

Cool Compost



Combating noxious African lovegrass with compost

Simple changes in pasture management and the use of compost as a weed suppressant has resulted in a 50% reduction in African lovegrass, improvements in soil quality and preferred pasture species growing in the Cooma-Canberra corridor.



Lush preferred pasture species thriving in the five-tonne compost blend treated trial site as part of the Monaro Lovegrass project. Photo: ASM.

Targeting weeds with custom compost

The Monaro lovegrass project demonstrated great success in using compost as a weed suppressant for African lovegrass on granite and basalt soils.

The project, delivered by Australian Soil Management (ASM) with a \$50,000 grant from the EPA's Organics Market development program, was conducted at two grazing properties in the Cooma-Canberra corridor.

ASM conducted soil testing and mapping at each site before applying compost blended to fill the soil nutrient gaps.

Trial data

Two farms at Billingra at Bredbo and Macfield at Cooma were selected for the project to develop a method for compost use to control lovegrass on the two major soil types in the Monaro region.

Compost made to Australian Standards (AS4454) by Snowy Monaro Regional Council from separated kerbside food and garden waste was blended with supplements to address deficiencies identified in the soil tests and compost analysis.

The process at each farm was:

- strip trial design with 8 by 180 metre strips separated and surrounded by 3 metre wide buffer zones
- the three strips were used to apply the compost blend at zero, three and five tonnes per hectare
- a 1.34 hectare site was fenced to manage grazing and maintain the site's integrity
- all strips were mulched to about 15 centimetres on a regular basis to keep the lovegrass short and prevent seed set
- mulched plant matter was removed to the ploughed buffer sites to simulate grazing.

"This is an exciting new method with real potential to improve pastures."

– Dr Greg Bender, director, Australian Soil Management



Before compost at the Macfield site (left), after compost (centre) and a marked increase in species diversity emerging from the soil seed bank (right). Photos: ASM.

Less weeds, better pasture

Overall the results showed a strong potential for compost to control lovegrass if it is combined with preferred management practices that include rotational and timed grazing.

South East Local Land Services conducted an independent assessment of the changes in pasture species populations at both sites.

The best response was with compost applied at 5t/ha plus ASM remediation preparation at six-month intervals. This treatment resulted in less lovegrass, more preferred species, improved pasture quality and more nutrition for cattle.

Monaro lovegrass project

“All the plants up there seem healthier and keener to grow than the ones beside where they had no treatment.”

– David Goggin, farmer, Billilिंगra, Cooma.

On the Billilिंगra granite site, the lovegrass was replaced with sub clover and native legumes. At the Macfield basalt site, the lovegrass was replaced with preferred pasture grasses and annual broadleaf weeds.

Both sites recorded an approximate 50% reduction in lovegrass.

Overall the treatment delivered greater pasture variety, with phalaris, native grasses and legumes emerging.

It is expected within five years, due to the compost's efficiency to improve the pastures, there would be no need for winter feed of hay or fodder crops.

Changes in pasture populations were matched by improvements in soil quality.

At Billilिंगra, the three largest increases were in:

- organic matter by 64%
- available phosphorous, between five and nine times and nitrogen increased by 50% and shifted to the preferred ammonium form.

At Macfield the results were:

- organic matter increased by 55%
- available phosphorus by five to six times and nitrogen by 50% with a bigger shift to the nitrate form.



Australian Soil Management director Greg Bender at the Cooma workshop. Photo: ASM.

Spreading the good news

The results were monitored to provide evidence-based data, which was shared with farmers at farm field days and workshops.

The Cooma Field Day attracted 75 attendees who were given an overview of adopting compost and compost-related pasture management practices and a visit to both sites to inspect progress and discuss the results.

Farmers were impressed with the return of preferred pastures and their ability to compete with the noxious weed. After the workshop around 30 people approached the Snowy Monaro Regional Council with enquiries on compost pricing, freight and spreading. Ten tonnes were sold for immediate pick-up, followed by a steady increase in the region's compost sales to 250 tonnes.

“We are seeing new species of grass come back that haven't been here for quite a while. They are starting to outcompete the lovegrass. It is very encouraging and we believe this is certainly a new management tool for farmers to consider.”

Norman Marshall, director, Australian Soil Management.



A workshop site visit at Billilिंगra. Photo: ASM.

Looking ahead

ASM predicted optimum results will appear in about five years. However this time frame depends on local weather conditions, soil type and quality, regular compost applications and preferred grazing management practices.

Compost success also depends on quality, custom-blending based on soil and compost analysis and grazing management practices.

Compost improves soil structure for rain infiltration and moisture storage; reduces lovegrass by 50% in two to three years, improves soil nutrition and that correlates directly to lovegrass reduction.

Compost also helps to encourage more nutritious and preferred species and helps to maintain them.

ASM's core business is soil improvement and working with land managers to develop more profitable and sustainable soil management practices.

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