FACT SHEET

Recognising onion bulb quality and crop nutrition in preparation for export markets

Two onion research projects released by the University of Tasmania:

- **Optimising onion bulb quality for counter-seasonal export markets; and**
- **The influence of crop nutrition on the quality of onion bulbs destined for export markets**

Key points from the studies include the following:

Excessive nitrogen results in softer bulbs and therefore loss of quality and storage life.

- This may not be obvious at the same time as harvest but will become evident during/after storage.
- Talk to your agronomist about your crop nutrition program.

The optimum time for lifting onions (cultivars Creamgold, Early Creamgold, and the hybrid 'Plutonus') was about 90% tops-down;

- Lifting at this stage reduces internal sprout growth (during storage) and respiration[1] rates and thus improves quality and storage life.
- Storage potential was greatest when lifted at 80-100% tops-down. Lifting either side of the 80-100% window, resulted in loss of marketable yield and reduced storage potential.

Storage life can be increased by minimising mechanical impacts, particularly to the base plate. Mechanical impact can occur during lifting, turning, harvesting and post-harvest handling (e.g. grading).

For more information on these reports contact the University of Tasmania. The reports can be accessed using these links:

- **https://eprints.utas.edu.au/30223/1/Smallbon_whole_thesis.pdf**
- **https://eprints.utas.edu.au/23065/1/Hunt_whole_thesis.pdf**

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[1] Respiration is a basic reaction of all plant material, both in the field and after harvest. It is a continuing process in the growing plant as long as the leaves continue to make carbohydrates. Fresh produce cannot replace carbohydrates or water after harvest. Respiration uses stored starch or sugar and will stop when reserves of these are exhausted; ageing follows and the produce dies and decays.
For more information about respiration visit:
https://www.postharvest.net.au/postharvest-fundamentals/vegetable-physiology/respiration/
http://www.fao.org/3/T0073E/T0073E02.htm