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Department of Agriculture, Western Australia
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Another variety for northern areas — Illyarrie lupin

The Department of Agriculture has released another new lupin variety for northern agricultural areas. It is a sweet narrow-leaved lupin named Illyarrie after the popular ornamental *Eucalyptus erythrocorys* which grows in the Geraldton district.

Illyarrie gave outstanding yields in the Department of Agriculture's 1978 field testing programme. In 24 trials throughout the main cropping area it averaged 21 per cent better than the next best variety, Unicrop. However, the most dramatic difference was in north and north central districts, where Illyarrie outyielded Unicrop, on average, by 36 per cent, Marri by 38 per cent, and Uniharvest by 47 per cent. In seed size and protein content Illyarrie is identical to Unicrop.

The new variety was bred as part of a collaborative programme between the Western Australian Department of Agriculture and the United States Department of Agriculture. It was derived from a cross between Unicrop and Marri made by Dr J.S. Gladstones at Medina in 1972, and combines the early flowering of Unicrop with the grey-leaf-spot resistance, anthracnose resistance and superior growth vigour on sandy soils of Marri.

Early generation screening of the progeny for disease resistance was carried out during the northern winter by Drs Ian Forbes Jr. and Homer D. Wells under glasshouse conditions at the USDA Coastal Plain Experiment Station at Tifton, Georgia, using seed sent from Western Australia straight after harvest. This allowed two generations of selection a year in the early breeding years, and shortened the time from crossing to final release.

Confirmatory selection for grey-leaf-spot resistance was conducted under natural field epidemic conditions in Western Australia, followed by seed increase and wider testing under the code number 72A14-1.

Illyarrie should be particularly useful on northern sandplains where Marri has tended to replace Unicrop in recent years because of its grey spot resistance and better vigour. However it is too late flowering to give really satisfactory results. Illyarrie has outyielded Unicrop and other established varieties in medium to high rainfall parts of central and particularly south coastal districts, but to a smaller extent than in the north. Also, ratings of the trials for Phomopsis (lupinosis fungus) symptoms have suggested infection levels similar to, or slightly higher than, on Unicrop. Whether this means that Illyarrie is more likely to cause lupinosis is not yet known. Meanwhile some caution would have to attend its use in southern districts.

Illyarrie should greatly boost the production of lupins in the State over the next few years, said Minister for Agriculture, Mr R.C. Old, in announcing the release.

Dr. J.S. Gladstones with an experimental crop of Illyarrie