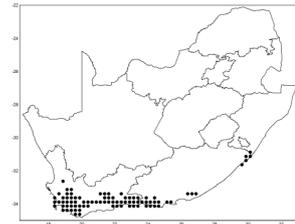


ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS
AND THEIR CONTROL IN SOUTH AFRICA

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SILKY HAKEA is a small tree up to 5 m high (i), which was introduced from eastern Australia in the 1800s as a hedge plant, and has spread rapidly throughout the coastal mountains of the Western and Eastern Cape provinces. It prefers well drained, nutrient poor soil and is, therefore, most commonly associated with soils derived from Table Mountain Sandstone. The leaves are needle-like, sharp pointed, smooth, and up to 40 mm long (ii). Cream-coloured flowers are produced in late winter (iii). It has characteristic hard woody fruit (iv), each with two black winged seeds. The fruit is 25–30 mm long by 20–25 mm wide, with 2 'horns' at its apex. These fruit remain on the trees, and only open and release the seeds when the plant dies, usually by fire. This is an adaptation shared by many of our indigenous protea species, which are also in the same family to which silky hakea belongs. As a result there is a mass germination of seed following fires, leading to dense infestations. Silky hakea is a category 1 declared weed in South Africa, is prohibited by law and must be controlled or eradicated.



THE PROBLEM

Fast growing and capable of producing large numbers of seed, silky hakea rapidly builds up populations, forming large dense stands following several fire cycles. The winged seeds can be transported by wind for relatively long distances, so that new invasions develop in neighbouring valleys. Since many infestations occur in remote or inaccessible areas, invasions can become extensive before they are noticed.

THE SOLUTION

Although extensive mechanical control programmes in the past successfully reduced the total amount of land invaded, access to many invaded areas is difficult or impossible in the mountains, making the cost of clearing prohibitive. A number of insect species have been introduced as biological control agents, and a fungus that naturally causes a gummosis disease of plants has been developed for deliberate use. Insects introduced to reduce seed production and, therefore, reduce re-establishment following fires, include the hakea seed weevil *Erytenna consputa* (released 1970), the hakea seed moth *Carposina autologa* (1970), and the hakea bud weevil *Dicomada rufa* (2006). Insects introduced to impact on the health of trees, and therefore their growth and survival, include the hakea stem-boring beetle *Aphanasium australis* (2001), and the hakea leaf weevil *Cydmaea binotata* (1979). Of these, the seed weevil, seed moth and stem-boring beetle are the most damaging. Various methods have been developed to use the gummosis fungus *Colletotrichum acutatum* to kill both seedlings and trees, and is produced on request by staff of ARC-PPRI in Stellenbosch.



environmental affairs

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REPUBLIC OF SOUTH AFRICA



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