

Pasture Topping with Roundup CT^(R): Benefits for Cattle Production

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Introduction

Over many seasons farmers in Australia have been increasing the areas treated by Roundup CT^(R) for pasture topping. While the benefits of spray topping for sheep production are well documented, little information is available on the quantitative and qualitative benefits of pasture spray topping for cattle production. Recently, Monsanto commenced a series of studies in Western Australia to assess the impact of pasture topping with Roundup CT^(R) on cattle production and feed quality.

Method

Production of yearling cattle were measured on untreated (9 ha) and spray topped pastures (12 ha) at Donnybrook, WA. Pasture consisted of 70% annual grass (barley grass, soft brome, vulpia and annual ryegrass), 10% subterranean clover, 10% capeweed, and 10% thistles. Roundup CT^(R) was applied at 400 ml/ha with surfactant (300ml/100L) on October 10, 1990. Grazing commenced 30 days after spray treat-

ment. All cattle were treated with Avomec^(R) at the start of the study.

Results and Discussion

Crude protein: Measured at 1 and 2 months after treatment, there was a significant difference in crude protein levels of treated vs. untreated pasture, with a 3-4% margin of incremental protein available on treated plots.

Digestible dry matter: Treated pasture was significantly better than the control one month after treatment, but both pastures exhibited similar levels 50 days after grazing.

Metabolisable energy: In both pastures metabolisable energy declined after spraying, but the decline was slower in treated pastures with metabolisable energy exceeding control plots by 0.35 to 1.1 Mj/kg DM.

Pasture utilisation: Utilization of forage in Roundup^(R)-treated pasture was significantly higher than untreated pasture. Cattle in treated pasture consumed 72% of the 6.9 t/ha available whereas only 58% of the 5.8 t/ha available in untreated pasture was eaten. Superior utilisation of forage in Roundup^(R)-treated pasture is a function of better retention of feed quality.

Cattle liveweight gain: Better quality pasture available for grazing in spray-topped pasture was reflected in superior cattle performance. A mean weight gain of 30 kg/head was measured in Roundup^(R)-treated plots compared with only 17 kg/ha for the control. On a per hectare basis the treated pasture

produced 187 kg LWG whereas total output in the control was only 76 kg LWG after 77 days grazing at 6 yearling/ha.

Economics: Based on a value of \$1.25 /kg LWG and application costs of \$16.80/ha for spray topping, Roundup CT^(R)-treated pastures returned a net profit of \$217/ha, or \$122/ha greater than the return from untreated pasture.

Conclusion

For annual grass-based pastures, the benefits of spray topping with Roundup CT^(R) included:

- increase liveweight gain in cattle, and per hectare profitability;
- increased utilization of dry summer pastures;
- reach desired cattle market weight faster without the need for hand feeding;
- allows management flexibility with younger cattle which have high nutritional requirements during summer; and,
- enables a farmer to complete a pasture renovation program in the following year.