.

Quality standards

Chestnuts sent to market should be mature, sound, clean, well formed and free of physical damage or rots and moulds. Chestnuts that have bird pecks or splits or are poorly formed, dried out or immature should be discarded.

Growers who send defective fruit to market will not only have their own fruit rejected but may also damage the reputation of the industry as a whole. Particular care needs to be taken in years when rain has occurred during blossoming, potentially resulting in high levels of internal rot. In years when chestnut rot is prevalent, give strong consideration to not harvesting rot-prone varieties.

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