

Secale montanum evaluated in the alpine pastures of eastern Victoria

L. J. Hamilton

Department of Agriculture, Bairnsdale, Vic. 3875

Secale montanum Guss. (*S. dalmaticum* Vis.) is being evaluated as a perennial dryland grass on three alpine soils in East Gippsland. Evaluation was commenced at Cobungra (autumn 1981), Gelantipy (autumn 1982) and Swifts Creek (autumn 1983).

This species was previously assessed by the CSIRO Plant Introduction Section and research results have shown that this plant is productive, winter hardy, can be readily established even under dry conditions and has no summer dormancy (1). Under grazing it has been found to be not only palatable to stock but persistent and capable of high levels of animal production (2).

Method

At Cobungra and Gelantipy the herbage production of *Secale* (sown at 5 kg/ha) in spring, summer and autumn, was compared with a range of commercial temperate grasses (sown 2 kg/ha). At both sites a basal fertiliser application of superphosphate and molybdenum was used together with the legumes Mt. Barker sub clover and Haifa white clover.

Establishment by broadcasting was investigated at Swifts Creek. Here *Secale* (sown at 5 kg/ha) was compared to Australian and Sirolan *Phalaris* (sown at 2 kg/a). Each species was broadcast onto untreated and herbicide treated (Roundup 1.5 litres/ha) areas. The Roundup removed the annual pasture species (mainly Barley and Brome grasses) and was applied 10 days prior to sowing (April 1983). The autumn break was in March 1983.

Site details are listed below:-

Site	Soil Origin	pH	K ppm (Skeen)	P ppm (Olsen)	Altitude m	Rainfall (mm)			
						av.	1981	1982	1983
Cobungra	Greywacke	5.4	343	26	1000	690	727	383	802
Gelantipy	Basalt	6.5	211	16.1	1000	800		480	867
Swifts Ck.	Granite	5.9	260	4.6	500	692			764

Results and Discussion

Yield measurements (t dm/ha) made at Cobungra and Gelantipy are presented.

Species	Cultivar	Cobungra			Gelantipy	
		1981-82	1982-83	1983-84	1982-83	1983-84
<i>Secale</i>	CPI 22755	9.26	4.24	10.53	4.75	8.10
<i>Phalaris</i>	Australian	5.43	1.89	7.94	2.51	8.65
<i>Cocksfoot</i>	Currie	6.30	3.60	7.71	3.96	7.21
	Porto	7.21	2.58	7.16	4.43	6.64
Tall Fescue	Demeter	6.03	3.43	9.68	3.22	8.28
l.s.d. (5%)		2.34	0.77	2.25	1.18	1.62

At Swifts Creek, establishment measurements were made in March 1984 and are expressed below as plants/sq. metre.

Species	Treatment		
	Roundup	Unsprayed	
<i>Secale</i>	8.4	5.0	Species l.s.d. 5% = 2.0 Treatment l.s.d. 5% = 1.5
Australian <i>phalaris</i>	5.6	0	
Sirolan <i>phalaris</i>	4.9	0.3	

Results show that with regular cutting, secale was a productive grass, both at Gelantipy and Cobungra, even during the drought year 1982-83. At Swifts Creek, results show that secale can establish well when broadcast, even onto already established annual pasture. These results indicate that secale could be a useful grass in the alpine areas of south eastern Australia. Its main features are its productivity and ease of establishment.

1. WRIGHT L.G. and MEAL-SMITH C.A. *Fld. Stn. Rec.* 1971, 10: 43-50.

2. MYERS L.F. *Secale dalmaticum* (Vis) CPI 22755 Interim Report CSIRO Division of Plant Industry 1983.