White Birch

Betula papyrifera

Identification: Occurs in all forested regions across Canada, north to the tree line. Frequently planted for landscape purposes.

Leaves: ovate or triangular, 5-10cm long, tip pointed, base broadly wedge-shaped, rounded, straight, or cordate; double-toothed; upper surface dull green, lighter beneath.

Flowers: pollen catkins in clusters of 1-3, each 1-3cm long and 2-4mm wide in winter, about 9cm long during pollination in the spring. Seed catkins which develop in the spring are 1-2cm longs, erect; stigmas pink or red.

Fruit: mature seed catkins 3-5cm long, hanging from the dwarf shoots. Nutlets 1.5-2.5mm long, half as wide as long; wings much wider than nutlet. Scales variable, 2-3mm long, usually hairy, with 2 rounded lateral lobes diverging from a short, pointed central lobe. Fruits and scales shed from September onwards, leaving the bare catkin axis on the tree.

Bark: thin, smooth, dark red to almost black on young stems, becoming reddish-brown and then bright creamy white; often shedding in large sheets. On removal of the outer bark, the reddish-orange inner bark soon dies, turns black and divides into flakes. Exposing large areas of the inner bark may kill the tree.

Wood: texture is uniform, colour is pale, has no odor.

Climate/Location: White Birch grows in climates ranging from boreal to humid and tolerates wide variations in precipitation. Its northern limit of growth is the arctic circle, with boreal spruce woodlands being more common.

Habitat: Found on forest edges, lakeshores, and roadsides. It grows on a wide variety of soils in pure stands and mixed stands of pine, spruce, poplars and balsam fir. Not shade-tolerant. Among the first species to reforest areas that have been burned or cut.

Growing Characteristics: It is a small or medium-sized tree, up to 25m high, 40cm in diameter, and 120 years old. It commonly grows in clumps of 3 to 6 stems or it can be found growing as a single stem. Trunk slender often curved usually distinct to midcrown or higher. Crown narrowly oval, open, branches ascending.

Reproduction:

- Monoecious – male and female flowers are found on the same tree.
- Staminate (male) catkins form in fall, remain dormant over winter, and mature in the spring.
- Pistillate (female) flowers are borne in cylindrical catkins in the spring. Two or three catkins are arranged on lateral spur shoots, disintegrating once mature.
- Once pollinated, female catkins will develop seeds, beginning to ripen in early August until mid-September.
- Seed dispersal begins soon after ripening.
- The winged-seed is easily dispersed by the wind.
- Reproduction is mainly by seed but this species has limited capacity to reproduce asexually from spouts following a disturbance such as harvest or wildfire.
- Seed has the capacity to lie dormant for up to two years until moisture conditions are favourable for germination.

Uses: Traditional- Aboriginal Native Americans used birch bark to make canoes, rattles, torches, many types of containers, and also used it in construction of their dwellings. Lightweight and flexible, the bark could be cut and bent to make containers of any desired shape. Trays, dishes, storage boxes, buckets and cooking pots were made of birch bark. The edges of the container were sewn together with plant fibers. If the edges were sealed with pine pitch or spruce resin, the container could be used to carry water or hung over a fire to cook a soup or stew. Birch bark cutouts or stencils often were used to decorate containers, and also provided patterns for Native American beadwork.

The white outer bark layer made a good substitute for the paper that it resembles, and drawings could be made on it with a piece of charcoal. Birch bark burns easily. It was shredded and used for tinder to start campfires, folded and stuck in the cleft of a long pole to illuminate the water depths for night spear fishing, and rolled into cylinders used as long-burning torches.

Modern – It is most commonly used for firewood and furniture framing.

Fun and Important facts:

- Birch juice extracted by cutting the standing trees is considered a common drink in rural Ukraine, Belarus and Russia.
- Birch leaves make a diuretic tea and to make extracts for dyes and cosmetics.
- Trees can be tapped for birch syrup.
- Birch is considered to be the most important allergic tree pollen; with an estimated 15-20% of hay fever suffers sensitive to birch pollen grains.
- The chaga mushroom is an adaptogen that grows on white birch trees, extracting the birch constituents and is used to treat cancer.
- White birch (often called paper birch) is Saskatchewan's tree emblem.

Bibliography: *Trees in Canada* by John Laird Farrar page 284-285

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