

Caliph - a new barrel medic cultivar for southern Australia

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Before the advent of the bluegreen aphid (*Acyrtosiphon kondoi*, BGA) in the late 1970's, Cyprus barrel medic (*Medicago mincanna*) was the legume pasture cultivar most widely grown in southern Australia on neutral and alkaline loams to clays of low to medium rainfall (275-375mm). However its susceptibility to BGA led to its demise in the 1980's and until now, Parabinga has been the only suitable aphid-resistant cultivar to replace it in these areas.

Methods

Caliph was selected from a backcrossing program designed to produce a barrel medic with similar field performance to Cyprus but with good resistance to BGA (Cyprus and Caliph are both resistant to spotted alfalfa aphid). This was achieved by using Cyprus as the recurrent parent and backcrossing genes for BGA resistance from a donor barrel medic into it. Three non-segregating lines were isolated from the second backcross and field tested against a range of early flowering barrel medics, including aphid resistant hybrids and cultivars. Measurements were taken of herbage, pod and seed production in the year of sowing and compared to Parabinga in 29 trials across SA, NSW and WA over four years. These are summarised in the graph below (Fig. 1.).

Results and discussion

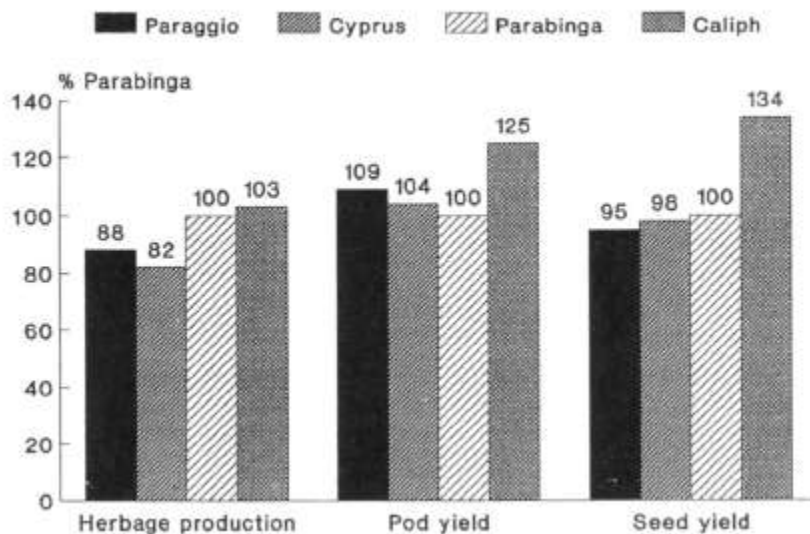


Figure 1. Production of Caliph and three other barrel medic cultivars expressed as an average percentage of Parabinga.

In selecting Caliph, emphasis was placed on seed yield because of its major impact on the persistence and productivity of pastures in low rainfall areas. Caliph's outstanding seed production capacity is underscored by the fact that it outyielded Parabinga at 27 of the 29 sites for which data are available. Caliph has been registered for protection under Plant Variety Rights legislation and is now commercially available to farmers.

Acknowledgment

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