

REJUVENATING CLOVER

What are the options for rejuvenating clovers on uncultivable hill country?

Protein-rich legumes are drivers of sheep production. They also fix atmospheric nitrogen, improving the quantity and quality of the grass present. Managing pastures to increase legume content in uncultivable hill country pasture is an important step towards lifting productivity.

Chemical topping can be an effective way to reduce competition from low quality grasses, allowing the resident clovers to re-establish. Following the spray treatment with good grazing management, and allowing the clover to set-seed and regenerate, will allow long-term persistence.

Trialling glyphosate and haloxyfop-P

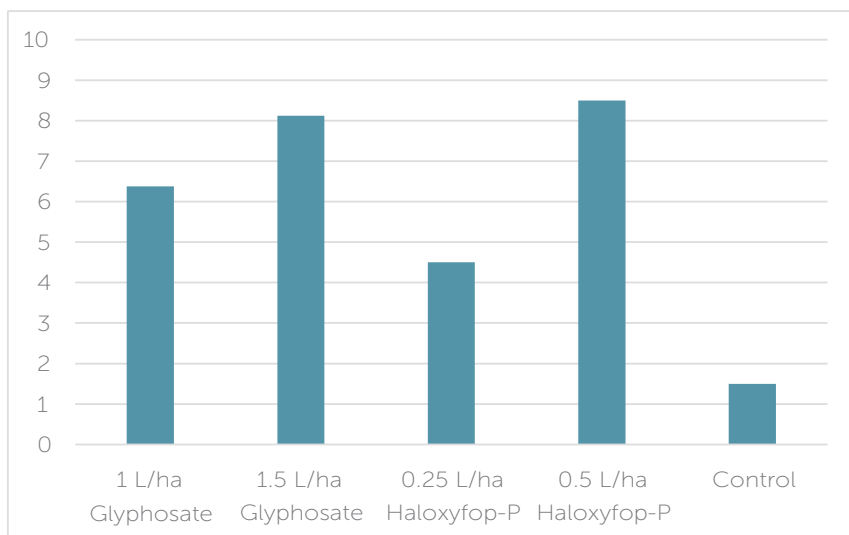
The New Zealand Merino Company, with the assistance of Dick Arnst, ran a trial at Glentanner Station to investigate the effectiveness of glyphosate and haloxyfop-P in controlling low-quality grass species and promoting the existing, naturalised clovers. Glyphosate was applied at rates of 1 and 1.5 L/ha, haloxyfop-P was applied at rates of 0.25 and 0.5 L/ha. Nine months after treatment, the higher rates of both glyphosate (1.5 L/ha) and haloxyfop-P (0.5 L/ha) controlled the competing grass species most effectively (> 80% grass control).

While the 0.5 L/ha haloxyfop-P was the most successful at reducing grass growth, the 1.5 L/ha glyphosate was the more economical alternative (given that thistles are not an issue at this site).

Between all the spray treatments and the control plots, it was clear that the chemical topping had reduced the dominant grass species, such as sweet vernal (*Anthoxanthum odoratum*) and browntop (*Agrostis capillaris*), giving the resident white clover (*Trifolium repens*) an opportunity to become more established.

The degree of grass control achieved by each treatment nine months after spraying

10 = complete control of grass, 0 = no control



TREATMENT 1

**Glyphosate
(Roundup 470)
at 1 L/ha**



TREATMENT 2

**Glyphosate
(Roundup 470)
at 1.5 L/ha**



TREATMENT 3

**Haloxyfop-P
(Scorp EC)
at 0.25 L/ha**



TREATMENT 4

**Haloxyfop-P
(Scorp EC)
at 0.5 L/ha**



CONTROL

**No spray
treatment**



Clear visual differences between the treatments can be seen 12 weeks after spraying at Glentanner Station (February 2016).



The difference in grass control between 1L/ha of glyphosate (left) and the control (right) (February 2016).



Thirteen months after the initial treatment, white clover is clearly present in the treated plots. Grazing is required to manage grasses like browntop, keeping the sward open and promoting continued clover growth.

TIPS FOR SUCCESS



Are resident clovers present?

Open the sward to check for clover seedlings at the base. These will be the clover species you are managing for. White clover and subterranean clover are common in hill country pastures. If no clover seedlings can be found, chemical topping may not be worthwhile.



When deciding on which chemical to use, determine whether thistles are an issue. While glyphosate is cheaper than haloxyfop-P, it kills both grasses and broadleaf weeds, opening the ground for thistles to establish. If thistles are an issue, use haloxyfop-P.



Suggested Rates:

Glyphosate at 1.5 – 2 L/ha

Haloxyfop-P at 0.5 L/ha.

Application:

Autumn or spring, but autumn spraying is typically more effective. Low quality grasses such as browntop are taking reserves down into their roots at this time.



If the spray treatment is successful at reducing grass competition and encouraging clover growth, ongoing grazing management is required. First, to keep the remaining grasses down, then to ensure that the clover is able to set seed and regenerate.



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