

CURLED DOCK

Rumex crispus L.

Family: *Polygonaceae* (Buckwheat).

Other Scientific Names: None.

Other Common Names: Curly dock, sour dock, yellow dock.

Legal Status: Not categorized.



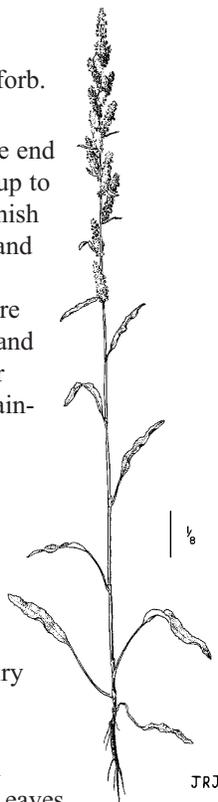
Identification

Growth form: Perennial forb.

Flower: Numerous small flowers are clustered at the end of the stem in a large, dense panicle up to 60 cm long. Flower clusters are greenish red initially, then mature to pinkish, and finally, to brown. Flower stalks are jointed. Petals are absent; instead there are an outer whorl of 3 green sepals and an inner whorl of 3 red sepals (Royer and Dickinson 1999), each with a grain-like swelling.

Seeds/Fruit: A 3-sided achene is enclosed by the inner sepals. Seeds are reddish brown, about 10 mm long, shiny, and 3-sided (Frankton and Mulligan 1970).

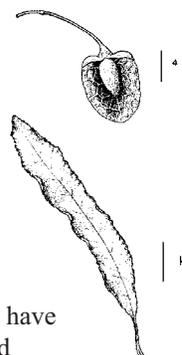
Leaves: Dark green basal leaves, 10–30 cm on long, pimply, finely hairy stalks. Stem leaves are alternate and become smaller with shorter stalks moving up the stem. A papery sheath surrounds the stem at the leaf joint. Leaves have pronounced wavy and crisped (curled) margins.



Stems: Reddish stems up to 1.6 m tall are unbranched below the inflorescence and are usually solitary (Douglas et al. 1999).

Roots: Stout, fleshy taproot with a yellow centre that can extend 1.5 m into the soil.

Seedling: Cotyledons are oblong and pale green. Lance-shaped leaves have prominent veins on the underside and have a papery sheath at the base (Royer and Dickinson 1999).



Similar Species

Exotics: There are several other dock species, but most are not tall, unbranched plants with crisped and wavy leaf margins. Broadleaved dock (*Rumex obtusifolius*) and patience dock (*Rumex patientia*) most closely resemble curled dock, but their leaves are more rounded—not as wavy or as crisped. Broadleaved dock has larger leaves that are rounded or heart-shaped at the base (Cranston et al. 2000).

Natives: The native docks (*Rumex* sp.) do not resemble curled dock.

Impacts

Agricultural: Can be a problem in cultivated cropland, pastures, and hayfields. Seeds and vegetation are toxic to poultry (Royer and Dickinson 1999) and cause dermatitis and gastric problems when large amounts are eaten by cattle (Northern Prairie Wildlife Center. Undated). It is an alternate host to many crop diseases.

Ecological: Open, disturbed areas are often invaded. This weed is especially common in riparian areas, including wet meadows, pond edges, and irrigation ditches, but its impacts on native plant communities have not been documented.

Human: No information available.

Habitat and Ecology

General requirements: Adapted to moist to wet soils in open sites and can tolerate poor drainage. In BC, it grows in cultivated crops, pastures, fencerows, and riparian areas, especially those that have been disturbed.

Distribution: Found in every agricultural reporting region of BC. Curled dock occurs across Canada and the US.

Historical: Introduced from Eurasia.

Life cycle: A rosette measuring 10–30 cm long is produced in the first year. Plants produce tall, flowering stalks beginning in the second year that flower from June to September, depending on geographic location.

Mode of reproduction: Vegetatively from root fragments and by seed.

Seed production: About 30,000–60,000 seeds/plant (Northern Prairie Wildlife Research Center. Undated).

Seed bank: Nearly 90% of seeds will germinate with adequate light, but seeds that are buried more than 3 cm in the soil will remain dormant and are extremely long lived (Northern Prairie Wildlife Research Center. Undated). About half are viable after 50 years and some survive to 80 years (Royer and Dickinson 1999).

Dispersal: Primarily by wind or water. Rough seed pods stick to fur and feathers of animals and seeds can pass through cattle or wildlife. Cultivation or other soil disturbances disperse root fragments.

Hybridization: Broad-leaved dock (*Rumex obtusifolius*) and curled dock often hybridize.

Management

Biocontrol: None.

Mechanical: Cultivation induces seedling emergence but requires follow-up treatment for control. Cultivation may spread established plants with well-developed root systems. Mowing before plants flower can prevent seed production.

Fire: No information is available, but fire would not likely affect the deep taproot.

Herbicides: Spring applications of MCPA, dicamba, and 2,4-D amine, when seedlings are at the 2–4 leaf stage, have been effective. Glyphosate applied in full leaf stage will control dock prior to ploughing. New seedlings can be suppressed with MCPA/MCPB or 2,4-DB. Consult the most recent edition of BC Ministry of Agriculture, Food and Fisheries **Before applying herbicides, read the label for full use and precautionary instructions.**

Cultural/Preventive: New infestations can be controlled by hand-pulling or digging up plants. Seed disturbed areas to perennial grasses, and manage livestock to maintain perennial plant communities.

Integrated Management Summary

Curled dock is shade intolerant and a poor competitor in dense stands of other plant species. Maintain vigorous perennial stands on forage crops and native plant communities, especially in riparian areas where control with herbicides may not be possible. Minimize soil disturbance in riparian areas since exposure to light stimulates germination.

References

Cranston, R., D. Ralph, and B. Wikeem. 2000. *Field Guide to Noxious and Other Selected Weeds of British Columbia*. BC Ministry of Agriculture, Food and Fisheries and Ministry of Forests.

Douglas, G. W., D. Meidinger, and J. Pojar, eds. 1999. *Illustrated Flora of British Columbia*. Vol. 4. *Gymnosperms and Dicotyledons (Orobanchaceae through Rubiaceae)*. Province of British Columbia.

Frankton, C., and G. A. Mulligan. 1970. *Weeds of Canada*. Publication 948. Ottawa: Canada Department of Agriculture.

Royer, F., and R. Dickinson. 1999. *Weeds of Canada and the Northern United States*. Edmonton: University of Alberta Press.

Rutledge, C. R., and T. McLendon. Undated. An assessment of exotic plant species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. Northern Prairie Wildlife Research Center Home Page.

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