Survival by phalaris cultivars through the 1994 drought at Canberra

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Phalaris has the reputation for excellent survival through droughts on the tablelands of N.S.W. In part, this reputation was built on earlier reports of the cultivar Australian (*eg.* Hutchinson 1970). Ayres *et al.* (1996) also reported good survival by phalaris sown as a 2 Uneta:1 Sirosa mixture through the severe 1993-95 drought at Glen Innes. However, a comparison of drought survival by the winter-active Sirosa type of phalaris with Australian is lacking. Such a comparison during 1994 at Canberra is described here.

Methods

Three winter-active cultivars or populations (Sirosa, Holdfast, 'Perla Retainer') were compared with cv. Australian at two sites near Canberra. Paddocks (0.4 ha) receiving 600 kg/ha of superphosphate from 1989-94 (Bray P 18 mg/kg in June 1994) had been rotationally grazed (2 weeks on, 4 weeks off) since August 1990 (Culvenor and Oram 1996). Basal area of phalaris was measured as hits on live tiller base in each of nine 0.4 m^2 fixed quadrats/paddock. Stocking rate was maintained at 15 wethers/ha until 30 August 1994. After a 9 day spell, one site was set stocked at 15 wethers/ha, the other at 10 wethers/ha until 13 October, then 15/ha. Both sites were destocked at shearing on 22 November until mid-late January 1995. Sheep were fed a total of 5 kg of grass hay per head during winter and spring.

Results and Discussion

Rainfall for 1994 was 435 mm (62% of average) and for the 6 months May-October was 123 mm (35% of average). Rainfall in January 1995 was 236 mm, but only 25 mm fell in the next 3 months. Mean weight of 3 year old. wethers was 53.0 kg on 2 June and 48.5 kg on 22 November. Average dry matter on offer was only 70 kg/ha (60% phalaris) on 1 December 1994.

Basal area of Australian was reduced by 40%, Holdfast and Perla Retainer by 50% and Sirosa by 56% during 1994 (Figure 1). Recovery was largely complete by August 1995 except for Sirosa which was still 20% below its level of August 1993 due to more plant deaths at one site compared with the other cultivars. Despite this, the results show that the difference in relative survival between Australian and the winter-active cultivars was not large, and that all cultivars survived the drought well.

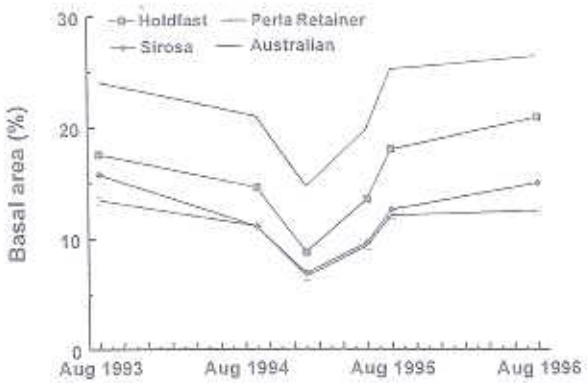

Figure 1. Change in basal area 1993-6.

References

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