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Doveweed (Eremocarpus setigerus Benth.)

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DOVEWEED

(Eremocarpus setigerus Benth.)

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DOVEWEED is an annual summer-growing plant belonging to the spurge family, Euphorbiaceae, which contains a number of toxic species. Other members of the family occurring in Western Australia include Geraldton carnation weed and the castor oil plant.

Doveweed is native to California, being widely distributed on the plains of the Sacramento and San Joaquin Valleys and in the dry valleys of the Coast Range. The Indians used the bruised herbage as a fish poison, throwing the broken stems and leaves into streams to stupify the fish, which could then be taken by hand. The aborigines in this State have used pituri (Duboisia hopwoodii), a native plant, in a similar manner.

Doveweed is not widely established in Australia, so far, being of most consequence in Western Australia. In Victoria it was recorded from Picola in 1934 and Talangatta in 1969, but has not shown any strong weed tendencies. It appeared at Trangie in New South Wales in about 1929 and more recently was recorded from Corowa but has spread very slowly. Before 1960, doveweed had only been recorded as scattered plants from Glenelg.
in the Adelaide suburbs but several infestations have since been reported from near Balaklava, one covering 100 acres. These outbreaks have been controlled by cultivation and have not become a problem. On the other hand, the plant is being watched carefully by weed authorities in South Australia.

The first record in Western Australia was from Koojan in 1925. Specimens were received from Moora (1933) Beverley (1948) and Gnowangerup (1967). The main known infestations occur in the Beverley-Goomalling-Meckering area. At Beverley doveweed has spread from an estimated 200 to 300 acres in 1964 to more than 2,000 acres in 1968.

**Description**

The name doveweed presumably is derived from the colour and texture of the plant. In California it is also known as turkey mullein and woolly white drought weed. *Eremocarpus* from the Greek "desert fruit" also alludes to the dry habitat of the plant.

Doveweed is a low, spreading annual with branching stems, usually forming a mat one to two feet or more across, but sometimes with ascending stems about a foot high.

The leaves are thick, three veined from the base, oval-pointed to nearly round in outline, seldom exceeding two inches with stalks about the same length. The lower

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**Diagram:**


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leaves are alternate with the upper opposite. Both the stems and the leaves are light grey in colour and rough, due to a dense covering of forked, bristly hairs.

The small, inconspicuous flowers are of two kinds: the male, composed of five or six sepals enclosing six or seven stamens and the female, without calyx or carolla, formed of a single, densely hairy ovary and style. The male flowers are grouped in flat-topped clusters at the ends of the branches while the female flowers in the angles of the lower leaves give rise to dry capsules, each containing a single smooth, shining, mottled seed about a tenth of an inch long.

The plant is aromatic, with a characteristic odour, most evident on hot days.

Significance
Doveweed normally germinates in the spring or early summer and matures within a few months. Its incidence is influenced to a large extent by soil moisture and rainfall during the summer period.

It is unpalatable to stock and sheep tend to avoid dry feed on areas where doveweed is prevalent.

Although it does not interfere directly with the growth of cereals, the plant does not burn readily and can make land preparation more difficult. The dry stems clog implements during ploughing and harrowing.

In California, besides being troublesome on arable and grazing land, doveweed has become a problem on areas of newly planted citrus.

The spurge family contains a number of toxic species and the stems and leaves of doveweed contain a narcotic poison. It has been suspected of causing stock losses in California, the formation of fibre balls possibly contributing. The risk of losses is reduced by the hairy nature of the plant and the strong scent making it unattractive to stock. Grazing therefore, is of little value as a control measure.

Control
When only scattered plants are present they can be destroyed by hoeing, care being taken to prevent seed formation. As the flowers are inconspicuous, seeds can readily form without being noticed. Cultivation is also effective, particularly when the plants are small. Summer cultivation, however, is frequently undesirable as it destroys dry feed and increases the risk of soil erosion.

Doveweed is relatively resistant to herbicides. The most effective treatment in spraying trials is \( 2\frac{1}{2} \) lb. acid equivalent of 2,4-D ester per acre.

High volume spot spraying has given best results with low volume boom application generally satisfactory, particularly when the weed is small. Misting has proved more variable, favourable conditions being necessary for a high degree of control.

Where the use of hormone-like herbicide is hazardous because of the proximity of susceptible crops, spraying with fuel oil at the rate of 100 gallons per acre is recommended. The cost imposes limitations on this treatment.