

Rhubarb

Revised 2018

Thermal Properties

| | English | Metric |
|------------------------------|----------------|----------------|
| Moisture, % | 93.61 | -- |
| Protein, % | 0.90 | -- |
| Fat, % | 0.20 | -- |
| Carbohydrate, % | 4.54 | -- |
| Fiber, % | 1.80 | -- |
| Ash, % | 0.76 | -- |
| Specific Heat Above Freezing | 0.97 Btu/lb*°F | 4.05 kJ/(kg*K) |
| Specific Heat Below Freezing | 0.44 Btu/lb*°F | 1.83 kJ/(kg*K) |
| Latent Heat of Fusion | 135 Btu/lb | 313 kJ/kg |

Storage Conditions

| | Fresh | Frozen |
|------------------------|---------------|-----------------------|
| Temperature | 32°F (0°C) | 0°F (-17.8°C) |
| Relative Humidity | 95% + | Vapor-proof packaging |
| Storage Period | 2 to 4 weeks | 6 to 9 months |
| Highest Freezing Point | 30.3°F (-1°C) | |

Fresh rhubarb stalks in good condition can be red, pink, white or green and may be stored up to 4 weeks at 32°F (0°C) and high relative humidity (RH). Storage life of rhubarb is about 2 weeks at 40°F (4.4°C) and 1 week at 50°F (10°C). Rhubarb can be hydrocooled or forced-air cooled; the temperature of the stalks should reach 32 to 34°F (0 to 1.1°C) as soon as possible to reduce wilting. Sanitation of hydrocooler water must be carefully managed to avoid decay promotion. Overmatured rhubarb becomes pithy in storage. To retard moisture loss, the topped bunches or loose stalks should be packed in polyethylene-lined crates, which should be stacked to allow ample air circulation. Otherwise, there is danger of heating and mold growth. Removing the leaf so that about 0.25 inch (6 mm) of the leaf is left attached to the petiole, commonly called the stalk, will extend storage and market life and save on package and transportation costs. Splitting of the petiole upon exposure to water will be more serious if the entire leaf is removed. Removal of the leaf prevents their accidental ingestion, which can be harmful because of their high oxalate content. The film liners should not be sealed.

Fresh rhubarb cut into 1-inch (2.5-cm) pieces and packaged in 1-lb (454-g) perforated polyethylene bags can be held 2 to 3 weeks at 32°F (0°C) with high (>95%) RH.

Diseases & Disorders

| | |
|---------------------------|---|
| Anthrachnose | <p>Soft, watery, translucent spots limited to the stalk. Usually, spots are oval and with long axis lengthwise on the stalk. May have very small, black specks in the center of spot, later stalks may become soft. Infection in field is rapid in moist, warm weather; does not require skin breaks.</p> <p>Control: Culling. Recommended refrigeration during storage will prevent growth.</p> |
| Bacterial Soft Rot | <p>Water-soaked, muddy green, slimy or greasy, wet and mushy.</p> <p>Control: Careful handling and prompt refrigeration to 40°F (4.4°C) or below. A temperature of 32°F (0°C) is better. Infection can progress even under refrigeration.</p> |
| Gray Mold Rot | <p>Most serious rhubarb disease in transit; small red spots on leaf stalk and water-soaked, brown areas at the base of stalk or in injured tissue. Rapid increase, later showing grayish-brown fungus growth and grayish-brown spore masses.</p> <p>Control: Field sanitation, careful handling, and prompt refrigeration to at least 40°F (4.4°C), with 32°F (0°C) being preferred.</p> |
| Phytophthora Rot | <p>Usually a field disease, often followed by Bacterial Soft Rot. Infection may be in uninjured, as well as damaged, stalks; watery, greenish-brown decay, starting at base of leaf stalks, followed by rapid tissue collapse.</p> <p>Control: Field sanitation and culling of any stalks showing infection. Avoid harvesting from infected plants. Transit and storage temperatures below 40°F (4.4°C) will retard decay development.</p> |
| Stem Spot | <p>Small, oval to oblong, reddish-brown spots, especially in first cuttings; later, black spore bodies on surface of spots.</p> <p>Control: Field control by removing leaves showing infection and destruction of dead leaves and stems at end of harvest.</p> |

Freezing

Forced or hot-house rhubarb is frozen in Washington State and in Michigan, while field rhubarb is frozen in California and other parts of the U.S. All principal varieties freeze well, although the more highly colored varieties provide a more attractive product. While flavor retention of all varieties is good, freezing does alter substantially the texture of the fresh product. Since enzymatic changes in frozen rhubarb occur slowly, it is possible to freeze rhubarb stalks without blanching and hold them

for as long as 6 months. For longer storage and better quality retention, a short steam blanch of 2 minutes is recommended.

For the retail market, the stalks are usually cut to 1 inch (2.5 cm) or to fit the size of the package. For institutional use and for further manufacture, rhubarb is usually un-blanchd, stalks merely trimmed or cut to fit the package selected, and frozen in bulk institutional-size cartons or barrels. Quickly frozen, blanched rhubarb may be stored at below 0°F (-17.8°C) for a year or longer. Un-blanchd rhubarb, and/or rhubarb packed in large containers and therefore slowly frozen, should not be held at 0°F (-17.8°C) for longer than 6 to 9 months. Some of the rhubarb pack is frozen at a 6:1 rhubarb to sugar ratio. Polybag packs are usually packed without the addition of sugar.

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