

“Determining Optimum Grazing Rotations to Maintain Perennial Pastures”

Aims and Objectives

Determine the impact of grazing intensity / number of paddocks on the persistence and production of mixed perennial grass pastures.

Hypothesis

That grazing cells should have 20 paddocks in the rotation for optimum pasture persistence and production (Alan Savory 1999). Intensive rotational grazing results in better survival and production of perennial pasture species, and a more diverse mix of species.

Experimental Design

This trial will use the ‘nested cell’ design where one mob of animals is rotated through paddocks of varying size. Each ‘paddock’ of the nested cell then represents a different grazing rotation. This trial will have paddock treatments representing 2, 4, 8, 16, 32 & 64 paddock rotations.

Treatments will be assessed on their impact on the pasture, but not the animals. The animals move through every paddock of the trial and therefore their performance is the average of all treatments.

There are two sites with one being high rainfall at Bob, Wilson’s, Lancelin (650 mm) and the other medium rainfall at Craig Forsyth’s, Irwin (450 mm).

Detailed Methods

The trial paddocks will be subdivided with electric fencing into paddocks of varying size. The paddock will be split into ½, ¼, 1/8, 1/16, 1/32, and 2 by 1/64 of the original area. The Wilson site also includes a Set Stock paddock,

During the winter/spring period the mob of cattle will be rotated on a 32 day cycle, and in summer/autumn on a 64 day cycle.

The amount of time the mob spends in a paddock is proportional to the size of that paddock, so that each paddock gets exactly the same grazing days per hectare. The small paddocks end up being grazed for short periods of time (e.g. 1 day for 1:32 paddock) but at high stocking rates (e.g. 128 steers/ha).

Paddock grazing plan

Treatments & Winter/spring steer numbers

Pdk	Tr Pdk Nos	Area ha Wilson	Area ha Forsyth	Stock rate/ha	Time in pdk	Stocking pressure/ha	Grazing days/cycle
NC2	1:2	28.5	36	4	16 days	8	128
NS4	1:4	14.25	18	4	8 days	16	128
NC8	1:8	7.1	9	4	4 days	32	128
NC16	1:16	3.6	4.5	4	2 days	64	128
NC32	1:32	1.8	2.25	4	1 days	128	128
NC64	1:64	0.9	1.12	4	½ day	256	128
NCSS	1:1	4.9	-	4	32 days	4	128

Progress

Fencing and base line pasture measurements completed at Forsyth site and in progress at Wilson site. Grazing will commence in May.

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