

Register of Australian Herbage Plant Cultivars

B. Legumes

8. Lucerne

a. *Medicago sativa* L. (lucerne)

cv. Falkiner

Reg. No. B-8a-7

Registered May 1976

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Origin

Developed by Miss V.E. Rogers, CSIRO, from the North American cultivar Lahontan by selection on heavy, waterlogging soils. Lahontan is indirectly of Central Asian (Turkestan) origin. Such lucernes are well adapted to wet soil conditions and have good resistance to various root rots and to stem nematodes, but they are not well suited to humid environments.

A seed multiplication plot of Lahontan, C.P.I. 20781, was established at the Falkiner Memorial Field Station in 1961, and during five subsequent cycles, seed to produce each generation was sown on soils varying from clay loam to heavy clay. The final selection was made in 1974 and this resulted in increased winter growth and seedling vigour. Submitted by the Division of Land Resources Management, Riverina Laboratory, CSIRO, and recommended for registration by the New South Wales Herbage Plant Liaison Committee. Breeders' seed will be maintained by the Riverina Laboratory, CSIRO. Registered, May 1976.

Morphological description

Falkiner is a broad-leaved dual purpose lucerne, similar to Lahontan (1) in growth habit but distinctly different from Lahontan in its shorter winter dormancy and quicker recovery after cutting or grazing.

Compared with Hunter River, the leaf/stem ratio is greater in Falkiner, the foliage is generally a darker green, and its flowers have a narrower range in the purple to dark mauve band. Seed size is similar to that of Hunter River and spaced plants have much the same spreading crown with many branched stems.

Compared with other Australian cultivars the stems of Falkiner are finer and more numerous than those of either African or Siro Peruvian, and the leaves slightly wider and shorter. In winter dormancy Falkiner is comparable with Hunter River, but it is more winter dormant than African and Siro Peruvian.

Agronomic characters

Productivity under irrigation on a well-drained soil is similar to that of Hunter River, or slightly higher. Owing to its greater leafiness, protein content is higher. When grown on a poorly aerated heavy soil, Falkiner is markedly superior both in production and persistence because of its resistance to root rot. Controlled environment tests have shown that Falkiner has good resistance to both *Phytophthora megasperma* and *Colletotrichum trifolii* (2) that cause root and crown rot respectively. Falkiner also appears to have tolerance to waterlogging apart from its resistance to associated pathogens. It has survived periods of waterlogging lasting 2 or more weeks, in contrast with the Lahontan cultivar whose resistance to *Phytophthora* is comparable.

Falkiner has an acceptable level of resistance to bacterial wilt, being similar to that of the wilt-resistant cultivar Caliverde (3). Falkiner is likely to have inherited the very high degree of resistance of Lahontan to stem nematode (1) and this is being tested. It will be some time before results are known. In humid coastal districts Falkiner could be susceptible to leaf spot (*Pseudopeziza medicaginis*) inherited from Lahontan, but its ability to thrive in heavy wet soils makes it particularly valuable for irrigation on poorly drained soils where lucerne culture is normally hazardous.

References

1. Hanson, C.H. (1958). Registration of varieties and strains of Alfalfa. IV. *Agron. J.* **50**, 684.
2. Irwin, J.A.G. (1975). Personal communication. Qd. Dep. Prim. Ind., Brisbane.
3. Blackstock, J. Mck. (1975). Personal communication. Vic. Dep. Agric., Melbourne.