Native species:

Niche potential and forage value of *Elymus scaber* var. *Scaber* on the Northern Tablelands

Michelle Murphy

University of New England, Department of Botany, Armidale, NSW 2551

As plants mature, they become less digestible and protein content is reduced (McDonald *et al.* 1988). The aim of this paper is to evaluate the possible contribution by *Elymus scaber* var. *scaber* (elymus), a native winter-active, perennial grass species, to the quantity and quality of pasture produced over the late winter, early spring period. The experiment investigated dry matter contribution to pasture production and determined the percentage nitrogen of pasture samples at two commercial grazing properties, "Lana", 50 km SW of Armidale (E 151° 15' 00", S 30° 37' 13") situated on granite derived soils, and "Willow Park", 30 km E of Guyra (E 151°53' 40", S 30° 16' 27"), situated on basalt derived soils, on the Northern Tablelands of New South Wales.

Methods

Dry weight estimates from ten 50 x 50 cm quadrats from each of three transects were made in August, September, October and November 1995 at each site. The results were expressed as a dry weight percentage of the total estimated pasture present at each observation. Samples for protein determinations (expressed as percentage crude pro-tein) were collected at each observation period. Monthly rainfall and stock movements (short graze, long rest rotation system) on both study sites were recorded (Table 1).

Results

At "Lana", elymus increased its dry weight by 500% in the four weeks from August to September and had a crude protein content above 25% (highest in August). Relative contribution to dry matter production declined with the spring flush of annual species (Figure 1). At "Willow Park" in August, elymus contributed over 500 kg ha-1 of dry matter to the pasture base (12%). The protein content increased after grazing from 15% in August to 24% in September (Figure 2).

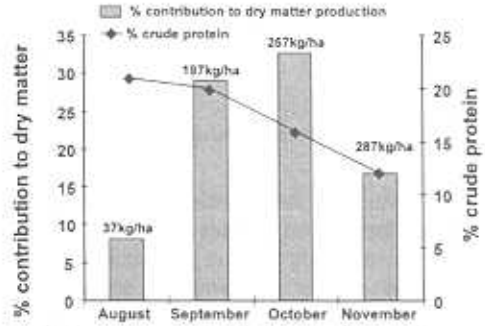

Figure 1. Percentage contribution to dry matter production and percentage crude protein of *Elymus scaber* var. *scaber* over four months (August to November 1995) at "Lana", 50 km SW of Armidale.

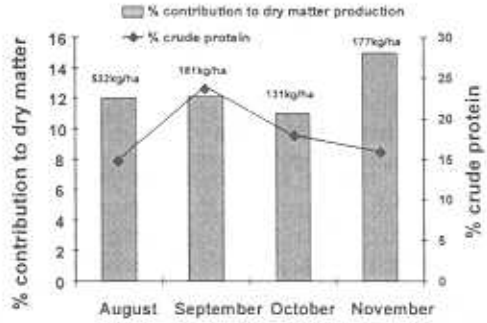

Figure 2. Percentage contribution to dry matter production and percentage crude protein of *Elymus scaber* var. *scaber* over four months (August to November 1995) at "Willow Park" 30 km E of Guyra.

Conclusions

The results showed that where concentrations of *E. scaber* var. *scaber* exist, the species has the potential to be a valuable component of forage production in the late winter and early spring seasonal niche on the Northern Tablelands of NSW. Further research in relation to protein content after grazing,

Table 1. Monthly rainfall (mm) and stocking rate (DSE/ha) from July to November 1995 at two sites, "Lana", 50 km SW of Armidale and "Willow Park", 30 km E of Guyra on the Northern Tablelands of New South Wales.

Site	Month (1995)	July	August	September	October	November	Total
"Lana"	Rainfall (mm)	43.0	0.0	114.5	90.0	160.0	407.5
	DSE/ha	478	0	0	0	0	478
"Willow Park"	Rainfall (mm)	48.5	0	118.5	70.0	171.5	408.5
	DSE/ha	0	450	0	0	0	450

and prior to flower production, may have implications for grazing management strategies.

Acknowledgements

The contributions of T & K Wright of "Lana" and I and H McKamey of "Willow Park" are appreciated.

Reference

McDonald, P., Edwards, R. A., and Greenhalgh, J. F. D. (1988). *Animal Nutrition* (4th ed.). Essex: Longman Scientific & Technical.