

Managing herbage allowance of natural grasslands for sustainable superfine wool production in Uruguay

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Introduction

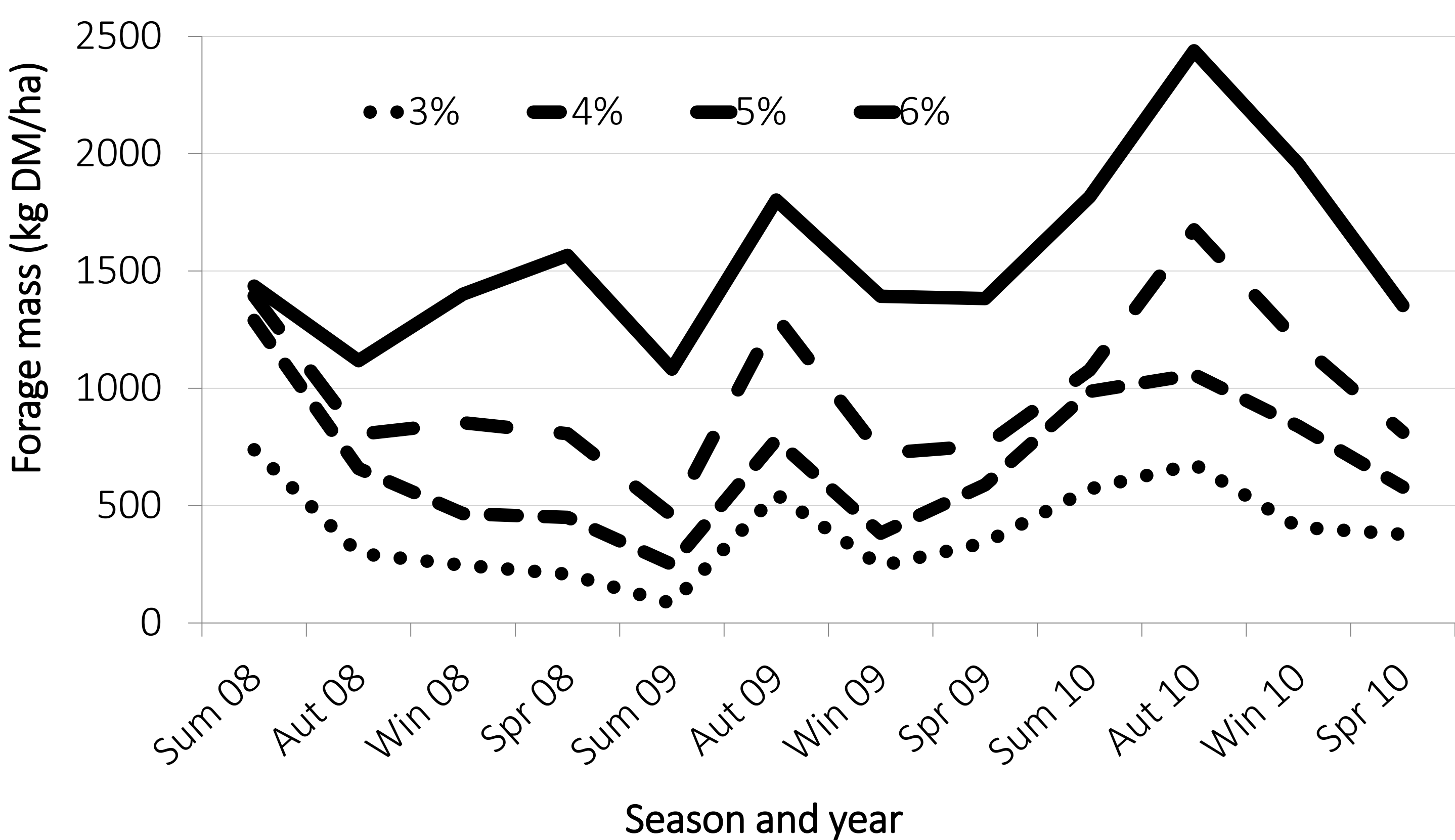
It is possible to couple an optimum pasture growth and quality with satisfactory animal production when using adequate levels of pasture utilization. During a three-year period, the present study evaluated the effect of different herbage allowances of native grasslands on wool production and quality and sheep carrying capacity.



Materials and methods

- Four (3, 4, 5, and 6% body weight; BW) herbage allowances were evaluated during a three year period.
- Six mature Merino wethers were allocated to each herbage allowance on the basis of their body weight and breeding values for clean fleece weight and fibre diameter.
- Herbage allowance was monthly adjusted by including or excluding additional wethers considering forage mass, daily pasture growth and fasten body weight of each treatment.

Three-year seasonal evolution of the average herbage mass (kg DM/ha) influenced by forage allowance.



Effect of herbage allowance on fasted body weight and condition score at shearing (September) and on fleece weight and wool traits (mean±s.e.).

Trait	Herbage allowance (kgDM/100 kg BW)			
	3	4	5	6
Body weight (kg)	49.1±1.2 ^b	48.5±1.3 ^b	49.9±1.3 ^{ab}	53.4±1.3 ^a
Condition score (units)	2.8±0.1 ^b	2.9±0.1 ^b	3.0±0.1 ^{ab}	3.2±0.1 ^a
Fleece weight (kg)	3.72±0.12	3.90±0.13	3.98±0.12	3.91±0.12
Fibre diameter (μ)	16.3±0.3	16.4±0.3	16.5±0.3	16.5±0.3
Staple length (cm)	7.8±0.2	7.9±0.2	8.5±0.2	8.5±0.3

^{ab}Means within rows with differing letter are significantly different (P < 0.05). No interaction treatment and year was detected.



Conclusions

- The use of herbage allowances of 6% BW on native grasslands in the Basaltic soils of Uruguay may promote a sustainable superfine wool production with a potential larger carrying capacity than smaller herbage allowances.
- At herbage allowances of 6% BW or more, we expect that the inclusion of mixed grazing with cattle will further improve animal and pasture sustainable production by complementary grazing behavior and pastures utilization.