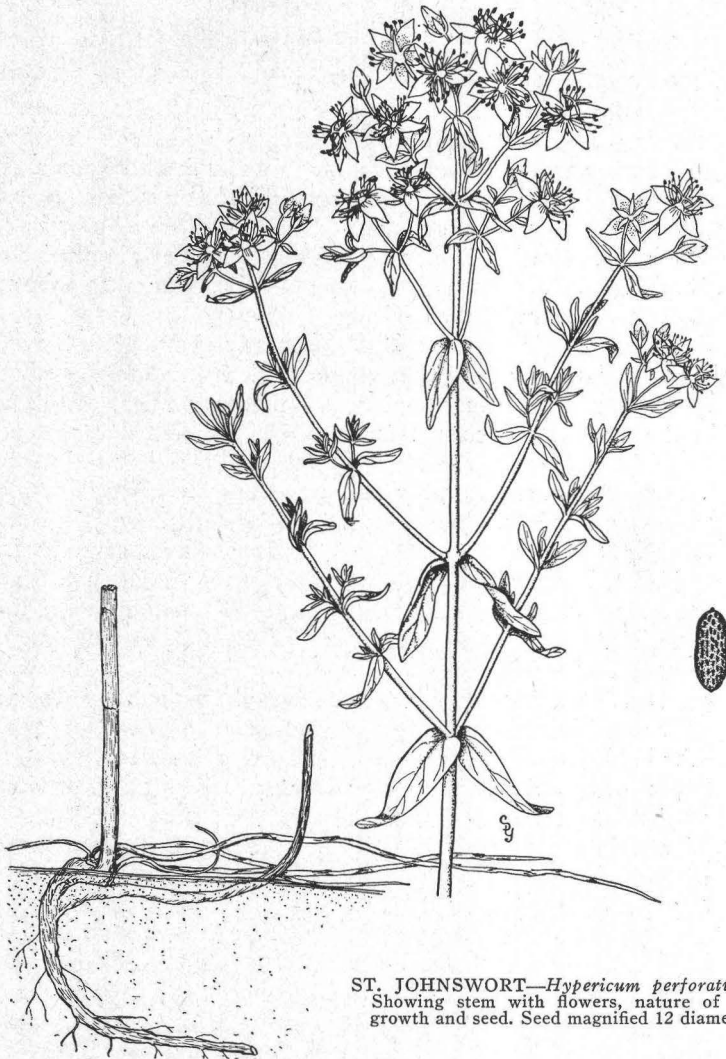


St. Johnswort

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ST. JOHNSWORT—*Hypericum perforatum*—
Showing stem with flowers, nature of root
growth and seed. Seed magnified 12 diameters.

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St. Johnswort

(*Hypericum perforatum*)

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Illustrations by Cathrine Davis Young

Other common names: Tipton weed, Goat weed, Klamath weed.

ST. JOHNSWORT is present on much of the range land of Western Oregon and is a problem in parts of Eastern Oregon. Because of it, some ranges that formerly produced enough feed for an animal unit on 5 acres will not now support an animal unit on 20 acres. The seeds ripen in the fall and the plant thrives in hot weather. Because of late maturity it is not a serious pest at high elevations or in cool climates in Oregon. It likes acid soils better than alkaline. It is drought resistant and tends to crowd out other plants on thin soils and on those that are low in moisture-holding capacity.

St. Johnswort is an erect weed, generally about $1\frac{1}{2}$ to 2 feet in height. It spreads by seed and runners. It has a tap-root that is generally about 3 feet long, and the numerous runners are usually within the top three inches of soil. These runners may extend 3 feet from the parent plant, and they send up new shoots at intervals.

The plant branches freely and produces from its base many leafy, flowerless shoots. The lower part of the stem is reddish, woody, and brittle. Stems have two opposite narrow ridges running from joint to joint, which give the stems of the young plants a flat, two-edged appearance. These ridges alternate in position with those above the joints. Numerous narrow leaves about $\frac{1}{2}$ to 1 inch long and $\frac{1}{8}$ inch wide, and light green in color, are produced on opposite sides along the reddish stem. They are pointed at the tips, narrowed slightly at the base, and joined directly to the main stem. When a leaf is held up to the light, spots are apparent along the leaf's surface giving the appearance of numerous pin pricks. These are glands that produce a bitter substance called Hypericin, which is poisonous to livestock. Small black dots may be noted along the margins of the leaves, stems, and edges of the leaf petals.

Loose clusters of showy yellow flowers are produced at the tips of the stems. The flowers have a musky fragrance, are about $\frac{3}{4}$ inch across, have 5 petals, and have conspicuous black dots near their edges. Stamens are produced in three clusters. Seed capsules have 3 chambers and on maturity sometimes split open, leaving 3 sharp-pointed sections. The capsules are dark brown to nearly black. The stems remain erect even through the winter. In some cases the stamens and even the petals of the flowers do not fall after maturity, as is the case with most flowers, but wither and remain attached to

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the flower for several months after maturity, giving a ragged appearance to the mature plants. Seeds are about 1/25 inch long, cylindrical in shape, and slightly pointed at both ends. Their length is about equal to the diameter of seed of white clover. They are dark brown to black, rough, and appear pitted when examined with a hand lens.

Damage

Animals poisoned by the plant lose weight rapidly. Sheep produce light, poor-quality fleeces. Probably the greatest loss is in the carrying capacity of ranges. As the plant is bitter and unattractive to animals, when it invades a range the stock concentrate on the good grasses. This tends to kill out the better plants and lessens competition for the weed. The young plants establish themselves rather slowly, and so St. Johnswort is of little importance in cultivated fields.

Symptoms of poisoning

Many animals eat the weed without injury. Occasionally a sheep or white cow will show symptoms. Sores appear in the mouth, eyes, and around the face. In extreme cases blindness may follow, and a few cases are on record of death from poisoning. Affected animals rapidly go down in condition, because it is difficult for them to graze properly. The weed affects only white animals or uncolored areas. The most noticeable symptoms of poisoning is a blistering or scaly condition around the eyes, muzzle, ears, feet, and other parts of the skin. Other symptoms that may be noted are high temperature, rapid pulse, abnormal respiration, and tendency toward diarrhea. Cattle may be poisoned by consuming fresh St. Johnswort in amounts equivalent to 1 per cent of their weight; 5 per cent may kill them.* Sheep have shown symptoms from eating 4 per cent of their weight in one day.

Preventive measures

There is no cure known for St. Johnswort poisoning. Animals, especially sheep, that have been poisoned severely should be sold because no wool will grow on the scar tissues resulting from poisoning. Livestock should immediately be moved to clean pastures as soon as signs of poisoning appear. If possible, poisoned animals should be moved to sheds, barns, or other shade.

Oregon Seed Law

St. Johnswort is classed as a noxious weed by the Oregon Seed Law, and if its seed is present in legume or grass or other small seed the amount per pound must be stated on the tag. Screenings from small seeds may not be sold legally if they contain seeds of this weed.

* *Toxic Effect of St. Johnswort on Cattle and Sheep*, Technical Bulletin 202, United States Department of Agriculture.

Control

St. Johnswort can be controlled by cultivation, but the best control on range land is to learn to recognize the weed and keep it out. For very small areas 2 pounds of sodium chlorate to the square rod applied directly to the soil in the spring will give a satisfactory kill. The University of California* reports that a mixture of borax and sodium chlorate is the most satisfactory chemical treatment considering cost of application. This compound should be mixed at the rate of $\frac{1}{2}$ pound of sodium chlorate to 4 to 6 pounds of colemanite or Kramer. That mixture is enough to treat one square rod. It should be applied dry directly to the soil at a period of year when between 4 and 10 inches of rain can be expected before summer. Treatment at this rate would cost about \$14.40 an acre.

If possible, infested areas should be seeded to good, sod-forming cultivated grasses such as bent grass or Kentucky bluegrass. St. Johnswort does not thrive or spread in good stands of grass. Goats have been used in some sections with good results in keeping the weeds trimmed down. Overgrazing is probably one of the principal factors that allow St. Johnswort to come on to the ranges. Even though the pest is once killed, it will soon come in again if overgrazing is continued.

Burning infested range land is worthless as a control measure. It may kill brush, some kinds of grass, and a few other weeds but will not kill St. Johnswort.

Roadsides and stock driveways should be kept mowed. The seeds are sticky and may be carried about by animals. Seed formation is so late that one correctly timed mowing in the summer will usually keep seeds from forming that year.

Control on most of the noncultivated land is too expensive to undertake. The best system is to keep the weed out in the first place, but if it has already covered a range, pasturing with goats may offer a solution in some cases.

This is one of a series of 39 bulletins discussing 58 perennial weeds in Oregon and their control. A list of bulletins in this series will be found on the last page of Extension Bulletin 510. The individual bulletins are punched so that several may be bound together if desired.

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* *The Chemical Control of St. Johnswort*, Bulletin 615, University of California Experiment Station.

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