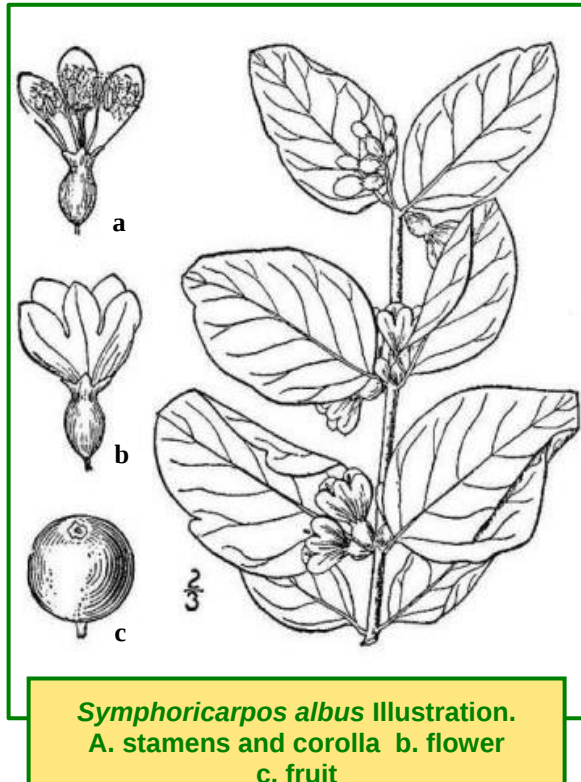


Scientific Name: *Symphoricarpos albus* (L.) Blake

Family: *Caprifoliaceae*

Common Names: snowberry, common snowberry, white coralberry



Plant Description

Deciduous, perennial, erect, slender shrub, up to 1 m high, rhizomatous; leaves opposite oval to ovate thin wavy leaves 2 to 4 cm long; clusters of bell-shaped flowers at branch tips, pink and white, hairy within, 4 to 7 mm long (Johnson et al. 1995).

Fruit: Dry, waxy berry, white, spherical, 6 to 12 mm, not edible, two seeds per berry (Johnson et al. 1995).

Seed: Ivory seeds, 2 to 3 mm x 3 to 4 mm flat on one side/round on other, rough.

Habitat and Distribution

Common in bushy areas, open woodland and valley slopes (Moss 1983).

Soil: Found on rocky and coarse textured soils.

S. albus is tolerant of mildly acidic-moderately

alkaline soils and a moderate tolerance of salinity (Hardy BBT 1989, USDA NRCS n.d.). Adapted to wet and dry soil conditions (Tannas 1997).

Distribution: Widespread across Alberta: parkland, prairie, foothills and across southern boreal forest. Southeastern Alaska, southern District of Mackenzie, British Columbia to Quebec, Nova Scotia south to California, Idaho, Colorado, Nebraska, Virginia (Moss 1983).

Phenology

Flowers June to August. Fruits ripen in late July through September.

Pollination

Pollinated by insects and occasionally hummingbirds.

Seed Dispersal

Animal dispersal.



Genetics

2n=36, 54, 72 (Moss 1983).

Symbiosis

Associated with vesicular-arbuscular mycorrhizae in British Columbia (Berch et al. 1988).

Seed Processing

Collection: Berries are often found singly or in pairs and are sparse on shrubs making collection more difficult. Handpick or hand-strip fruits directly into picking bags or groundsheets (Banerjee et al. 2001).

Seed Weight: 4.81 to 5.71 g/1,000 seeds (5.26 average).

Fruit/Seed Volume: 3,020 to 3,460 fruit/L (3,220 average), 6,400 seeds/L fruit.

Fruit/Seed Weight: 9,000 to 11,200 fruit/kg (10,000 average), 20,000 seeds/kg fruit.

Average Seeds/Fruit: 2 seeds/fruit.

Harvest Dates: Ripe fruits are waxy white in colour (Banerjee et al. 2001).

Collect in late August.

Cleaning: Mash fruit in a sieve (1.40 mm works well). A blender with taped blades may also be used to macerate the fruit. Suspend residue in water allowing seeds to settle. Decant water and chaff. Repeat suspension and decanting until only seeds remain.

Alternatively, a tomato de-seeder may be used. Allow seeds to dry at room temperature over a moving air stream.

Storage Behaviour: Possibly orthodox; seeds can be dried, without damage, to low moisture contents, their longevity increases with reductions in both moisture content and temperature (Royal Botanic Gardens Kew 2008).

Storage: Store dry in sealed containers at low temperatures (Young and Young 1992).

Longevity: If kept in sealed containers at low temperature (5°C), dried seeds can be stored for at least 2 years (Rose et al. 1998, Young and Young 1992). McWilliams (2000) had success storing seeds up to 7 to 10 years.

Propagation

Natural Regeneration: By seeds and from suckers (Hardy BBT 1989).

Germination: Field emergence is more successful than *in vitro* germination (Piper 1986).

Seeds are dormant and require a double cold period to initiate germination (Smreciu and Barron 1997).

Pre-treatment: Young and Young (1992) recommend 3 months warm stratification followed by 4 months cold stratification.

Direct Seeding: 4% emergence by year 4 on oil sands reclamation sites in northeastern Alberta (Smreciu et al. 2012). Smreciu and Barron (1997) report an abundance of seedlings emerging after 2 winter seasons.

Fruit Sowing: From 0.41% emergence after 2 years (fall sown) to 8% emergence after 4 years (spring sown) by sowing fruits. Spring sown (frozen) fruits tend to emerge better than fall sown ones.

Seeding Rate: 50 seeds/m², 12 fruits/m² to obtain 1 to 2 plants/m².

Vegetative Propagation: From suckers (Hardy BBT 1989) and by layering (Babb 1959).

Softwood cuttings have been successful with *S. occidentalis* as well as *S. albus* (Smreciu and Barron 1997). Softwoods and semi-hardwood cuttings produce 90% to 100% rooting from June-August with IBA-talc or solutions of 1,000 to 3,000 ppm. Hardwood cuttings root 90% to 100% in 4 to 6 weeks from December-January with 3,000 ppm IBA-talc (Dirr and Heuser 1987). Collect 15 to 20 cm long hardwood cuttings from June to August and stick in soil in shaded area. Store cuttings over winter in damp sawdust or peat moss. In late February to early March, dip in an IBA talc or solution 1,000 to 3,000 ppm and stick in potting soil (Rose et al. 1998).

Containerized seedlings were successful on amended tailings sand (75% to 92%) (Fedkenheuer et al. 1980).

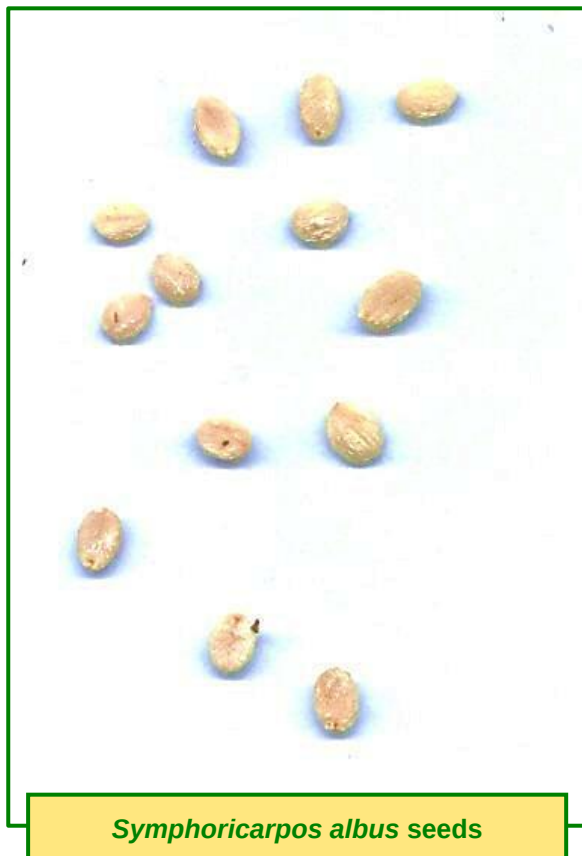
Aboriginal/Food Uses

Food: Inedible, considered poisonous by many native people.



Medicinal: Fruits can be crushed or boiled to make a wash for sore eyes. Fruit is a strong laxative (Royer and Dickinson 1996). Root and stem decoction used to treat teething pain in children; the wash can be used to treat skin rashes, or can be mixed with other plants to make a tea for venereal disease. Boiled leaves and branches make a diuretic decoction and can treat kidney problems and can be part of a compound aphrodisiac (Marles et al. 2000).

Other: Blackfoot used the plant as a broom (Royer and Dickinson 1996).



Wildlife/Forage Uses

Wildlife: Valuable source of browse for elk, bighorn sheep, white-tailed deer, moose, grizzly bears. Important cover and food source for birds (sharp-tailed, ruffed and blue grouse, wild turkey, kingbird, western flycatcher and western bluebird), and small mammals (fox squirrels, desert cottontails, and pocket gophers) (McWilliams 2000).

Livestock: Important to domestic sheep and cattle (McWilliams 2000). Re-sprouts after grazing (Hardy BBT 1989).

Reclamation Potential

Tolerant of low nutrient sites (Hardy BBT 1989).

Extensively used in rehabilitation of disturbed locations. Very good first year survival (75%) on amended tailings sand in northern Alberta (Hardy BBT 1989). Previously used for reclamation of tailings sands (Fedkenheuer et al. 1980) and on mining sites with acidic, steep tailings (Voeller et al. 1998).

In a review of Syncrude and Suncor plot data, Geographic Dynamics Corp. (2006) found that *S. albus* did not invade any of the plots.

Once established, has a good survival rate. Excellent for bank stabilization and erosion control. Also has a high resistance to fire (McWilliams 2012).

Commercial Resources

Availability: Seedlings are available from local Alberta nurseries.

Seeds have been collected by the Oil Sands Vegetation Cooperative for use in the Athabasca oil sands region.

Cultivar: None are known.

Notes

Symphoricarpos albus is listed as 80% intact (less occurrences than expected) in the Alberta oil sands region (Alberta Biodiversity Monitoring Institute 2014).

After being fed to cattle and digested, the seeds do not undergo scarification or hastened germination; the seeds remain viable for an extended period of time (Doucette et al. 2001).

Photo Credits

Photo 1:

http://commons.wikimedia.org/wiki/Image:Symphoricarpos_albus.jpg

Photo 2: WRC, Inc. 2013.



Line drawing: Britton, N.L. and A. Brown, 1913. An illustrated flora of the northern United States Canada and the British Possessions. Vol. 3, p. 276.

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