

Scientific name: *Rumex aquaticus* L.

Family: *Polygonaceae*

Common Names: western dock

Plant Description

Stout glabrous erect perennial herb/forb from taproot; 0.5 to 1.5 m high with a simple red-tinged stem; leaves simple, alternate lower oblong-lanceolate, usually cordate at base and tapering to a narrow tip, 5 to 20 cm long; numerous small greenish to reddish flowers in dense long and narrow clusters on upper 20 to 50 cm of stem, flower stalks are not joined (Johnson et al. 1995).

Fruit: Shiny brown achenes, 2 to 4 mm long, each is enclosed in three reddish-brown, net-veined sepals 5 to 8 mm long (Johnson et al. 1995).

Seed: Dark brown, shiny, three-sided. Each side almost tear drop shaped, 2 mm x 1 mm (Johnson et al. 1995).



Rumex aquaticus growing in a meadow

Habitat and Distribution

Commonly found in moist places (marshes and wet meadows) and waste areas (Moss 1983).

Seral Stage: Early.

Soils: Wet to mesic soils (Gerling et al. 1996).

Distribution: Common across Alberta. Alaska, Yukon, western District of Mackenzie to Hudson Bay, Newfoundland south to California, Nevada, Utah, New Mexico, South Dakota, northern Lake Superior, southern Quebec (Moss 1983).

Phenology

Flowers and seed ripen in June and July.

Pollination

Wind pollinated (IMS Health Incorporated n.d.).

Seed Dispersal

Wind dispersed.

Genetics

$2n=160$ (Moss 1983).

Seed Processing

Collection: Snip stems and store in breathable containers.

Seed Weight: 0.6622 to 0.9881 g/1,000 seeds (0.8333 g/1,000 seeds average).

Royal Botanic Gardens Kew (2008) reports 2.11 g/1,000 seeds.

Harvest Dates: Late July (Smreciu et al. 2006).

Cleaning: Air-dry fruits/cones. Crush material or remove large chaff and crush remaining material. Sieve to remove seeds from chaff using appropriate size screens. Small chaff and dust can be removed by winnowing. If capsules are intact, merely open capsules and empty seeds.



Storage Behaviour: Orthodox; dry seeds prior to frozen storage (Royal Botanic Gardens Kew 2008).

Storage: Store seed in hermetically sealed containers at frozen temperatures (Royal Botanic Gardens Kew 2008).

Longevity: Seed remains germinable for at least two years after dry storage at room temperatures.

Propagation

Natural Regeneration: By seeds (Gerling et al. 1996).

Germination: 99% after 30 days using fresh seeds, 100% after 30 days using one-year-old seeds.

Pre-treatment: Four weeks cold stratification (2 to 4°C).

Vegetative Reproduction: No literature found.

Seedling Production: Soak seeds in water for 24 hours, surface sow, use mist and bottom heat (Young 2001).

Aboriginal/Food Uses

Food: Stems of western dock were cooked and eaten. Young stems and leaves were also eaten raw. Ground seeds were added to other foods and the seeds were used as a tobacco stretcher or substitute (Marles et al. 2000).

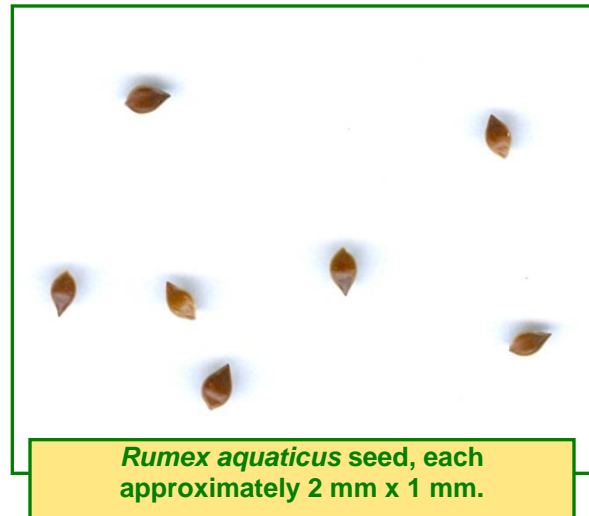
Medicinal: Boiled whole plants were used to make a wash to treat painful joints (arthritis). Because of their significant amounts of tannin, roots can be chewed and applied to wounds to stop bleeding and promote healing. As a medicine, the root can also be used to treat high blood pressure and heart ailments.

Other: Large taproots were dried, grated and boiled to make a yellow dye (Marles et al. 2000).

Wildlife/Forage Usage

Livestock: Poor forage value, *Rumex* genus is mildly toxic due to its tendency to accumulate oxalates (Tannas 1997).

Grazing Response: Western dock is an increaser and invader. It produces an abundance of seed and spreads when higher quality range plants are depleted because of overgrazing (Tannas 1997).



Reclamation Potential

Johnson et al. (1993) investigated the effectiveness of western dock (*Rumex occidentalis*) for dewatering oil sands fine tailings. The plants were able to grow from transplants in tailings in the greenhouse and significantly reduced tailings water content. Field trials were not as successful.

Commercial Resources

Availability: Seed is commercially available in Alberta (ANPC 2010).

Cultivars: None are known.

Uses: Natural dye materials and as scientifically proven medicinal compounds (Marles et al. 2000).

Photo Credits

Photo 1: Courtesy of Walter Siegmund @ wikimedia commons. 2011.

Photo 2: Wild Rose Consulting, Inc. 2012.

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