

Kohlrabi

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Scientific Name and Introduction

Brassica oleracea L., Gongylodes group, also known as kohlrabi and turnip-rooted cabbage, is a member of the Brassicaceae (Cruciferae) family. It is a native of northern Europe and grows best in cool climates. Kohlrabi is grown as an annual, with the enlarged stem being the most commonly used edible portion. The enlarged stem may have purple, white, or green skin, but the flesh is white. The leaves can also be eaten like collards. Kohlrabi is available from spring to late fall from various growing regions of North America.

Quality Characteristics and Criteria

Only young kohlrabi should be harvested, since mature product becomes woody and tough. Leaf stems are a good indicator of quality; they should be succulent and tender.

Horticultural Maturity Indices

Early- and mid-season kohlrabi are best harvested when they are about 5.1 to 6.4 cm (2 to 2.5 in) in diameter. Fall-grown kohlrabi may be grown to 10.2 to 12.7 cm (4 to 5 in) in diameter since they are less prone to becoming woody.

Grades, Sizes, and Packaging

There are no grade standards for kohlrabi. Topped kohlrabi is usually packaged in 11.4-kg (25-lb) film bags, 22.7-kg (50-lb) film bags, or 11-kg (24-lb) cartons containing 24 0.5-kg (1-lb) film bags. Those with tops are usually bunch-tied together much like beets, with 4 to 6 kohlrabi per bunch (Thompson and Kelly 1957).

Precooling Conditions

Hydrocooling, package-icing, and forced-air cooling are acceptable for kohlrabi, with tops on or with tops removed.

Optimum Storage Conditions

Topped kohlrabi can be stored for 2 to 3 mo at 0 °C (32 °F) and 98 to 100% RH (Kasmire and Cantwell 2002). Storage life is 2 to 4 weeks if tops are not removed. Storage life can be improved with the use of perforated film bags to maintain high RH.

Controlled Atmosphere (CA) Considerations

There is no benefit of CA (Kasmire and Cantwell 2002).

Retail Outlet Display Considerations

Kohlrabi should be displayed like root vegetables such as beets and carrots. They can be placed in iced displays.

Chilling Sensitivity

Kohlrabi are not chilling sensitive.

Ethylene Production and Sensitivity

Kohlrabi have a very low ethylene production rate of $<0.1 \mu\text{L kg}^{-1} \text{h}^{-1}$ at 20 °C (68 °F) and a low sensitivity to ethylene exposure.

Respiration Rates

Temperature	mg CO ₂ kg ⁻¹ h ⁻¹
0 °C	10
5 °C	16
10 °C	31
15 °C	46

Data were adapted from Pieh (1965).

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

Kohlrabi becomes tough when stored beyond its expected storage life or under lower than recommended RH.

Postharvest Pathology

Important diseases during storage are bacterial soft rot (*Erwinia carotovora* [Jones] Bergey et al.) and black rot (*Xanthomonas campestris* [Pammel] Dowson) (Ramsey and Smith 1961).

Quarantine Issues

There are no quarantine issues.

Suitability as Fresh-Cut Product

Peeled and sliced kohlrabi has potential as a fresh-cut product.

Special Considerations

The freezing point is -1 °C (30.2 °F) (Kasmire and Cantwell 2002). Peeled and cut kohlrabi does not produce strong off odors when held in low-O₂ atmospheres (Forney and Jordan 1999).

References

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