

## YELLOW TOADFLAX

*Linaria vulgaris*

(Aka Common toadflax, Butter-and-Eggs, Spurred Snapdragon)



### Overview:

Brought from Europe over 100 years ago as an ornamental plant, Common toadflax has escaped and has now become a serious problem to rangeland and mountain meadows all over North America. This perennial plant makes seed, but reproduction is primarily by sprouting from its extensive, creeping root system (rhizomes) – 2-3 week old seedlings can produce creeping roots. The ability of this plant to form large colonies allows it to crowd out other vegetation. Common toadflax is easily confused with Leafy spurge before flowering, but toadflax stems do not contain the milky latex that spurge does.

### Habitat:

Native to nearly all parts of Europe and Asia, toadflax prefers sandy-gravelly soils, but is adapted to a wide range of growing conditions.

### Identification:

**Stems:** Stems are erect, hairless, generally un-branched and can be as short as 15cm or grow to 1 m tall. Mature plants may have 1 to 25 stems.

**Leaves:** Leaves are soft, lance-shaped, pale green, and very numerous. Leaves are mainly alternate but may appear opposite on the lower stem due to crowding. Leaves can be

up to 10 cm long and are attached directly to the 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 stem.

**Flowers:** Flowers are bright yellow, arranged alternately in dense spikes at the ends of stems and have a long spur extending from the base that is usually as long as the flower itself – in all, 2 to 3.5 cm long. The snapdragon-like flowers can have orange colouring on the throat. They flower at different times depending on site conditions. In high elevations they could flower as late as July. Flowers are identical to Dalmatian toadflax, but leaf shape differs between the two plants.

**Seeds:** The seeds are winged, disk-shaped, and dark brown to black. Despite its prolific seed production (5000 seeds/stem) and long viability (up to 10 years), germination rates are often very low – less than 10%.

### Prevention:

Spurred snapdragon, another common name for this plant, often appears in wildflower seed mixes. Do not purchase seed mixes unless all contents are listed.

### Control:

Once present, it establishes dense patches that are extremely difficult to control, let alone eradicate. Multiple control methods and several years of commitment provide the best success.

**Grazing:** Pasture invasions flourish because the plant is not palatable to livestock.

**Cultivation:** Repeated cultivation can effectively destroy the root system. Equipment should be thoroughly cleaned after.

**Mechanical:** Thorough hand-pulling can be effective in soft soils where the roots can be removed easily. Repetition is required to deplete the seed bank and all root pieces. Mowing can assist by starving the roots.

**Chemical:** Acetic acid, Amitrole, Dichlorprop, Diuron, Glyphosate, Hexazinone, Imazapyr, MCPA, Metsulfuron-methyl, Picloram and Tribenuron-methyl & Thifensulfuron-methyl (in a product mix) 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:** Several biological control agents have been imported to control Common toadflax. New Alberta research shows a stem mining weevil, *Mecinus janthinus*, successfully established and providing effective control.

