ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS
AND THEIR CONTROL IN SOUTH AFRICA
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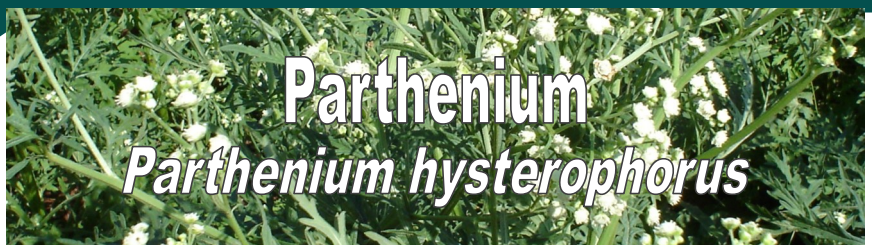

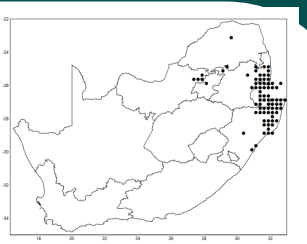

PARTHENIUM (*Parthenium hysterophorus* L.; parthenium, famine weed, Demoina weed, or Umbulalazwe) is an annual herbaceous plant (i) that can reach up to 2 m in height, but usually averages about 1.5 m or less. It has a longitudinally grooved stem, and the stems and leaves are covered in short hairs. The leaves (ii) are pinnately lobed and up to 200 mm long. Small (about 5 mm diameter), white flowers are borne in compact heads (iii), each developing five small (about 2 mm), black seeds. (Also see identification kits at http://www.invasives.org.za/resources/famine-weed.html.) Parthenium was listed as a category 1 declared weed in South Africa under the CARA regulations (Act 43 of 1983) and is now a category 1b species according to the NEMBA regulations, and must be controlled.


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THE PROBLEM

Parthenium is native to Central and South America, and has become a severe invader in Australia, Asia and southern and East Africa. It was first recorded in South Africa in 1880 but only became more widespread during the 1980s onwards. In the sub-tropical regions of the country, as well as several neighbouring countries, it rapidly invades disturbed areas, agricultural land used for crop and animal production, fallow land, roadsides and watercourses, causing severe economic losses and threatening biodiversity. Land that is subjected to frequent disturbance e.g. high grazing pressure, is especially at risk of parthenium invasion. The plant produces allelochemicals which inhibit the growth of other vegetation. Parthenium survives the dry season as seeds in the soil or as rosette stage seedlings (iv). If there is sufficient moisture, germination can occur throughout the year, with growth particularly stimulated by soil disturbance. Plants can flower within four to six weeks after germination, and produce copious quantities of seed - up to 25 000 seeds per plant. The plant is a known irritant - continuous exposure causes respiratory problems such as hayfever and asthma in many individuals, as well as allergic contact dermatitis. Parthenium also taints the flesh and milk of livestock that consume it.

THE SOLUTION

Effective herbicides are registered for use against parthenium but chemical control requires repeated, regular follow-up treatments. Reducing livestock densities to increase grass cover assists to alleviate parthenium infestations. Biological control, using natural enemies from the plant in its native range, is the most sustainable management intervention. In South Africa, the winter rust fungus *Puccinia abrupta* var. *partheniicola*, is present, while the summer rust fungus, *Puccinia xanthii*, and three insect agents, namely the leaf-feeding beetle *Zygogramma bicolorata*, the stem-boring weevil *Listronotus setosipennis* and the seed-feeding weevil *Smicronyx lutulentus*, have been introduced, after intensive tests in quarantine proved them to be sufficiently host specific for release. Additional potential agents are under investigation. Separate fact sheets are available on the agents.

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