



Walnut, Butternut, & Heartnut

Juglans spp.

Tree nuts are usually grown under warmer conditions than are found in Ontario, but there are several types of nuts native to the province that are of interest for local consumption or commercial development (beaked hazelnut, black walnut). There are some non-native commercial species that have been imported. Many nuts require long hot growing seasons, and because they are growing near the northern limit of hardiness, they can be a risky crop. Most are wind-pollinated and self-fruitful, although there are exceptions, and wild populations of at least some species appear to have mechanisms in place to encourage cross-fertilization, and produce higher quality nuts when cross-pollinated.

Pollination Recommendations

Cultivated members of this group in Ontario includes the native black walnut (*Juglans nigra*) and butternut (*J. cinerea*), and the exotic Japanese walnut, also known as the heartnut (*J. ailantifolia*). The cultivated walnut familiar to most consumers is the Carpathian walnut (*J. regia*), which is comparable to apple in hardiness for Ontario. There is also a hybrid of the butternut and the heartnut, which is known as the buartnut. Members of genus *Juglans* are monoecious and wind-pollinated, with the male and female reproductive structures in separate flowers on each tree. Male flowers are found on long, pendulous catkins, while female flowers are small and inconspicuous, borne near the tips of the growing branches. Individual trees, while self-compatible, typically release pollen before or after the female flowers are receptive (depending on cultivar), which limits self-fertilization. Thus, other trees of an appropriate cultivar are necessary to ensure that pollen is available during female receptivity. Pollination by a suitable cultivar is generally required to set a nut crop. Even species and cultivars that are self-fruitful, such as the heartnut, will produce a larger crop if cross-pollinated.

References

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