Heartnut Production

Juglans ailantifolia var. cordiformis

Characteristics and Adaptability

Native to Japan, the heartnut is considered to be a variant of the more common Japanese walnut (*J. ailantifolia*). It receives its name from the Valentine heart-shaped nuts it produces. The heartnut is considered by nut growers and enthusiasts to have the greatest commercial potential of tree nuts in Nova Scotia and Atlantic Canada. Heartnut trees are hardy, productive and well suited to maritime climates. The best cultivars have attractive nuts which are easily cracked. However, consumers are not well aware of heartnuts and the producer should be prepared to promote their product for marketing. Heartnuts can be grown in hardiness zones 4b-6. Grafted trees are most suitable for zones 5b-6.

Propagation, Cultivars and Pollination, and Tree Spacing

Seedlings of heartnut trees produce nuts of widely variable quality including poor cracking ability. To produce a consistent crop of high quality nuts, only grafted trees from improved cultivars are suitable for establishing commercial plantings. Campbell CW1, Campbell CW3, Imshu, Locket, and Simcoe 8-2 produce high quality nuts with consistently good cracking ability. Imshu is noted for producing a particularly outstanding nut quality.

Heartnut trees are partially self-pollinating, however, at least two different seedlings or improved cultivars will be required for full production. Persian walnuts, butternuts, or buartnuts (butternut x heartnut) will also pollinate heartnuts, however, pollination by other heartnuts is most recommended.

Suggested tree spacing is on 12 m (40 feet) x 12 m squares with a semipermanent tree planted in the center of the square 8.5 m from each corner. The semi-permanent trees can be removed if the trees begin to crowd.

Orchard Management, Pests and Diseases

Trees grown on heavier soils will likely have a more compact growth habit and greater lateral branching. Preventing lateral branches below 2.5 m is desirable for orchard management and harvesting. Keep lower limbs pruned short until branches are established above 2.5 m. Once the tree begins to establish a canopy above 2.5 m, the lower branches can be completely removed. Pruning cuts should be made in late winter or early spring when the tree is dormant. Bleeding from pruning wounds is common in heartnut but rarely significantly harms the tree. Wide branching angles (> 45°) are preferred due to their improved



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strength. The mature tree can be maintained as centralleader type tree, similar to traditional apple orchards. Heartnuts are prone to producing multiple leaders. Competing leaders should be removed to allow for a single trunk to form.

Pests which directly attack the nuts of heartnut trees include butternut curculio, walnut husk fly, and codling moth. These may require management if insect pressure becomes significant. Foliar pests such as leafhoppers, leaf rollers, and aphids are usually minor. Walnut bunch disease can occasionally infect heartnut trees. Birds and squirrels also enjoy heartnuts and may be deterred using cannons, bird distress calls, and/or netting.

Harvesting

Heartnuts grown from seed will begin to bear within 3-5 years of planting while grafted trees generally begin cropping earlier. Removal of some nuts in the early cropping years may be beneficial for tree establishment. It may be 6-8 years before trees are producing enough nuts to make harvesting worthwhile. The earliest heartnuts will begin to ripen and drop in mid-September with about a two-week drop period. To maintain the best nut quality, nuts need to be collected and the husk removed within a few days of dropping. Heartnuts should then be dried to 8% moisture to extent storage life.



Additional Information

Perennia Fact Sheets

Tree Nut Production Opportunities in Atlantic Canada Persian Walnut Production Hazelnut Production Chestnut Production http://www.perennia.ca/production_other.php

Publications

A Guide to Tree Nut Culture in North America, Vol. 1 Fulbright, D. Northern Nut Growers Association (NNGA)

Hazelnuts in Ontario

Biology and Potential Varieties (Fact sheet 12-007) Growing, Harvesting, and Food Safety (Fact sheet 12-011) Pests (Fact sheet 12-009) Ontario Ministry of Agriculture, Food and Rural Affairs

Nut Tree Ontario

Grimo, E. Society of Ontario Nut Growers (SONG)

Nut Culture in Ontario

Ontario Ministry of Agriculture, Food and Rural Affairs Publication 494

Nut Tree Nurseries

Grimo Nut Nursery – Niagara-on-the-Lake, Ontario http://www.grimonut.com/

Charlie The Tree Guy – Truro, Nova Scotia http://charliethetreeguy.ca/

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This fact sheet was developed using Nut Culture in Ontario (OMAFRA Publication 494) and Nut Tree Ontario (Society of Ontario Nut Growers) as referential sources. Ernie Grimo of Grimo Nut Nursery also provided valuable input on growing methods and cultivars.

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