Effective control/removal of Spiny Rush

Dion Borg, DPI Hamilton
Editor: Trevor Pollard, DPI Hamilton

Spiny Rush is an invasive weed that grows in waterways and saline areas. It is unpalatable to stock, smothers existing vegetation and provides a habitat for rabbits and foxes.

It is a ‘regionally controlled weed’ in most of Victoria, so landowners must take reasonable steps to control or eradicate the plants on their land and adjoining roadsides.

Spiny Rush (*Juncus acutus* L) is native to the Mediterranean, South Africa, the US and South America. It is found in western and northern Victoria.

Controlling Spiny Rush is a long-term process. Large seed bank reserves in the ground mean it can be up to three years before seedlings are satisfactorily controlled and the area can be re-sown.

Establishing a strong, competitive, well-managed pasture that is tolerant of salt and waterlogging significantly reduces the future establishment of Spiny Rush seedlings. These pasture species include Tall Wheat Grass, summer- and winter-active Tall Fescue, Strawberry and Balansa Clovers, and a range of native grasses.

Spiny Rush tussocks can grow to more than 2 m high and 1.5 m wide. Infestations can become impenetrable to stock, humans and small machinery, while also harbouring pests.

There are two main techniques to attack Spiny Rush infestations: mechanical or chemical. Both may be necessary in some heavy infestations. Drainage can also help reduce soil moisture and seedling survival.

**Mechanical control**

Mechanical control can include mulching, slashing or ploughing using a mouldboard plough to completely turn young plants over (under the soil). Dead plants should be heaped up and burned and the area cultivated to encourage new seedling germination. New seedlings can then be controlled by further cultivation or spraying. Spiny Rush plants can establish vegetatively from pieces of old crown, so care must be taken to remove or burn all plant material from mechanically cultivated areas.

It is important to take care with cultivation, so as to minimise soil erosion, as saline soils are inherently unstable areas. An erosion assessment risk is recommended before cultivating these fragile, often wet areas.

**Chemical control**

A professional spraying contractor with specialised equipment is needed to deal with heavy infestations and large tussocks. Chemicals can be applied by planes, helicopters or ground machinery.

The Long Reach Mantis Spraying Arm is a specialist piece of equipment. It is a hydraulic arm attached to a tractor.
that is capable of rotating 180 degrees, with a maximum reach of around 7 m. It also has a blower spray that has exceptional penetration in dense infestations.

Long Reach Mantis Spraying Arm in operation. Pictures show the blower spray attachment in operation.

A product containing Hexazinone is registered to control Spiny Rush in Victoria, but its purchase requires an Agricultural Chemical User Permit. Chemicals used to control Spiny Rush are residual and control seedlings for up to six months after spraying. A chemical control area must be observed after spraying.

Dead plants should be burnt on-site or mechanically removed from the area then heaped and burnt. Burning and ground disturbance encourages new seedlings to emerge and these can be sprayed before sowing a salt-tolerant, competitive, well-managed pasture within the area as soon as possible for long-term control.

For the best results, Spiny Rush plants should be sprayed as soon as they are detected and not allowed to thicken up and set seed. The cost of spraying, including the chemical, is about $48/ha. Costs can be as high as $200/ha if Spiny Rush becomes well established and needs both mechanical and spraying treatment.

Some roadsides containing significant native vegetation populations are exempt from spraying, cultivating or disturbance of any kind. This is to ensure that these rare and unique native grassland populations are preserved for the future. In these situations farmers and other interested parties such as Landcare groups and Shires are exempt from controlling ‘regionally controlled weeds’ such as Spiny Rush on areas that may adjoin their properties or roadsides. It is always best and strongly recommended that contact be made and advise sought from local DPI, DSE and Shire Offices prior to any roadside or adjoining crown land cultivation/spraying works being carried out. Failure to do so may result in prosecution and significant fines.

A well-established, 12-month-old, salt-tolerant pasture containing Tall Wheat Grass, Tall Fescue, Balansa and Strawberry Clovers after effective control of spiny rush infestation.

References
Keith Turnbull Research Institute, Frankston (1998) Landcare Note Spiny rush, LC0174 ISSN 1329-833X.

Contacts
Customer Service Centre 136 186 or
Dion Borg
Department of Primary Industries Hamilton 3300.
Ph: 55730717

Acknowledgements
This work was made possible through the collaborative support of Land, Water and Wool (through the Sustainable Grazing on Saline Lands sub-program), the Victorian Department of Primary Industry and the Cooperative Research Centre for Plant-based Management of Dryland Salinity (CRC Salinity).
‘Land, Water and Wool’ is a partnership between Australian Wool Innovation Pty. Ltd. and Land & Water Australia, with additional funding from Meat & Livestock Australia.
The editor and authors would also like to acknowledge the valuable contributions to these Agnotes made by:
• Ms Kim Bege – Media/Communications Officer Department of Primary industries Hamilton for invaluable assistance with layout of the final copy.
• Ms Anne Burgi of SUBStitution Pty Ltd Melbourne, for provision of expert professional editorial services.
• Ms Fiona Conroy for invaluable assistance with ensuring clarity of content and consistency of writing style.

The advice provided in this publication is intended as a source of information only. Always read the label before using any of the products mentioned. The State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.