

27

Agriculture Protection Board
Advisory Leaflet No. 97
February 1983
Agdex No. 647
112277/10/82—10M—L/958

DOUBLEGEE



1



2



3



4

1. Mature Plant 2. Rosette 3. Seedling 4. Seeds

DOUBLEGEE

THE DOUBLEGEE (*Emex australis*) also known in the eastern states as spiny emex and three cornered jack is one of the most troublesome weeds of crops and pastures in Western Australia. It was first introduced as a garden vegetable by early settlers in 1830 who called it Cape Spinach. It has spread throughout the temperate areas of southern Australia and is also lightly distributed in favourable environments throughout much of the semi-arid pastoral area of Western Australia, but has not been recognised in the Kimberlies.

Doublegee is native to southern Africa where it is a weed of relatively minor importance known as devil's thorn or duiweltjie.

In Western Australia it is established throughout the agricultural areas. Heaviest infestations occur in the northern wheatbelt while infestations along the South Coast and in the South West are generally light and scattered. It is a declared plant (noxious weed) in some parts of the State.

Significance:

Doublegee contains oxalic acid which is toxic, but the weed does not appear to be eaten by stock in large enough amounts to cause poisoning.

It is a deep rooted, drought tolerant plant which competes strongly with crops and useful pasture plants for light, water and nutrients. Dense infestations produce large

numbers of sharply spined seed capsules, which cause lameness in sheep, working dogs and other stock.

Recognition:

Doublegee seedlings have a pair of light green parallel sided seed leaves (cotyledons) which function as leaves until the true leaves are formed. The leaves are oval with long leaf stalks (petioles). Both leaves and stem are hairless. The plant is usually prostrate but may grow erect in tall crops. Inconspicuous male and female flowers are formed separately. The male flowers are green with spreading floral envelopes (perianths) divided into segments, each surrounding four to six stamens. Small groups of flowers are formed on short flower stalks. The female flowers are positioned directly on the stem in the angle formed with leaf stalks. They consist of a triangular tube with six lobes. The outer lobes harden to form a spiny seed capsule at maturity.

Ecology:

Doublegee is an annual plant which spreads solely by means of the spiny seeds. These usually germinate in autumn but if buried may remain dormant in the soil for several years. The young plant starts to form seeds shortly after the first true leaf stage and continues as long as the plant survives.

The three spines on the seed are arranged at equal distances from each other in a pyramid shape so that one spine always points upwards which-

ever way the seed falls. They are ideally suited to being spread on hooves, shoes and rubber tyres of vehicles and aircraft and may also be spread in hay, chaff and poorly graded seeds.

Emex spinosa

A closely related plant, *Emex spinosa* is found in parts of the northern agricultural areas of Western Australia and South Australia. It differs from doublegee mainly in having an erect climbing growth habit and a broader base to the seed. *E. spinosa* is a weed of only local importance which so far has shown no sign of spreading to new areas. It is not a declared plant in Western Australia.

Control:

Although doublegee is widespread it is important to prevent it spreading to newly cleared areas and to eradicate isolated infestations using herbicides wherever possible. Herbicides can also be used successfully to reduce the problem in heavily infested areas but because eradication is not feasible statewide attempts are being made to find a biological control agent to reduce the overall density of infestations.

For information on doublegee recognition and control contact the Agriculture Protection Board, Jarrah Road, South Perth W.A. 6151, telephone (09) 367 0111 or any country office of the APB or Department of Agriculture.