

EXTENSION NOTES



BASSWOOD

Basswood trees provide shade, wildlife habitat and soft, light wood for making carvings and special wood products. The closely related tree known as linden is prized as an ornamental tree for its fragrant flowers and tolerance to salt and pollution. This Extension Note provides information on ways to use, identify and grow the native species known as basswood.

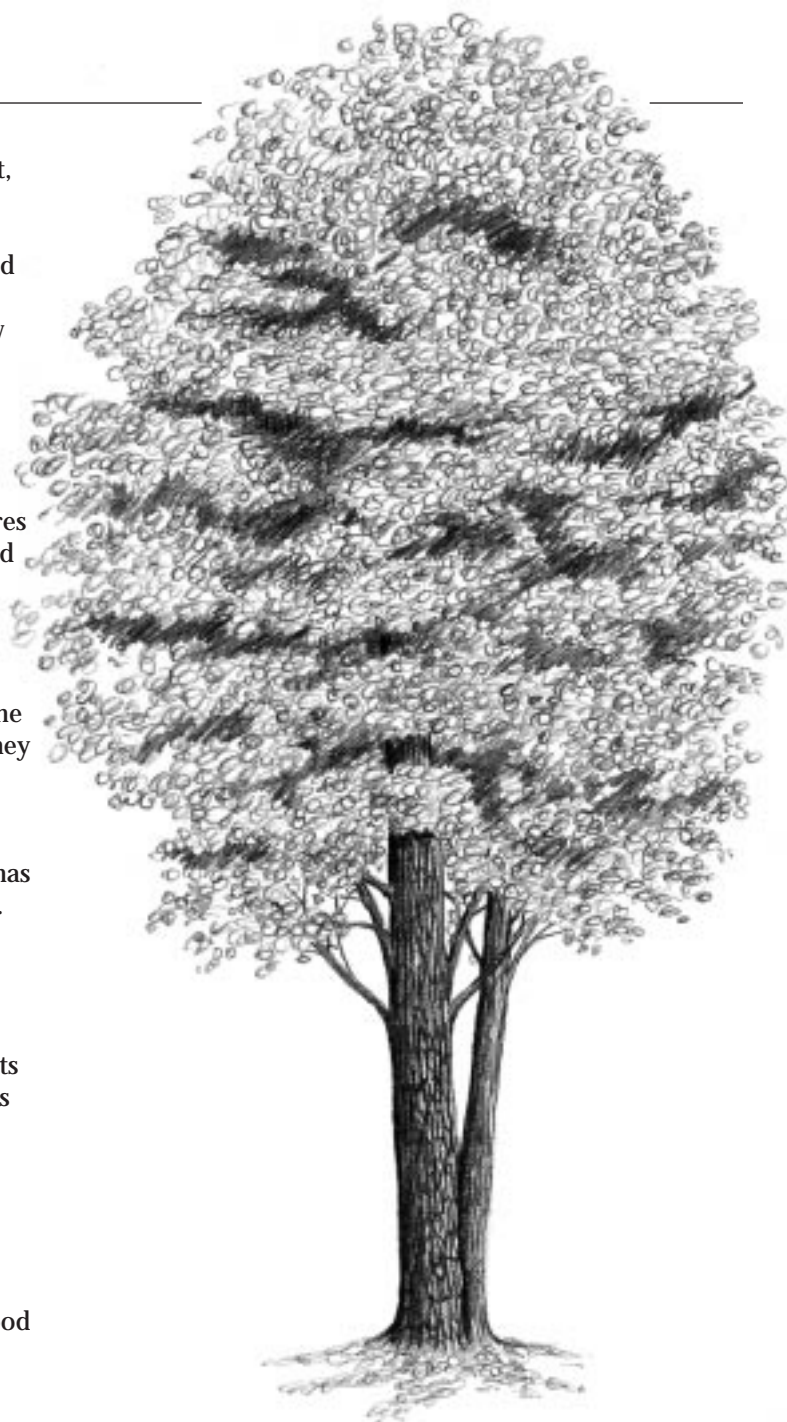
HISTORICAL AND CURRENT USES

Aboriginal people in North America used the long fibres in basswood bark to make rope and string. They soaked the bark in water for two to four weeks to loosen the strong, fibrous strands from the softer, woody tissue. Then they twisted the fibres into cords for making fish nets, mats and other articles. Aboriginal peoples also used basswood for making ritual masks. They carved the masks in living trees and allowed them to dry before they removed them. If the tree survived the process, they believed that the mask possessed special powers.

Basswood flowers are used to make linden tea, which has sedative, antispasmodic and sweat-inducing properties. People used to prescribe a hot bath with basswood flowers, followed by a cup of linden tea, to alleviate a cold and induce a good night's sleep.

Basswood is sometimes called the "bee tree" because its flowers attract large numbers of bees in July. The tree's pollen produces a strongly flavored honey.

Basswood is an important commercial hardwood. The wood is light and usually has a straight grain and a fine texture. Basswood lumber is used for dimension stock, furniture, millwork, caskets, picture frames, toys and novelties. Veneer is used for baskets and plywood. Wood carvers value the wood for its creamy-white to light-



brown color. Odorless and bland-tasting, the wood was used for bread bins, butter churns and other products for making and storing food.

Basswood trees provide food and shelter for many species of wildlife. Squirrels, chipmunks, mice, rabbits,

upland game birds, songbirds, porcupines and foxes eat the seeds or the bark. Deer feed on the twigs and leaves. Older, dying and dead basswood trees provide dens for many animals, including porcupines and raccoons.

HOW TO IDENTIFY BASSWOOD

SHAPE

Mature basswoods are large trees with round, uniform crowns. When growing in a forest, they have straight, branch-free trunks. The slender, upper branches curve upwards and outwards forming arches.

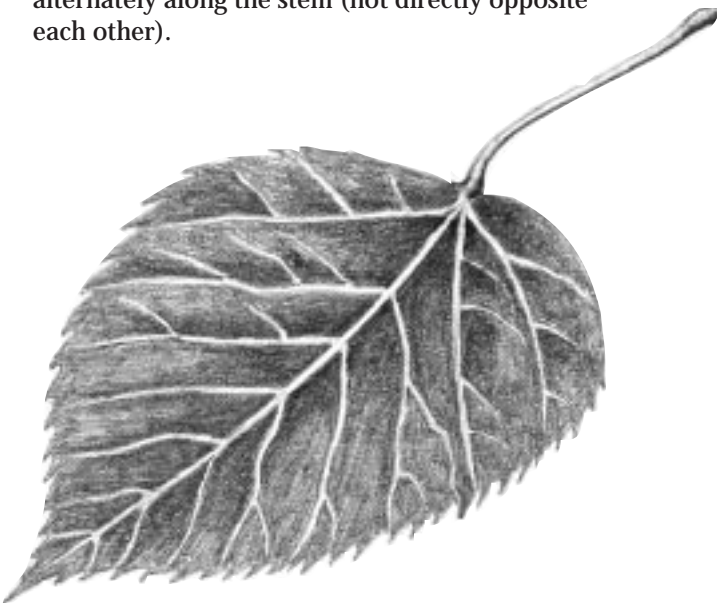
Basswood stumps produce sprouts that grow into trees with two or more trunks.

SIZE

Mature basswoods reach heights of 18 to 30 metres and diameters of 50 to 100 centimetres.

LEAVES

Basswood leaves are heart-shaped with a lopsided base and a toothed edge. They are about 11 centimetres long. The leaves are attached alternately along the stem (not directly opposite each other).



TWIGS

The twigs are yellowish-brown and hairless.

BUDS

Basswood buds form two rows along the twig and taste like peas. They are broad, about seven millimetres long, reddish and lopsided.

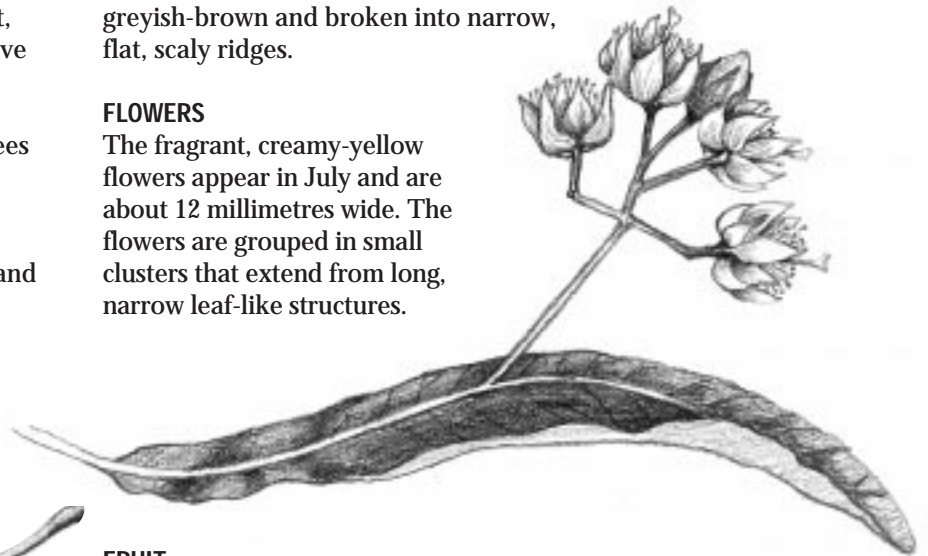


BARK

The bark of a mature basswood is dark greyish-brown and broken into narrow, flat, scaly ridges.

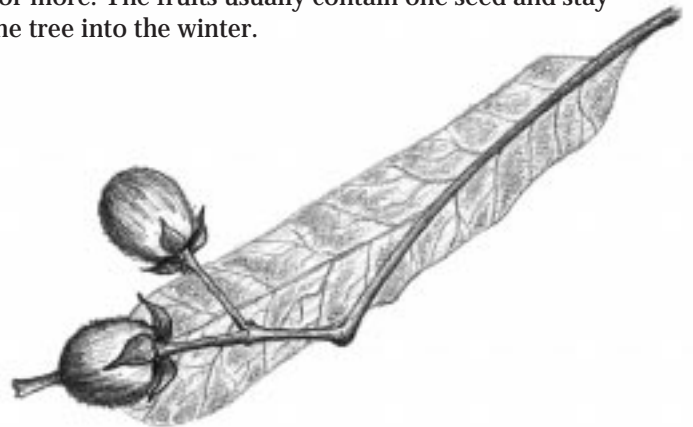
FLOWERS

The fragrant, creamy-yellow flowers appear in July and are about 12 millimetres wide. The flowers are grouped in small clusters that extend from long, narrow leaf-like structures.



FRUIT

The fruit is a round, woody body with brownish hairs. It is about seven millimetres wide and hangs in clusters of two or more. The fruits usually contain one seed and stay on the tree into the winter.



WHERE BASSWOOD GROWS BEST



In Ontario, basswood grows throughout the southern part of the province in the Deciduous and Great Lakes-St. Lawrence forest regions.

SOIL

Basswood grows best on loamy soils that are fertile, moist and deep. Basswood is known as a nitrogen-demanding species because it grows poorly on sites which are low in nitrogen. It will grow in soil ranging in pH from 4.5 to 7.5 but occurs more often in the soils with a neutral pH of around 7.0.

SHADE OR SUNLIGHT?

Basswood is a mid-tolerant species. Shade will help seedlings get established, but it limits future vigorous growth under a forest canopy.

STAND COMPOSITION

Basswood is an important component of sugar maple, red oak and white ash forests. It does not grow in pure stands.

STAND LOCATION

Basswood is often found along streams and lakes, or at the bottom of slopes where the ground is moist.

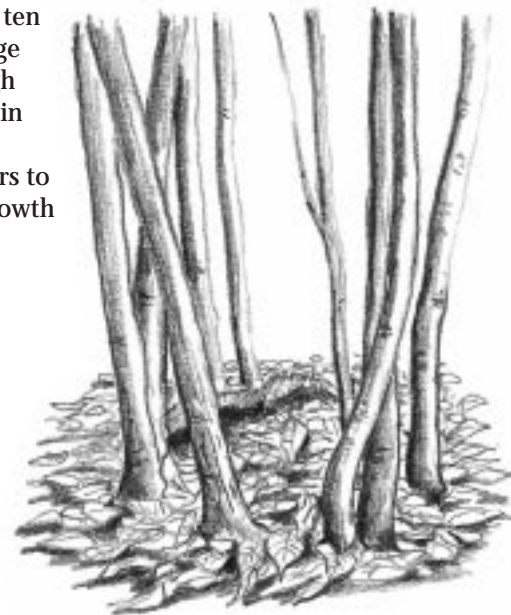
HOW TO GROW AND CARE FOR BASSWOOD

Basswood is commonly found in association with red maple, sugar maple and white ash. In southern Ontario, it is not intensively managed for wood products. Many people grow basswood trees to enhance the beauty of their property, to increase the diversity of their woodlot, to provide wildlife habitat and to produce wood products. A silvicultural system called “group selection” is the most common technique used to establish and regenerate basswood in a woodlot.

Group selection can be done in areas of a woodlot where basswood occurs naturally. A clearing or patch is created by removing groups of trees. The width of the clearing should be equal to one tree height but should not exceed 50 metres in diameter. This technique mimics natural disturbances and speeds the process of natural succession. Each hole in the canopy should be at least six metres from one edge to the other. Gaps that are six to 10 metres in diameter will encourage the growth of other shade tolerant species, such as maples, beech and hemlock.

Basswoods regenerate quickly by a process called coppicing. Coppice shoots sprout from the stumps of cut

trees. You can stimulate coppice growth by cutting all sapling trees within the patch. All the stumps should be cut as low as possible. This will produce a dense layer of saplings that often grow faster and straighter than trees grown from seed. The clumps of coppice should be thinned to two or three stems after ten years to encourage the growth of high quality stems. Thin the clump to one stem after 20 years to encourage the growth of the best stem.



Coppice growth

BASSWOOD HEALTH

With their deep and wide-spreading roots, basswoods are less vulnerable to high winds than other species. However, they are susceptible to fire damage because of their thin bark.

Wood-rotting fungi such as heartrot yellow cap and saprot polypore can infect wounds at the base of the tree caused by fire or logging. Anthracnose, black mold and leaf spot can damage the leaves. These diseases seldom cause permanent damage.

Watch for the linden looper, an insect that feeds on the leaves of basswoods and other deciduous trees. Adult females are light grey to brown, with two rows of black spots on the back and the sides. They don't have wings. Adult males are buff-colored moths, with two wavy, brown bands on the forewings.

Adult linden loopers appear from mid-August to late November and overwinter in the egg stage. Caterpillars hatch from the eggs and feed on the leaves until June or July. The caterpillars grow to 35 millimetres in length and have a rusty-brown head, a bright-yellow body and ten, wavy black lines along the length of the back.

Insects and diseases are most damaging to basswoods when they are combined with other stresses, such as:

ENVIRONMENTAL STRESSES

- drought
- fire
- frost and ice
- wind
- lightning

BIOLOGICAL STRESSES

- seed consumption by wildlife
- insects
- blight, fungi and other diseases

STRESSES CAUSED BY POOR MANAGEMENT

- livestock grazing
- poor pruning practices
- poor thinning practices

- poor harvesting practices that damage the remaining trees

You can protect basswood and the other tree species in your woodlot by ensuring that your actions do not combine with other factors to weaken trees. Monitor the health of the forests in your area and watch for insect pests in your stands. Avoid cutting, pruning or other activities when your trees are stressed by insect outbreaks, severe weather or other factors. Avoid logging in areas with basswood between May and August. During this period of growth, the bark is loose and can be easily knocked off the tree.

You should also protect your stand from livestock grazing. Livestock trample the roots of mature trees and compact forest soil. Browsing also results in the introduction of prickly ash, ironwood, hawthorn and other species, which are important species for wildlife but have low value for wood products.

The following Extension Notes will assist you to grow and care for basswood:

- *Restoring Old-growth Features to Managed Forests in Southern Ontario*
- *Choosing a Silviculture System*

Further reading:

- Farrar, J.L. 1995. *Trees in Canada*. Fitzhenry and Whiteside Limited. Markham, Ontario. 502 p.
- Hosie, R.C. 1990. *Native Trees of Canada*. Fitzhenry and Whiteside Limited. Markham, Ontario. 380 p.
- Ontario Ministry of Natural Resources. 1989. *Common Pests in Ontario*. Queen's Printer. Toronto, Ontario. 64p.

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