



# Factsheet

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## Branched Broomrape *Orobanche ramosa*

### *An exotic threat to Western Australia*

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#### Background

The broomrapes (or *Orobanche* species) are parasitic plants that attack the roots of a number of important broadleaf crops including pulses and oilseeds, as well as pasture legumes and a wide range of vegetables. Broomrapes have no chlorophyll and can only survive by attaching to a host plant. A broomrape plant 'sucks' all its water and nutrients from its host – in Israel broomrapes are known as plant leeches. Branched broomrape (*O. ramosa*) is in South Australia. One broomrape plant can produce up to 500,000 seeds. All broomrape seeds are minute, like dust, and can be spread by contaminated soil, produce, machinery, livestock or clothing. The seeds can remain dormant in the soil for 10 years or more.

#### Distribution

Branched broomrape was found in the Murray Bridge area of SA in 1992 and is the subject of an intensive surveillance and eradication campaign, however infestations are now spread over an area about 45km by 65km. Branched broomrape could be confused with common broomrape (*O. minor*) which already occurs in Western Australia but does not cause any economic damage.

#### Potential impact

Attack by branched broomrape can cause significant yield loss or even death of the host plant. Parasitised potato plants, for example, may produce the same number of



PHOTO: SANDY LLOYD, AGWEST

BRANCHED BROOMRAPE FOUND IN SOUTH AUSTRALIA



DISTRIBUTION



tubers as healthy plants, but these may be only a few centimetres in diameter. Tomato fruits from parasitised crops may be full sized, but greatly reduced in number. Even if crop yield is not greatly affected, the produce may not be saleable. Celery and cabbage plants, for example, may have large yellow blotches.

For severe infestations, the only viable option may be to switch to growing non-host crops such as orchard crops or vines. An Israeli processing plant had to close when the local tomato industry was devastated by broomrape. Infestations of branched broomrape make it impossible to cultivate faba beans in parts of Malta. In other countries, infested horticultural land has been subdivided for housing because crops cannot be grown.

### Plants affected

Horticultural crop hosts of branched broomrape include: beans, broccoli, cabbages, capsicums, carrots, cauliflowers, celery, cucumbers, eggplant, melons, onions, peas, potatoes, sunflowers and tomatoes. Branched broomrape will also parasitise several weeds including capeweed, clover and wild turnip. It is also the only broomrape to attack cannabis and fibre hemp. Broadarea crops affected are canola, chickpeas, faba beans, field peas, lentils and possibly lupins.

### Season of occurrence

Broomrape germination can be stimulated by any broadleaf plant roots, but broomrape seedlings will only survive if they attach to a suitable host.

After attachment, branched broomrape grows for about six weeks below ground before the flowering stem emerges. Branched broomrape can start to emerge in August, but most emergence occurs in spring. Emergence and flowering can continue into summer in irrigated crops. Flowers are an intense blue, fading with age.

### Symptoms

Emergence of the flowering stem is the most common sign. Prior to emergence, broomrape attack may be indicated by reduced crop vigour, yellowing, reduced flowering or crop death. Digging up affected crop plants to expose attached broomrape plants will provide a sure diagnosis. Once they have flowered, broomrape plants will continue to produce seed even if they become detached from the host.



BRANCHED BROOMRAPE COULD BE CONFUSED WITH COMMON BROOMRAPE (*O. MINOR*)



A HOST PLANT HAS BEEN PULLED OUT TO REVEAL ATTACK BY MANY BROOMRAPES.

