



THIS ISSUE

- Postharvest handling of okra, snake beans & angled luffa
- Spearmint descriptor

POSTHARVEST HANDLING OF OKRA, SNAKE BEANS & ANGLED LUFFA

Melinda Gosbee, Department of Business, Industry and Resource Development, NT.

Temperature and water loss are the two main factors which need to be controlled to extend storage life of any vegetable. Trials were conducted to determine the best temperature and packaging for okra, snake beans and sinquar. The vegetables were stored at 5, 10, 15 and 20°C and assessed until they were no longer saleable.

Okra (the fruit of *Abelmoschus esculentus*) developed chilling injury after three weeks at 5°C. Storage temperature of 10°C is recommended but initial cooling to temperatures between 7 and 10°C is safe.



Okra stored in plastic bags (of low density natural polyethylene) lost less than 2.0% of their initial fresh weight after two weeks in storage, but an 8.2% loss was recorded when cartons with newspaper layers over the top and the base of fruit were used. Packaging in plastic bags also tended to reduce the amount of rots compared to okra stored in cartons lined with newspaper in this trial.

Correct temperature control, particularly thorough pre-cooling prior to packaging in plastic bags, is the main factor in extending

shelf-life of okra for up to three weeks. As okra ages, it tends to show blackening of the ribs and around the top of the fruit.

To maximise shelf-life of snake beans (*Vigna unguiculata* cv. Group Sesquipedalis), they must be cooled adequately prior to packing. Like all beans, snake beans have a very high respiration rate and produce considerable amounts of heat, particularly when packed in a box. Over-mature beans with the seeds visible as lumps within the pod have an especially high respiration rate, therefore correct harvest maturity is also important. Proper pre-cooling to less than 12°C, preferably down to 7°C, is vital. Chilling injury was observed on snake beans stored for three weeks at 5°C.

Snake beans are also very sensitive to water loss. Ideally, properly pre-cooled beans packed in a plastic carton liner gives the best shelf-life. However, if the beans get warm (ie above 12°C) at any point in the handling chain it is difficult to cool them again if they are in a plastic liner. The use of a perforated plastic bag is recommended as a compromise to give greater air flow capacity if temperature control cannot be ensured during transport and storage.

Sinquar or angled luffa (*Luffa acutangula*) is generally considered to be not as perishable as okra or snake beans. Shelf-life of angled luffa stored at 20°C was not greatly different to that of luffa held at 15 or 10°C. However, product stored at 5°C had a significantly longer shelf-life than sinquar stored at higher temperatures. Preferred packaging was either a perforated polyethylene bag, or a carton lined on the top and bottom with newspaper. With optimum handling, a shelf-life of 2.5 weeks is possible.

For more information, contact Melinda Gosbee (Tel 08 8999 2360) or consult the full reference on this work.

Gosbee, M.J. & Lim, T.K. (1999) Postharvest handling of 'Asian' vegetables in the Northern Territory. *ACIAR Proceedings 100, 456-460. Proceedings of the 19th ASEAN/1st APEC Seminar on Postharvest Technology, Ho Chi Minh City, Vietnam, 9-12 November 1999.*

Spearmint

Mentha spicata



Other names

English: green mint
Chinese: liu lan xiang
Thai: selernay
Vietnamese: rau húng lui

Use

Use in salads, sauces, in lamb dishes and as a garnish. Minty flavour and a refreshing minty aroma.

Quality characteristics

- leaves should be green & free of yellowing, bruising & holes caused by insects
- leaf tips should not be browned
- overall appearance of stems & leaves should be fresh with no wilting caused by water loss
- aroma maintained
- clean stem cut, free of rots
- stem length of 16 to 24cm

Postharvest handling

- Low temperature storage slows senescence & rot growth & reduces water loss. Cool to recommended storage temperature (0°C) before packaging. Packaging reduces water loss, provides a barrier to the spread of decay & adds value through improved presentation.
- Modified atmosphere packaging (MAP) reduces respiration rate & therefore slows ageing & yellowing.
- Storage life can be increased with MAP (50µm thick polyethylene clip-seal bag, 355 x 400mm, for 5 bunches). Do not pack wet mint.



Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT



Victoria
The Place To Be



DISCLAIMER: This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Editors: Graeme Thomson and Wendy Morgan

☎ 03 9210 9222 Fax: 03 9800 3521

Agriculture Victoria, Knoxfield

Private Bag 15

Ferntree Gully Delivery Centre VIC 3156

Email: graeme.thomson@nre.vic.gov.au

Website: www.nre.vic.gov.au/trade/asiaveg

ISSN 1329-9174

DISCLAIMER: This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.