



Dalmatian Toadflax

Linaria dalmatica syn. *Linaria genistifolia* ssp. *dalmatica*



PHOTO'S: Alberta Sustainable Resource Development

Overview:

Native to the Mediterranean, Dalmatian toadflax was introduced to North America sometime around 1900, possibly as an ornamental. It is a short-lived perennial that reproduces both by seed and creeping roots. First year plants develop a rosette of leaves and a deep root system. The main taproot may grow over 1 m deep and lateral rhizomes can extend more than 3 m – buds on lateral roots form new stems. Stems and leaves of the plant are bluish-green, smooth, and waxy.

Flowers are nearly identical to those of Common/Yellow toadflax, except the flowers of Dalmatian are larger.

Habitat:

Dalmatian toadflax grows best in full sun and coarse textured, well-drained soils that are pH neutral to slightly alkaline. It is usually found low-mid elevations that are sheltered and/or have southern exposures.

Identification:

Stems: Stems are erect and grow to 1 m tall with some branching in the upper part. There may be one to many floral stems per plant.

Leaves: Leaves are broad and heart-shaped with a pointed tip and clasp the stem. They are arranged alternately and are crowded on the lower stem. Leaves decrease in size higher on stem. The most distinctive difference between Yellow and Dalmatian toadflax is that Dalmatian toadflax has broad, heart-shaped leaves that clasp a woody stem; whereas, yellow toadflax has narrow, linear leaves with a narrow stem¹.

Flowers: Flowers are bright yellow with a darker yellow spot on the lower lip and are borne on the upper branches of stems. They resemble snapdragon flowers and can be up to 3.5 cm long, including the spur extending from the base. Flowers are hermaphroditic (having both male and female organs) and can self-pollinate.

Seeds: Fruits composed of two oval capsules about 5 to 7 mm long contain numerous, tiny brown/black seeds. Seeds may remain

viable for as long as 10 years.

Prevention:

New infestations begin by seed and need disturbance or degraded vegetation to establish. Vegetative reproduction then quickly increases the size of the infestation. Dalmatian toadflax is difficult to eradicate once established because of the extensive root system.

Control:

Grazing: Dalmatian toadflax contains compounds toxic to livestock since the plant is unpalatable poisonings are rare.

Cultivation: Intense, repeated cultivation in crop situations for at least 2 years. Equipment will need to be cleaned as root fragments can produce new plants.

Mechanical: Mowing and hand pulling before flowering will prevent seed production, but re-sprouting will occur. Repeated hand pulling in loose soils, getting as much root as possible, and repeated for a few years can be control/eradicate small infestations.

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Dalmatian Toadflax (Continued)

Chemical: Acetic acid, Amitrole, Dichlorprop, Diuron, Glyphosate, Hexazinone, Imazapyr, MCPA, Metsulfuron-methyl, Picloram and Tribenuron-methyl (in a product mix with Thifensulfuron-methyl) are registered for use on toadflax. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: Four weevils, three moths and a beetle have been approved for import into North America. Five of these agents have been released in British Columbia.



REFERENCES

1 <http://www.ag.ndsu.edu/pubs/plantsci/weeds/w1239.pdf>