

IPM IN PRACTICE: BUGWEED



DAMAGE CAUSING SPECIES

- *Solanum mauritianum*
- Bugweed
- Shrub/small tree
- Origin - South America

BIOCONTROL AGENT

- *Gargaphia decoris*
- Sap-sucking lace bug
- Origin - Argentina
- *Anthonomus santacruzi*
- Flowerbud feeding weevil
- Origin - Argentina

DAMAGE CAUSED

- *S.mauritianum* is a threat to both commercial activities and the natural habitats found on forestry-owned/managed land.
- Of particular concern is riparian zones where *S.mauritianum* competes with, and replaces, indigenous riverine and forest margin species.
- Within the plantation, *S.mauritianum* competes with young trees, inhibiting their growth and causing stem deformation. This is a particular issue with pine and black wattle.



MODE OF ACTION:

- *G.decoris* is a sap sucking bug, that has a high feeding rate in both adult and immature stages. The notably long-lived adults, high rates of oviposition and relatively quick life cycle suggests it has considerable potential as a biocontrol agent.
- *A.santacruzi* is a flowerbud feeding weevil that occurs throughout the plant's native range and appears to be largely responsible for the plants low levels of fruit set in its natural range. Considered the most promising biocontrol agent.

ALTERNATIVE CONTROL MECHANISMS

Manual control - Physically removing *S.mauritianum* by hand is an alternative solution, although this is highly labour intensive.

Chemical control - Numerous products are registered for controlling *S.mauritianum* although the associated labour costs can be substantial. There is also the environmental footprint of using herbicides that needs to be considered, especially in unplanted natural/conservation areas.

Chemical and mechanical control alone have been insufficient in the past to prevent the spread of bugweed.

WHY BIOCONTROL?

- We are legally obligated to control *S.mauritianum* as this is an invasive species.
- Biocontrol route has a smaller environmental footprint and reduces the risk of operators being exposed to pesticides.
- The long-term sustainability of biocontrol methods make them the preferred method for *S.mauritianum* control.

RELEASE INFORMATION:

- Both agents have been released and have established in KwaZulu-Natal, but not in all invaded provinces. *G.decoris* currently has a wider distribution, since it is climatically well adapted to South Africa. *A.santacruzi* is limited to coastal and low altitude regions, mostly in KwaZulu-Natal, since it is sensitive to low temperatures and humidity.

Monitoring:

- Sporadic outbreaks by *G.decoris* cause substantial damage, mostly in autumn. The bugs perform best in shaded habitats, notably under pine plantations. However, damage is inconsistent since the bug's immature stages are attacked by local predators. Although *A.santacruzi* is climatically constrained, it reduces fruiting in regions where populations are well established.

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