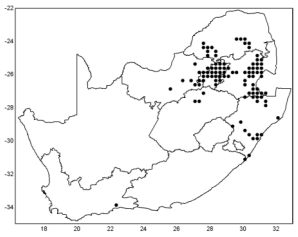

POMPOM WEED, a perennial herb from the tropical Americas, is a member of the Asteraceae (daisy) family. The plants are tall, reaching a height of up to 1.5m. Both stems and leaves are covered with coarse hairs and, although leaves develop along the stem, most form a rosette at the base of the plant. Attractive heads of pink to purplish, pompom-like flowers (i) are borne in summer. In autumn, the plant dies back, but regrows from perennial, tuber-like roots in spring. Pompom was first recorded as an escape from gardens in the early 1960s when it began invading disturbed areas like roadsides and unused fields. Pompom is a category 1 declared weed in South Africa and must be controlled, or eradicated where possible.

THE PROBLEM

The distribution of pompom has almost doubled in the past five years, making it one of the most serious threats to our grasslands, open savannas, and wetlands. Unless controlled, it threatens to invade our entire grassland biome. The major reason for the massive spread, is its copious seed production. Each flower comprises hundreds of florets, and each floret matures to produce a single fruit with a tuft of hair (ii). The hair promotes wind dispersal, but seeds are also spread by people who pick the flowers. Pompom decreases the carrying capacity of the land because animals find it unpalatable. The resilient, perennial rootstock (iii) is resistant to mechanical control, and is tolerant of frost and fire.

THE SOLUTION

Owing to the robust root system, mechanical control is ineffective. And the disturbance may even stimulate further vegetative growth, leading to denser stands. Although several herbicides have been registered for use on pompom, especially for roadside application, they may also affect non-target species, and are not recommended for use in ecologically sensitive areas like wetlands. The herbicides are metsulfuron methyl (600 g kg^{-1}) (Brushoff, made by DuPont), and picloram (240 g l^{-1}) (Access 240, made by Dow AgroSciences), at concentrations of 0.25 g and 3.5 ml l^{-1} water respectively. Both herbicides must be applied with a mineral oil adjuvant. Ideally, these should be applied to actively growing plants in early summer, just as they begin to flower.

The only sustainable, and cost effective method of control is likely to be biological control. In 2006, a leaf rust, *Puccinia eupatorii*, was discovered on field populations of pompom in Pretoria. Signs are yellowing of the leaves at the base of the stem, and brown spots on the underside of the leaves (iv). In 2008, ARC-PPRI began measuring the impact of this fungus, but it is still too early to assess its impact. In the meantime, a number of promising insect biocontrol agents have been imported into the country, and are being tested in quarantine. Preliminary results look promising for the successful biological control of pompom in the future.

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