

St John's wort

Common and botanical names

St John's wort

Hypericum perforatum L. Family Clusiaceae

Origin and distribution

Native to Europe, Asia and North Africa, St. John's wort first became a problem in Victoria near Bright, late in the 19th century. It was widespread in North East Victoria by 1905. St. John's wort is found through much of Victoria with the most severe infestations in the North East. It invades grasslands, woodlands, open forest, pastures, forestry plantations, roadsides, railway lines and river banks.

Description

Perennial herb, usually about 80 cm high.

Stems – non-flowering stems to about 30 cm long grow from the crown in autumn and winter and form tangled thickets (Figure 5). Erect, woody, flowering stems to 1.2 m produced from crown in spring, often reddish, with long ridges bearing dark glands. Young stems weakly two-ridged.

Leaves – in opposite pairs, 5-30 mm long, 1.5-5 mm wide, oval to linear, hairless, upper margin usually curved over, underside paler; distantly black-dotted or black dots confined to near apex; bearing numerous translucent oil glands visible when held to the light (Figure 4).

Flowers – 2 cm diameter, in numerous terminal clusters (Figure 3). Five sepals, five petals; sepals 4-7 mm long, rarely with 1 or 2 black dots on margin; petals 2-3 times as long as sepals, golden yellow with black dots on the margins.

Fruit – a sticky, narrowly ovoid capsule, to 8 mm long.

Seeds – light to dark-brown or black, 1 mm long, cylindrical and pitted (covered with many indentations), germinate during autumn, winter and spring. A plant may produce up to 33,000 seeds per year.

Roots – stout, to 1 m deep in the soil, with woody, lateral rhizomes which grow horizontally, producing buds that form new aerial growth.

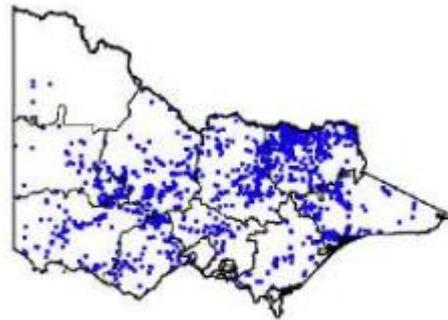


Figure 1. distribution of St. John's Wort in Victoria.



Figure 2. St John's wort.



Figure 3. Flowers

The problem

St John's wort is extremely invasive and competes strongly with native vegetation and pasture. Well-established infestations can largely eliminate all other plants and restrict recruitment to the overstorey. Seed can remain dormant in soil for at least 20 years.

When eaten by livestock, St John's wort causes photosensitisation of exposed skin (inflammation eg., of face, ears, lips), affects the nervous system of animals causing depression and hyperthermia (panting, salivation, respiratory distress) and alters heart, blood vessel and intestinal function. Chronic poisoning results in weight loss, reduced reproductive performance and death. Light-skinned and soft-skinned animals and those with white markings are the most affected. Those with thick, tough and pigmented skin are less affected. Early signs of clinical poisoning include agitation, pawing of the ground, rubbing of the head and face against fixed objects and mild diarrhoea.

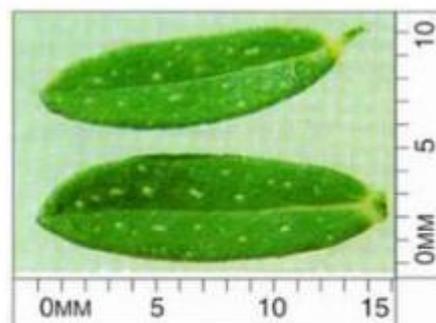


Figure 4. Leaves showing translucent oil glands.

Hypericin in the oil glands of St John's wort leaves and flowers is the cause of the toxicity, but the effects depend on activation by bright sunlight of the poison circulating in the bloodstream. Tolerance of any animal to the poison appears to be directly related to the amount of skin surface protection it has.

The minimum toxic dose of foliage for sheep is about 4% of live weight. Horses are more sensitive to hypericin than cattle and sheep, with goats the least sensitive. Recent studies indicate that Hereford cross cattle are two to three times more tolerant than Merino sheep. The amount of St John's wort consumed to produce a toxic reaction is less when the plant is in flower or when animals graze the more toxic, narrow-leaved biotypes.

Affected animals generally recover after 3 to 6 weeks once removed from access to the plant, but sheep with early signs of poisoning typically recover within 12 hours if they are moved indoors. Poisoning can reduce milk yield, and cause abortions in animals. The plant is more toxic when in flower and may contain more than 50 times more hypericin in early summer than in late winter. Narrow-leaved forms of the plant can be twice as toxic as broad-leaved biotypes. Plants become markedly more poisonous when the flowering shoots have grown 5-10 cm high. Hay containing St John's wort also causes poisoning.

The plant has a number of medicinal and pharmaceutical uses.

Similar species

There are two native *Hypericum* species. Care should be taken to not confuse them with St John's wort. The two natives have four-ridged stems, leaves that are generally less than 3.5 cm long and petals and anthers that lack black gland-dots.



Figure 5. Crown and upright flowering stems in autumn

There are also seven other introduced *Hypericum* species naturalised in Victoria including the noxious weeds tutsan (*H. androsaemum*), St Peter's wort (*H. tetrapterum*) and tangled hypericum (*H. triquetrifolium*). St John's wort is the only one with two-ridged stems, leaves less than 3.5 cm long that are curved under at the edges, conspicuous translucent oil glands, and black gland dots present on the petals and anthers but usually absent from the sepals.

Life cycle and reproduction

St John's wort reproduces from crowns and roots and by seed. It generally does not flower in the first year of growth.

Dispersal

Seeds adhere to stock and other animals, and are carried in the digestive tract of animals. Seedlings have been observed in cattle dung. Seed spreads only short distances by wind, but can be carried long distances by water, machinery and animals. Rhizomes grow horizontally producing buds which form new crowns. Cultivation may spread pieces of rhizome which produce new plants.

Management

Prescribed measures for the control of noxious weeds

- Application of a registered herbicide
- Physical removal

Important information about [prescribed measures for the control of noxious weeds](#).

Other management techniques

Changes in land use practices and spread prevention may also support Bathurst burr management after implementing the prescribed measures above.

Biological Control

Two species of beetle, first released in the 1930s, have established in Victoria: *Chrysolina hyperici* and *C. quadrigemina*. The adult beetles are bronzy black, dark-blue, or purple, about 6 mm long and oval in shape. The larvae are orange with dark heads and the eggs are orange. Both larvae and adults defoliate the weed. Larvae attack the winter growth and adults attack the spring growth. Within a few years at favourable sites the beetles reach densities which are high enough to cause completedefoliation. The beetles are effective in open, unshaded country in conjunction with improved pasture.

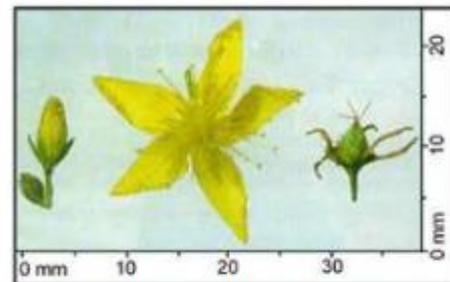


Figure 6. Flower bud, flower and young fruit

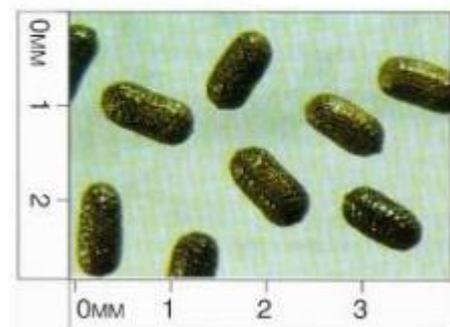


Figure 7. Seeds



Flowering period

The St John's wort gall midge *Zeuxidiplosis giardi*, first released in Australia in 1953, has red larvae which develop in circular galls on the leaves. It is generally ineffective but is most abundant in damp shaded situations

An aphid *Aphis chloris*, released in 1986-87, spread rapidly and is well established. It contributes to biological control of the weed however it only weakens plants for a short time. The St John's wort aphid has no preference between sunny and shaded areas and is most commonly found on flowering stems in summer.

The St John's wort mite *Aculus hyperici*, first released in 1991, has no preference between sunny or shaded areas. The mites stunt the growth of both rosettes and flowering stems, gradually weakening plants over a period of months and reducing vigour and seed production. The mite is invisible to the naked eye. It is present throughout the area infested by St John's wort in Victoria and has a significant impact.

The crown and root boring beetle *Agilus hyperici* was introduced many years ago but failed to persist in Victoria. Several native insects attack St John's wort and may occasionally cause significant damage.

Biological control is a long term program, best used on large, chronic infestations with a low priority for control due to inaccessibility, remoteness or low threat of spread.

Further advice

- Contact your local landcare or friends group for further assistance and advice.
- Call the DEPI Customer Service Centre on 136 186.
- Visit the Weeds Australia website at: <http://www.weeds.org.au>

References

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