Scientific Name: *Rubus arcticus* L. ssp. *acaulis* (Michx.) Focke
Family: *Rosaceae*
Common Names: dwarf raspberry, arctic blackberry, arctic bramble

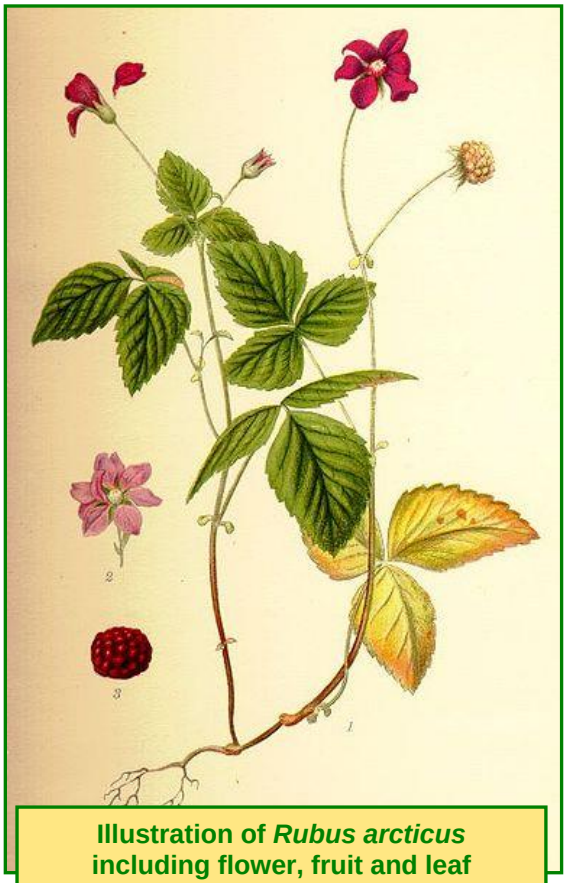


Illustration of *Rubus arcticus* including flower, fruit and leaf morphology.

Plant Description

Low, somewhat tufted perennial from slender creeping rhizomes; flowering stems erect, 5 to 15 cm tall, finely hairy; 2 to 4 leaves round to heart shaped in outline, compound; 3 leaflets, rounded, coarsely toothed, more or less hairy; flowers usually single; showy, pink to reddish pink; petals distinctly narrowed at base (Johnson et al. 1995).
Fruit: Fleshly red drupelets in spherical clusters of 20 to 30 (raspberry) about 1 cm across (Johnson et al. 1995); 1 to 2 aggregates (raspberries) per plant.
Seed: 2.5 to 3 mm x 4 to 5 mm (USDA NRCS n.d.); seeds have an extremely hard seed coat, 0.225 mm thick (Wada and Reed 2011).

Habitat and Distribution

Wet woods, thickets, meadows, peatlands, widespread across boreal forest and northern parkland (Johnson et al. 1995).
Soil: Coarse textured soils, with a pH 5 to 7. No tolerance to drought, salinity or shade (USDA NRCS 2012).
Distribution: Circumpolar. Alaska, Yukon, western District of Mackenzie to Hudson Bay, northern Quebec, Newfoundland south to British Columbia, Montana, Colorado, Saskatchewan, Manitoba, Minnesota, southern Quebec, Gaspe (Moss 1983).

Phenology

Flowering occurs from June to July with berries appearing July to August (Ladyman 2006).

Pollination

Insect pollinated; flowers reported to be self-incompatible (Ladyman 2006).

Genetics

2n=14 (Moss 1983).

Symbiosis

Forms vesicular-arbuscular mycorrhizal associations (Vestberg 1992).

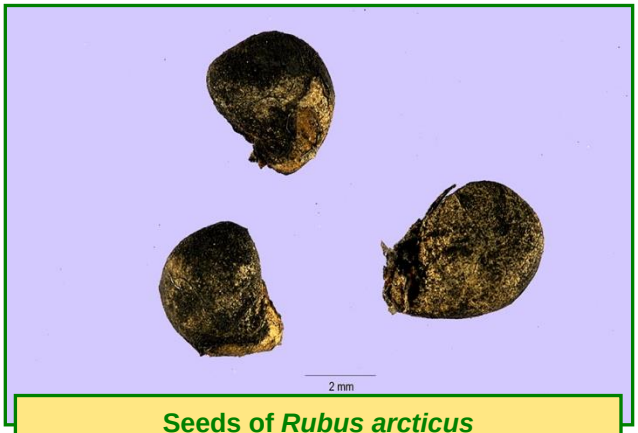
Seed Processing

Collection: Berries should be collected as soon as they are ripe to avoid losses by wildlife consumption (Young and Young 1992).
Seed Weight: Approximately 1.69 g/1,000 seeds (USDA NRCS n.d.).
2.2 g/1,000 seeds (Wada and Reed 2011).

Average Seed/Fruit: 25 seeds per fruit (Bonner and Karrfalt 2008).
Harvest Dates: July through August (Ladyman 2006).
Cleaning: Maceration and floatation to recover seeds; dry completely before storing (Young and Young 1992).
Storage Behaviour: Likely orthodox; dry seed to low relative humidity prior to cold storage.
Storage: Seeds should be dried and stored at low temperatures (Young and Young 1992).
Longevity: *Rubus* spp. remain viable in the soil seed bank for long periods of time (Ladyman 2006) and studies have shown no loss in viability after 26 years of storage (Bonner and Karrfalt 2008).

Propagation

Natural Regeneration: By seeds and by rhizomes (Ladyman 2006).
Germination: Germination is low, less than 40% (Ladyman 2006, Wada and Reed 2011). Germination is epigeal (Young and Young 1992).
Pre-treatment: Seed requires stratification (Plants for a Future n.d.). Stored seed requires one-month stratification at about 3°C and is best sown as early as possible in the year (Plants for a Future n.d.). Sulfuric acid scarification of 30 min is recommended for the small seeded raspberries (*Rubus idaeus* L., *Rubus occidentalis* L.) and up to 3 h for the larger seeded Rubus spp. (Wada and Reed 2011).
Direct Seeding: *Rubus* spp. are best grown under a thin layer of soil and mulch (Young and Young 1992).
Planting Density: 790 to 3,190 plants/ha (USDA NRCS n.d.).
Vegetative Propagation: Division in early spring or just before leaf-fall in the autumn (Plants for a Future n.d.). Larger divisions can be planted out direct into their permanent positions (Plants for a Future n.d.). Plants for a Future (n.d.) found it best to pot up the smaller divisions and grow them in a lightly shaded position in a cold frame, planting them out once they are well established in the summer.
Micro-propagation: Can be micro-propagated (Lindqvist et al. 1998).



Seeds of *Rubus arcticus*

Aboriginal/Food Uses

Food: Berries can be collected and eaten fresh or made in to jam (Marles et al. 2000).

Wildlife/Forage Usage

Wildlife: Young growth, berries and leaves are eaten utilized by game (Tannas 1997).
Livestock: Not used by livestock if other food sources are available (Tannas 1997).
Grazing Response: Increaser, resistant to moderate browsing (Tannas 1997).

Reclamation Potential

Rubus spp. have been shown to do well after disturbances, especially fire, and are good for erosion control and slope stabilization (Bonner and Karrfalt 2008).
Rubus arcticus is sensitive to low moisture levels and compacted soils (Ladyman 2006).

Commercial Resources

Availability: Not cultivated in Alberta; propagules must be collected from native populations.
Cultivars: There are two commercially-propagated clones only in Finland for use mainly in the liqueur industry they are not suitable for reclamation (Lindqvist 1998).

Notes

Synonyms *Cylactis arctica* ssp. *acaulis*, *Rubus acaulis*, *Rubus arcticus* var. *acaulis* (Lady Bird Johnson Wildflower Center 2007).
There are three subspecies of *Rubus arcticus* – *Rubus arcticus* ssp. *acaulis*, *Rubus arcticus* ssp. *arcticus* and *Rubus arcticus* ssp. *stellatus* (ITIS n.d.) which hybridise between each other as well as with *R. pubescens* (Moss 1983).
Rubus arcticus is listed as 97% intact (less occurrences than expected) in the Alberta oil sands region (Alberta Biodiversity Monitoring Institute 2014).
Rubus sp. can live 15 years or more depending on area (Bonner and Karrfalt 2008).

Photo Credits

Photo: Tracey Slotta @ USDA-NRCS PLANTS Database.
Line Diagram: *Rubus arcticus* L. from Bilder ur Nordens Flora. Public Domain. (1917-1926).

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