

Grazing Management for Sustainable Pastures on the Northern Tablelands of New South Wales

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Throughout the high rainfall zone of south-eastern Australia, the productivity of perennial pastures has declined (Anon, 1992). Much of this decline is attributed to lack of persistence of perennial species under current management practices. A nationally coordinated pasture management project, the Temperate Pasture Sustainability Key Program, has been set up to reverse this decline through refinements to grazing management. Twenty-two grazing management sites have been established across the south eastern states to investigate the response of pasture plant communities to different grazing treatments. This paper describes the northern tablelands component of the program.

Methods

Two sites were selected on the northern tablelands by a local producer group, a newly-sown pasture site on granite soil and a run-down pasture site on basalt soil. Treatments are imposed through opening and closing fenced plots located within a paddock that is being continuously grazed by sheep. Treatments common to all 22 sites are: continuous grazing, seasonal closures (spring, summer, autumn and winter rest), increased grazing pressure in spring, spring fodder conservation, and mob stocking in autumn/winter. Northern tablelands sites include 4 additional treatments:

1. mob stocking in spring/summer;
2. mob stocking all seasons;
3. strategic spelling to enhance legume growth; and,
4. strategic spelling to enhance perennial grass growth.

There are 2 years of commencement and 2 replications. Plot allocation is balanced for nearest neighbour, botanical composition and year of commencement. The stocking rate of 7.5 ewes/ha was selected by the local producer group to represent district practice. Measurements include botanical composition, plant frequency, basal cover, pasture growth and forage quality.

Results and Discussion

Species diversity is a feature at both sites. The presence of some 17 species has been regularly recorded. At commencement (September 1993), the newly-sown pasture consisted of 80% sown species (cocksfoot 36%, tall fescue 31%, ryegrass 6%, white clover 7%), the remainder being annual grass (vulpia 13%) and native grasses (4%). After 6 months under continuous grazing, sown species had declined to 32% while native grasses and other volunteers had in-

creased to 12% and 56% respectively.

A similar number of species are regularly recorded on the run-down site, but at commencement, the pasture plant community consisted of only 60% sown species (phalaris 31%, tall fescue 4%, cocksfoot 3%, ryegrass 19%, white clover 3%) and noticeably more volunteers (invading grasses 24%, native grasses 8%, broadleaf weeds 7%). After continuous grazing over 6 months, sown species had declined to 54% and native grasses and broadleaf weeds had increased to 17% and 16% respectively. Invading grasses had almost disappeared. Monitoring of grazing management sites will

continue until July 1996 when results will be used to formulate improved grazing strategies.

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Reference

- Anon (1992). "Temperate Pasture Sustainability Key Program - A Preparation Report". PDP Australia Pty. Ltd, Meat Research Corporation.