Bok Choy

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Scientific Name and Introduction: Bok choy (*Brassica campestris* L. ssp *chinensis*) is also known as Chinese chard, boy-toyo, pak-choy, and pak-tsoi (King, 1989). Bok choy is the non-heading type of Chinese cabbage (Li, 1981). It is annual of the *Cruciferae* family. The edible portions are the shinny, dark green leaves and the thick, chalk-white stalks (Peirce, 1987). Most U.S. bok choy is produced in California.

Quality Characteristics and Maturity Indices: High quality bok choy has thick, fleshy, firm stalks and glossy, dark-green leaves (Li, 1984). Bok choy with bruised or slimy spots and wilted leaves should be avoided.

Grades, Sizes and Packaging: Bok choy is mainly supplied to ethnic markets in the U.S., but many large supermarkets are carrying it in their 'ethnic' fresh produce departments. There are no standard U.S. grades.

Pre-cooling conditions: Prompt pre-cooling to near 0 °C (32 °F) is important to maintain freshness and for extended storage.

Optimum Storage Conditions: The recommended storage conditions for bok choy are 0 to 5 °C (32 to 41 °F) with > 95% RH.

Controlled Atmosphere (CA) Considerations: Low O_2 atmospheres of 0.5 to 1.5% retard leaf yellowing caused by chlorophyll degradation (O'Hare et al., 1995). A combination of 5% CO_2 + 3% O_2 delay leaf yellowing and senescence during storage (Wang and Herner, 1989).

Retail Outlet Display Considerations: Bok choy is displayed loosely on a refrigerated shelf. Misting should be applied to minimize moisture loss and desiccation.

Chilling Sensitivity: Bok choy is not chilling sensitive and should be stored as cold as possible without freezing. It freezes at -0.5 °C (31.1 °F).

Ethylene Production and Sensitivity: Bok choy produces very small amounts of ethylene at 0.1 to 0.2 μL kg^{-1} h^{-1} and is not overly sensitive to ethylene.

Respiration Rates:

Temperature	mg CO_2 kg^{-1} h^{-1}
0 °C	5 to 6
5 ° C	10 to 12
10 °C	19 to 21
15 °C	34 to 44
20 °C	48 to 63

To get mL kg^{-1} h^{-1}, divide the mg kg^{-1} h^{-1} rate by 2.0 at 0 °C (32 °F), 1.9 at 10 °C (50 °F), and 1.8 at 20 °C (68 °F). To calculate heat production, multiply mg kg^{-1} h^{-1} by 220 to get BTU per ton per day or by 61 to get kcal per metric ton per day. Data are from Luo and Zheng, 2001.

Physiological Disorders and Postharvest Pathology: Leaf yellowing is a sign that senescence has occurred during extended storage, or under higher than optimal storage temperatures. Storing bok choy at 0 to 5 °C (32 to 41 °F) will mitigate this problem.

Quarantine Issues: None.

Suitability as Fresh-cut Product: No current potential.

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