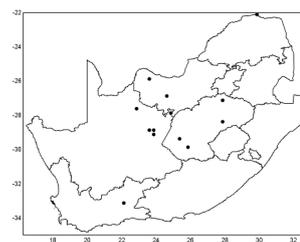


ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS AND THEIR CONTROL IN SOUTH AFRICA

www.arc.agric.za



CHAIN-FRUIT CHOLLA, also called jumping cholla is a multi-branched, tree-like cactus native to Mexico and parts of the USA. It reaches a height of 1.5 m, and comprises a central stem which branches to form cylindrical cladodes (segments) densely covered with long, yellowish spines. The spines are barbed, up to 4 cm long (i), and encased in detachable, papery sheaths. Magenta flowers with re-curved petals (ii) are borne in mid-summer. The flowers are followed by oval, yellow fruit about the size of a guava, which remain attached to the plant (iii). In the following summer, new flowers arise from the areoles of the fruit creating a chain of fruit, hence the name—chain-fruit cholla. Terminal cladodes detach easily when touched or brushed against, creating the impression that they have jumped, hence the alternative name, jumping cholla. This cactus is a category 1 declared weed in South Africa and must be controlled, or eradicated where possible.



THE PROBLEM

Chain-fruit cholla was imported into South Africa as an ornamental in the 1940s, and used as a rockery plant. Owing to the ease with which it reproduces, it soon spread into conservation areas and agricultural land in the hot, arid parts of the country (see map) where it affects grazing and causes stock losses. The plant reproduces vegetatively and all parts of it, including the sterile fruit, root where they touch the soil. The terminal cladodes are easily dislodged and, by adhering to animals, humans or farm implements, may be dragged into other areas where they root and begin a new infestation. In addition, the plant causes injury or death to animals because the barbed spines easily become embedded into their skin and, in some instances, may even impale them (iv).

THE SOLUTION

Owing to the fact that the plant reproduces vegetatively, mechanical control is largely ineffective. Chemical control has been used since the late 1970s, but is expensive, and has only really been successful in areas being treated by Working for Water teams. Biological control has a proven track record of controlling cactus weeds in South Africa, and is the only sustainable long-term solution.

To this end, a sap-sucking cochineal insect, *Dactylopius tomentosus*, was imported into quarantine and, after rigorous testing, has been released on all chain-fruit cholla infestations. So far, the results are extremely promising and, in some areas, the agents have achieved more in a few months than was expected in a year. Unfortunately, in areas with cold winters or heavy rainfall, the insects' development slows down. Here, it may be necessary to supplement biocontrol with mechanical control. Large, woody cactus plants that are well infested with cochineal should be slashed—the cochineal will continue to breed on the slashed plant which will prevent it from re-rooting, and also kill any regrowth.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



Compiled by: Lin Besaans (2011) © ARC
Plant Protection Research Institute
infoweeds@arc.agric.za