

# Murringo

Version September 2017

## Albus lupin

### VARIETY SUMMARY

- Highest yielding albus lupin for eastern states
- Mid flowering, indeterminate genotype
- Moderate resistance to Pleiochaeta Root Rot and Phomopsis
- Susceptible to Anthracnose
- Grain quality well suited to albus human consumption markets
- Seed size similar to Luxor

### BREEDING

Murringo was bred from a cross by DAFWA between a germplasm accession from the Azores Islands and the Russian cultivar, Vladimir.

The single plant selection and subsequent uniform line from this cross was transferred to NSW DPI Wagga Wagga and developed under the breeder code WK338.

### AREA OF ADAPTATION

Murringo is best suited to medium to high rainfall lupin growing regions of NSW but can also be grown in Victoria and SA.

### DISEASE RESISTANCE RATINGS

Murringo has moderate resistance to Pleiochaeta root rot, with levels similar to Rosetta and slightly less than Luxor, and significantly better than Kiev-mutant and Ultra.

Murringo has intermediate resistance to Phomopsis stem blight, better than Luxor and Rosetta, similar to Ultra but not as high as Kiev-mutant.

Murringo is very susceptible to anthracnose so is not suitable for growing in WA.

#### Disease ratings and plant type data (Source: NSW DPI)

Variety	Disease ratings				Plant type data			
	Pleiochaeta root rot resistance	Phomopsis stem blight score	Phomopsis stem blight rating	Anthracnose resistance	Days to first flowering	Days to harvest maturity	Plant height flowering	Height of first pod
<b>Murringo</b>	<b>MR</b>	<b>5.0</b>	<b>Intermediate</b>	<b>VS</b>	<b>113</b>	<b>196</b>	<b>59</b>	<b>64</b>
Luxor	R	5.7	MS	VS	114	189	68	74
Rosetta	MR	7.0	S	VS	119	192	70	80
Kiev-mutant	VS	4.0	MR	VS	107	183	58	58
Ultra	S	5.3	MS	VS	109	183	56	58

### MATURITY

Murringo is a mid-flowering, spring genotype with a slightly longer maturity time than Luxor. The suitable sowing time is the normal albus sowing window of late-April to mid-May.

### PLANT TYPE

Murringo has indeterminate branching type and a key morphological feature that distinguishes it from other albus varieties is that 30-50% of leaves on the main stem have 8-9 leaflets, compared to 7 on other varieties.

Murringo has slightly shorter plant height and height of first pod than Luxor.

### GRAIN QUALITY

The average grain size of Murringo is similar to Luxor and Amira, which is larger than Kiev-mutant but smaller than Rosetta.

The seeds of Murringo are pure white, which is required for the human consumption market.

The total alkaloid content of whole seed of Murringo is below the ANZFA standard of 0.02%.

There is no bitter seed contamination in Murringo.

 **GRAIN YIELD AND QUALITY DATA**

Yield summary of Murringo expressed as % Luxor in NVT trials from 2008-15 (\*except SW NSW that didn't have trials in 2012 & 2013).

Variety	Grain yield				Grain quality			
	NE NSW	NW NSW	SE NSW	SW NSW	Seed size (g/100seeds)	Alkaloid % (2013)	Protein % (2013)	Manganese level mg/kg (2013)
	8 trials	14 trials	51 trials	11 trials*				
<b>Murringo</b>	<b>102</b>	<b>102</b>	<b>101</b>	<b>97</b>	<b>32</b>	<b>0.014</b>	<b>37.5</b>	<b>915</b>
Luxor	100	100	100	100	32	0.011	36.9	800
Rosetta	101	96	99	96	35	0.014	36.9	830
Ultra	92	97	96	94	30	0.014	36.8	880
Kiev-mutant	91	97	93	91	31	0.009	38.3	1010

 **AGRONOMIC GUIDELINES****Sowing**

Albus lupins cross pollinate so ensure Murringo has at least 1km isolation distance from other albus varieties. Select a well-drained paddock with soil pH (CaCl<sub>2</sub>) above 5.0 to maximise production.

Aim to establish 35 plants/m<sup>2</sup> for early sowing and up to 45 plants/m<sup>2</sup> for later sowing. For 32g/100 seed size this is ~140kg/ha seed for 35 plants/m<sup>2</sup> and ~180 kg/ha seed for 45 plants/m<sup>2</sup>.

Inoculate with Group G rhizobium.

**Nutrition**

Phosphorus should be applied at 15-20 kg/ha and Molybdenum is recommended to improve nodulation on low pH soils. Sulfur and Nitrogen may be considered depending on soil test.

**Weed Control**

Murringo has been grown in numerous yield trials using best practice agronomy and common lupin herbicides and no unusual herbicide damage symptoms have been observed. Murringo is safe for use with the main herbicides used in lupin production.

 **PLANT BREEDER RIGHTS AND ROYALTIES**

Murringo is protected by Plant Breeder Rights, any unauthorised commercial propagation or any sale, conditioning, export, import or stocking of propagating material of this variety is an infringement under the Plant Breeder's Rights Act, 1994.

Growers are allowed to retain seed from production of this variety for their own use as seed only.

**An End Point Royalty of \$3.52 per tonne (GST inclusive), which includes breeder royalties to support ongoing investment in durum breeding, applies to this variety.**

**ACKNOWLEDGEMENTS**

Murringo was bred by DAFWA then developed by NSW DPI Wagga Wagga, with support from growers through the GRDC.



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