

SAFFRON THISTLE



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SAFFRON THISTLE

Saffron thistle (*Carthamus lanatus*) is an important weed in most states of Australia and New Zealand. It was introduced to Western Australia from the Mediterranean region last century and is now widespread in parts of the wheatbelt, goldfields and other pastoral areas.

SIGNIFICANCE

Saffron thistle is a declared plant (noxious weed) throughout Western Australia. It competes with crops and useful pasture plants for light, nutrients and moisture. Its stiff, spiny leaves discourage grazing and may injure the mouths and eyes of livestock. Hay and chaff containing saffron thistle may have a similar effect. Dried saffron thistle parts may cause contamination and down-grading of wool. Wheat contaminated with saffron thistle seed is liable to a dockage imposed by the Australian Wheat Board.

DESCRIPTION

Saffron thistle usually germinates in winter, forming a flat rosette up to 15 cm in diameter. The leaves are dark green with a broad final lobe and narrower

irregular lobes along the sides. Each lobe ends in a short spine.

In late spring an erect stem develops which grows up to 1.5m high. When this happens the rosette leaves die off. The stem has whitish-green ribs, it is usually branched about half way up. Mature plants are stiff and spiny.

There are at least two forms of saffron thistle in Western Australia. The differences between them are obvious at the rosette stage: One form has a narrow leaf and the other a broad leaf. The narrow leaf form appears to germinate more readily than the broad. There are also distinct differences in the shape of the seed and rate of stem growth.

In early summer, single yellow compound flowers form at the end of each stem or branch. Lance-like spines surround each flower. The seeds are large, about 6mm long, grey-brown with prominent ribs and a smooth seed coat.

ECOLOGY

Saffron thistle is an annual plant reproducing only from seed. Most seeds have a

pappus (parachute) consisting of stiff bristles but they are too heavy to be carried far by wind. The bristles may aid spread by becoming attached to wool, hair or sacks but saffron thistle seeds are most commonly spread as a contaminant in seed, grain or with hay or chaff.

The seed may remain dormant in soil for up to eight years but most seeds germinate within two or three years. The onset of germination is markedly influenced by summer temperatures and length of time the seed is exposed to them. Generally saffron thistle seed from the northern agricultural areas (Geraldton) has lower dormancy than seed from southern infestations (Salmon Gums). Germinations tend to be confined to a few weeks after the opening rains in the northern areas, but can be staggered through to September in southern areas such as Ravensthorpe. Seeds buried more than 5cm deep seldom germinate unless brought to the surface by cultivation. They are usually eaten by termites.

A programme stretching over several years is required to control saffron thistle because of seed dormancy. This usually involves spraying it in pastures for little or no economic return that year. Recent research has concentrated on spray-grazing by goats which eat the flowering heads. A new technique is the use of herbicides applied after clover seed burial but before saffron thistle has set seed. This prevents saffron thistle seed set while causing minimal damage to clover, however it still takes several years to reduce the seed bank.

Where new or isolated patches of saffron thistle are found it must be controlled to prevent it spreading to new areas.

For advice on saffron thistle recognition and control, contact the Agriculture Protection Board, Baron-Hay Court, South Perth. Telephone (09) 368 3333 or any country office of the APB or Department of Agriculture.