



Last Updated Mar.2012

St John's-wort (*Hypericum perforatum*)

aka goatweed, Klamath weed

Provincial Designation: Prohibited Noxious

Overview:

St John's-wort is a perennial herb native to Europe, western Asia, and North Africa. It is also considered a weed in much of its native habitat. It widely distributed around temperate areas of the world, likely due in good part to its cultivation as a medicinal plant.¹ It reproduces both by seed and vegetatively by stems sprouting from buds on lateral roots/rhizomes. St John's-wort reproduces largely by apomixis – an asexual type of reproduction in which the plant embryos (seeds) grow from egg cells without being fertilized by pollen.¹

St John's-wort seeds can germinate in fall or spring, and new stems emerge from woody root crowns in the spring. Seedling survival is low in stands of mature plants. Flowering occurs over the summer, and can be self-pollinated or pollinated by insects.¹ New seed capsules are moist, green, and sticky.¹ Leaves senesce by late summer to fall. In fall seed capsules dry and become less sticky, are shed, and the stems begin to die.³ Dead stems can remain standing for many months.¹ New plants establish the root system in the first year of growth and begin flowering the following season.³

St John's-wort can have one to several root crowns attached to a system of vertical and lateral roots. As well, rhizome connections between vegetatively propagated plants can sever. This makes it difficult to distinguish single plants accurately.¹

St John's-wort contains two toxic compounds, hypericin and hypericum red, which can cause photosensitivity in grazers, loss of weight, and even death in rare circumstances if consumed in sufficient quantities.³

Flowers



PHOTO: Norman E. Rees, USDA Agricultural Research Service - Retired, Bugwood.org



PHOTO: Richard Old, XID Services, Inc., Bugwood.org

Identification:

Stems: Stems are 10-110 cm long, erect, sometimes rooting at the base, smooth, and have ascending branches.² There are one to several stems per root crown, and are woody at the base.¹

Leaves: Leaves are sessile (or near sessile),² 1.5-3 cm long, and 1.5-5 mm wide.¹ Leaves are elliptic or linear, with rounded bases, and margins entire.²

Flowers: Flowers are numerous (25-100 per stem), about 2 cm in diameter and occur in terminal, open, flat-topped clusters. Fruits are sticky, 5-10 mm long, 3-celled capsules containing many seeds. Seeds are about 1mm long. Estimates of seed production range from 15,00 to 34,00 seeds per plant.¹

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Habitat:

St John's-wort grows in well-drained, coarse textured soils. It can equally establish in silt/sandy loam soils, fertile or infertile. Soil fertility and depth may affect growth habit and longevity.¹

St John's-wort (*continued*)



Sprouting stems

PHOTO: Richard Old, XID Services, Inc., Bugwood.org



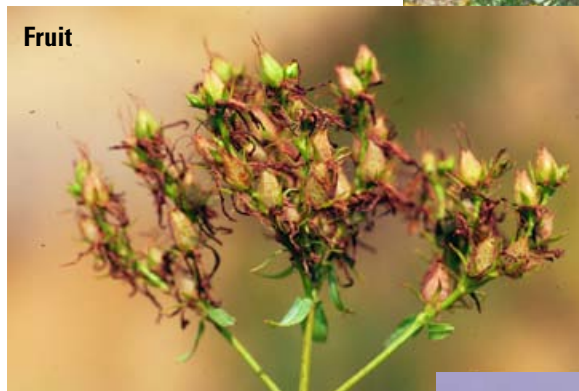
Infestation

PHOTO: Carol DiSalvo, USDI National Park Service, Bugwood.org



Dead stems

PHOTO: Norman E. Rees, USDA Agricultural Research Service - Retired, Bugwood.org



Fruit

PHOTO: Steve Dewey, Utah State University, Bugwood.org



Roots

PHOTO: Steve Dewey, Utah State University, Bugwood.org



Seeds

PHOTO: Steve Hurst, USDA NRCS PLANTS Database, Bugwood.org

Mechanical: Tillage followed by sowing of perennial grasses and legumes is one method of control. Removal of the stems by any means (grazing, fire, defoliation) stimulates re-sprouting.³ Hand pulling/digging can not effectively remove the extensive root system.

Chemical: Isoxaben is registered for use on St John's-wort. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pesticide Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: Two *Chrysolina* species were introduced to B.C. and released in 1952. This was one of the first biocontrol releases in Canada. The beetles established and dispersed freely, with little assistance. A moth, aphid, gall midge, and another beetle are in the development stage.⁴

Prevention:

St John's-wort seeds can remain viable in the soil for many years and can thus be transported in contaminated soil. Seed is also dispersed by wind, water, human activity and animals. Do not grow St John's-wort for any reason.

Control:

Grazing: Some management of St John's-wort by grazing has been used, but only in conjunction with other forms of control. This plant is toxic and can even cause death if consumed in sufficient quantities.³ *Invasive plants should never be considered as forage.*

REFERENCES

- 1 Zouhar, Kris. 2004. *Hypericum perforatum*. In: Fire Effects Information System, (Online). USDA, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. www.fs.fed.us/database/feis
- 2 *Hypericum perforatum* in Flora of Pakistan. www.efloras.org
- 3 *Hypericum perforatum*. National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG), last update 2007. www.issg.org
- 4 St. John's Wort. Invasive Plants with Biocontrol. B.C. Ministry of Forests, Lands and Natural Resource Operations. www.for.gov.bc.ca/hra/Plants/biocontrol/bcmatrix.htm