Broomrape; branched broomrape (*Orobanche ramosa*; *Orobanche spp.* except *O.minor*)

Declaration

(Code: C= City; S=Shire; T=Town)

Category : P1, P2
Location : for the whole of the State.

Standard Control Codes (these may vary for individual plants)	
P1 REQUIREMENTS Prohibits movement	The movement of plants or their seeds is prohibited within the State. This prohibits the movement of contaminated machinery and produce including livestock and fodder.
P2 REQUIREMENTS Aim is to eradicate infestation	Treat all plants to destroy and prevent propagation each year until no plants remain. The infested area must be managed in such a way that prevents the spread of seed or plant parts on or in livestock, fodder, grain, vehicles and/or machinery.

Control Method

- Difficult to control, but various options are being researched in an Australian context.
- Soil fumigation to kill seeds (methyl bromide or metham sodium).
- Green-manuring susceptible host crops after germination/attachment of branched broomrape.
- Selective control through very low rates of glyphosate applied to hosts, which concentrates in attached broomrapes.
- Selective control through growth of host crops with tolerance to Group B herbicides. Host denial through maintaining broadleaf weed free cereals, grass pastures.
- APVMA Minor use permit - 7502 issued for South Australia to apply the product NIPRO QUAT to destroy the spores of broom rape on footwear, Agriculture machinery and vehicles.

Weed Description

Family : Orobanchaceae
Form : Parasite – Annual
Status : Not present in WA

A herbaceous *annual* root parasite without chlorophyll.

It produces large numbers of tiny seeds that are distributed widely as contaminants in seed or in soil on dirty machinery, clothing and footwear of workers. They are also well dispersed by wind and water and in mud stuck in animal's fur and feet. Seed also survive passage through the intestinal tract of sheep, cattle and goats and can remain viable in the soil for many years.

The weed's presence could result in partial or total crop losses and the possible loss of potential to produce some crops in heavily affected areas. Broomrape can also cause loss of export markets interstate and overseas, and increases in management and control costs. Host plants include onion, celery, canola, spinach, cabbage, cauliflower, hemp, chickpeas, rockmelon, sunflower, lentils, flax, linseed, tomato, burr medic, beans, capsicums, eggplant, tomato and clovers.

Stem : A main stem emerges after a considerable period of growth underground. Stem is erect, small, thin, richly branched (in branched broomrape), brown or yellow straw coloured, glandular pubescent, 10 to 30 cm high; branched stems terminate in *flowering spikes.*

Leaves : Reduced to purplish scales.

Flowers : *calyx* 4-lobed, not divided, with triangular teeth, acuminate, shorter than *corolla* tube, 3 bracteoles present at base of calyx, corolla about 15 mm long, tubular, curved, may be constricted above ovary, 2-lipped, upper erect and 2-lobed, lower spreading and 3-lobed, usually violet or may be yellow tinged with violet, subtended by one ovate *bract* and 2 linear *bracteoles*; stamens 4, 2 long and 2 short, inserted on corolla tube; *pistil* superior ovary, 2-celled, *style* long, *stigma* large.

Fruit : *capsule*, one celled with 4 chambers, many seeded; *seed* minute about 0.3 mm long, egg shaped, dull yellowish brown, nettled, veined.

Other relevant information related to this topic:

- Quarantine WA
- Permitted and quarantine species list
- Branched broomrape (Factsheet 49/00)
- Permit for minor off-label-use of a registered agvet chemical product (Permit number – per9655)
- Off-label permit (olp) for use of a registered agvet chemical product (Permit number – per13236)