

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 a nonheading type of Chinese cabbage (Li 1981). It is an annual in the Cruciferae family. The edible portions are the shiny, 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. 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 United States, but many large supermarkets are carrying it in their “ethnic” fresh produce departments. There are no standard U.S. grades.

Precooling Conditions

Prompt precooling 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 higher than 95% RH.

Controlled Atmosphere (CA) Considerations

Low-O₂ atmospheres of 0.5 to 1.5% retard leaf yellowing caused by chlorophyll degradation (O’Hare et al. 1995). A combination of 5% CO₂ + 3% O₂ delays leaf yellowing and senescence during storage (Wang and Herner 1989).

Retail Outlet Display Considerations

Bok choy is displayed loosely on refrigerated shelves. Misting should be applied to minimize moisture loss and wilting.

Chilling Sensitivity

Bok choy is not chilling sensitive and should be stored as cold as possible without freezing. It freezes at $-0.5\text{ }^{\circ}\text{C}$ ($31\text{ }^{\circ}\text{F}$).

Ethylene Production and Sensitivity

Bok choy produces very small amounts of ethylene, 0.1 to $0.2\text{ }\mu\text{L kg}^{-1}\text{ h}^{-1}$, 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

Data from Luo and Zheng (2001).

To get mL CO₂ 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 tonne per day.

Physiological Disorders and Postharvest Pathology

Leaf yellowing indicates that senescence has occurred during extended storage or storage at 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.

References

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