

# ALB Terrier<sup>®</sup>

## Small red lentil

The information in this document is current as at September 2024. For updated information after this date, please refer to the GRDC NVT website.

## Disease resistant Imi-tolerant variety



### MAIN ADVANTAGES

ALB Terrier<sup>®</sup> exhibits the same level of tolerance to herbicides applied at label rates as its PBA predecessor varieties: tolerant to Imazethapyr, improved tolerance to Flumetsulam, improved tolerance to residual levels of Sulfonylurea and Imidazolinone from prior crops.

*Note that permits, product label rates, plant back periods and all label directions for use must be adhered to.*

ALB Terrier<sup>®</sup> has been rated moderately resistant to pod drop and seed shattering.

ALB Terrier<sup>®</sup> is MRMS to botrytis grey mould and MR to *Pratylenchus neglectus* and *Pratylenchus thorneii*.

ALB Terrier<sup>®</sup> has improved boron tolerance (MI) compared to other Imi-tolerant lentils.

ALB Terrier<sup>®</sup> is a lower disease risk variety than other Imi-tolerant lentil varieties.

### SEED PROTECTION & ROYALTIES

ALB Terrier<sup>®</sup> is protected by Plant Breeder's Rights (PBR) legislation. A PBR license applies to the seed. Growers can retain seed from production of ALB Terrier<sup>®</sup> for their own seed use.

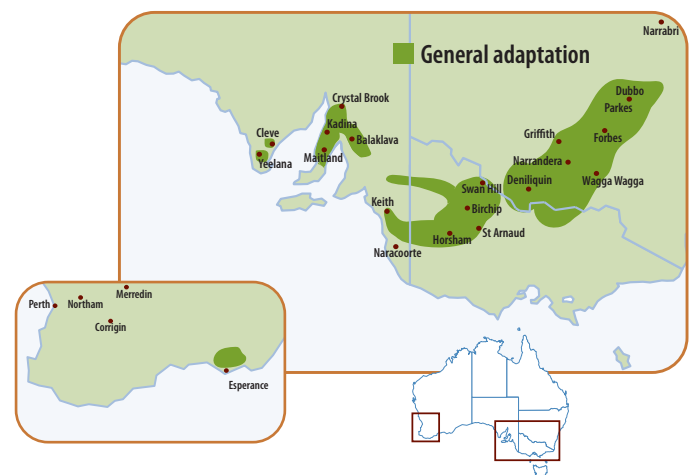
An End Point Royalty (EPR) of \$5.94 per tonne (including GST) applies to this variety. This includes the breeder royalty and a \$0.44 per tonne herbicide technology fee.

Seed is available from the commercial partner Seednet.

### KEY FEATURES

- Small market class red lentil
- Improved resistance to Nipper<sup>®</sup> (R) and Hurricane XT<sup>®</sup> (MR) virulent *Ascochyta* blight pathotypes
- Same herbicide tolerances as predecessor PBA varieties
- Good early vigour
- Mid flowering and maturity
- Improved boron tolerance (MI)
- High resistance to root lesion nematodes (MR)

### AREA OF ADAPTATION



## YIELD & ADAPTATION

ALB Terrier<sup>Ⓛ</sup>'s distinct improvement in disease resistance to Ascochyta blight pathotypes (R for Nipper<sup>Ⓛ</sup> virulence and MR for PBA Hurricane XT<sup>Ⓛ</sup> virulence) provides a low disease risk for growers in core lentil regions in South Australia and Victoria.

In terms of seed size characteristics, ALB Terrier<sup>Ⓛ</sup> is similar to PBA Highland XT<sup>Ⓛ</sup> in seed size and plumpness. It is slightly bigger than PBA Hurricane XT<sup>Ⓛ</sup>.

ALB Terrier<sup>Ⓛ</sup> carries a good agronomic and physiological trait package. Its early vigour is similar to PBA Hallmark XT<sup>Ⓛ</sup>.

The variety exhibits mid flowering and maturity windows similar to PBA Hurricane XT<sup>Ⓛ</sup>.

The moderately resistant to moderately susceptible (MRMS) level resistance to BGM is an added advantage that will make ALB Terrier<sup>Ⓛ</sup> a fit for medium to high rainfall zones.

## DISEASE MANAGEMENT

ALB Terrier<sup>Ⓛ</sup> has excellent level of disease resistance to ascochyta blight (AB) and a sound level of resistance (MRMS) to BGM. It is also rated MR to root lesion nematodes (see Table 3). A fungicide seed dressing is beneficial for the early control of seedling root rots and foliar fungal diseases.

### Ascochyta blight (AB)

ALB Terrier<sup>Ⓛ</sup> has been rated as resistant to Nipper<sup>Ⓛ</sup> virulent and resistant to moderately resistant (provisional) for PBA Hurricane XT<sup>Ⓛ</sup> virulent pathotypes to foliar AB.

In cropping regions where there are more intense lentil rotations, prevalence of lentil crops and unfavourable conditions aiding disease progression, growers need to be aware that the AB isolates can potentially change over time, changing a variety's level of resistance to the disease. Crops should always be monitored for this disease and preventative fungicides applied to protect pods ahead of rain events should there be evidence of AB.

Lentil crops should always be monitored in severe disease risk environments and if these fungal disease symptoms are detected, fungicides should be applied from the start of podding, prior to any rainfall events.

**Table 1. NVT MET Yield data South Australia**

Region	Lower EP			Mid North			Murray Mallee		South East		Yorke P		
Year	2021	2022	2023	2021	2022	2023	2022	2023	2022	2023	2021	2022	2023
EMY* (t/ha)	3.31	1.72	3.92	3.98	4.23	2.10	3.30	1.48	2.85	1.55	3.60	2.95	2.27
ALB Terrier <sup>Ⓛ</sup>	3.62	2.00	4.00	4.15	5.33	2.20	3.92	1.49	3.41	1.58	3.63	3.31	2.26
GIA Thunder <sup>Ⓛ</sup>	3.77	2.37	4.33	4.45	5.36	2.30	3.85	1.63	3.56	1.77	3.78	3.50	2.43
PBA Hallmark XT <sup>Ⓛ</sup>	3.24	1.48	3.49	3.68	4.71	1.94	3.59	1.42	2.82	1.39	3.61	2.86	2.23
PBA HighlandXT <sup>Ⓛ</sup>	3.32	1.85	4.01	4.06	4.08	2.09	3.14	1.58	2.78	1.65	3.73	2.96	2.42
PBA Hurricane XT <sup>Ⓛ</sup>	3.20	1.69	3.89	3.96	4.24	2.08	3.31	1.44	2.85	1.52	3.43	2.95	2.19
PBA Kelpie XT <sup>Ⓛ</sup>	3.03	2.17	4.11	4.24	4.37	2.03	3.15	1.64	2.85	1.75	3.41	3.14	2.43
no. of trials	1	1	1	1	2	2	1	1	1	1	1	2	2

Data includes years only where ALB Terrier was present in trials. \*Environment mean yield

Source: Data from GRDC NVT MET analysis 2023.

**Table 2. NVT MET Yield data Victoria, New South Wales and Western Australia**

Region	NSW			Victoria					Western Australia							
	S/E			Mallee			Wimmera		Ag-zone 1	Ag-zone 2			Ag-zone 3	Ag-zone 5		
Year	2021	2022	2023	2021	2022	2023	2022	2023	2021	2021	2022	2023	2021	2021	2022	2023
EMY* (t/ha)	0.88	3.54	2.17	2.79	3.13	1.84	2.17	1.21	1.58	1.71	1.89	0.65	2.14	1.80	1.13	0.79
ALB Terrier <sup>Ⓛ</sup>	1.02	3.97	2.37	2.85	3.82	1.99	2.81	1.20	1.71	1.90	2.02	0.73	2.24	1.92	0.98	0.83
GIA Thunder <sup>Ⓛ</sup>	1.09	4.13	2.51	2.95	3.90	1.98	2.92	1.40	1.84	2.03	2.12	0.76	2.29	1.94	1.03	0.91
PBA Hallmark XT <sup>Ⓛ</sup>	0.81	3.35	1.95	2.62	3.19	1.81	2.27	1.15	1.46	1.56	1.87	0.62	2.22	1.81	1.14	0.76
PBA HighlandXT <sup>Ⓛ</sup>	0.87	3.47	2.14	2.79	3.00	1.77	2.09	1.36	1.59	1.69	1.92	0.64	2.19	1.78	1.23	0.84
PBA Hurricane XT <sup>Ⓛ</sup>	0.89	3.48	2.17	2.76	-	1.84	2.23	1.11	1.56	1.71	1.83	0.63	2.02	1.74	1.04	0.73
PBA Kelpie XT <sup>Ⓛ</sup>	0.92	3.19	2.13	2.68	3.16	1.67	2.46	1.34	1.61	1.74	1.86	0.56	1.90	1.55	1.09	0.78
no. of trials	1	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1

Data includes years only where ALB Terrier was present in trials. \*Environment mean yield

Source: Data from GRDC NVT MET analysis 2023.



## Botrytis grey mould (BGM)

ALB Terrier<sup>Ⓛ</sup> is provisionally rated as moderately resistant to moderately susceptible (MRMS) to BGM. This is equivalent to PBA Hallmark XT<sup>Ⓛ</sup> and better than PBA Highland XT<sup>Ⓛ</sup> and PBA Hurricane XT<sup>Ⓛ</sup>.

In BGM prone areas, lentil crops should be monitored and preventative foliar fungicide applied just prior to canopy closure. Further monitoring and fungicide sprays may be required in cropping regions with long growing seasons and when plant growth is high and/or prolonged wet spring conditions occur.

## AGRONOMY

ALB Terrier<sup>Ⓛ</sup> has the following agronomic characteristics (see Table 4):

- Moderate early vigour (similar to PBA Hurricane XT<sup>Ⓛ</sup>).
- Mid flowering and maturity timing, similar to PBA Hurricane XT<sup>Ⓛ</sup>.
- Moderately resistant to moderately susceptible (MRMS) to lodging, similar to PBA Kelpie XT<sup>Ⓛ</sup>.
- Moderately resistant (MR) to pod drop and moderately resistant (MR) shattering traits (similar to PBA Highland XT<sup>Ⓛ</sup>).
- Moderately intolerant (MI) to salinity (NaCl), similar to PBA Highland XT<sup>Ⓛ</sup> and PBA Kelpie XT<sup>Ⓛ</sup> and a slight improvement from PBA Hurricane XT<sup>Ⓛ</sup>.
- Moderately Intolerant (MI) to high soil boron (similar to PBA Jumbo2<sup>Ⓛ</sup>), which is an improvement from other Imi herbicide tolerant varieties.

## Sowing

In cropping regions where conditions are prone to BGM development, ALB Terrier<sup>Ⓛ</sup> should perform similar to PBA Hurricane XT<sup>Ⓛ</sup> with respect to early sowing.

Target plant densities of 120 plants/m<sup>2</sup> adjusting sowing rates for lentil seed size and germination percentage of the seed used each year.

## Herbicide tolerance

ALB Terrier<sup>Ⓛ</sup> has tolerance to imazethapyr (similar to PBA Hurricane XT<sup>Ⓛ</sup>) when applied pre or post-emergence.

ALB Terrier<sup>Ⓛ</sup> has improved tolerance to flumetsulam (e.g. Broadstrike<sup>®</sup>) applied in crop at label rates than conventional lentil varieties.

ALB Terrier<sup>Ⓛ</sup>, like PBA Kelpie XT<sup>Ⓛ</sup>, PBA Highland XT<sup>Ⓛ</sup> and PBA Hallmark XT<sup>Ⓛ</sup>, shows reduced sensitivities to some sulfonyleurea and imidazolinone herbicide residues from previous crop applications.

Preliminary evaluation in screening nurseries suggests that ALB Terrier<sup>Ⓛ</sup>, like PBA Hurricane XT<sup>Ⓛ</sup> and Nipper<sup>Ⓛ</sup>, is more sensitive to Group C herbicides (e.g. metribuzin and simazine) than other lentil varieties.

When applying herbicides, follow all label guidelines and avoid application under conditions that would increase the risk of plant damage.

**Table 3. Disease resistance and abiotic stress tolerance ratings of lentil varieties**

Variety	Ascochyta blight		BGM	<i>P. thornei</i>	<i>P. neglectus</i>	Boron	Salinity
	Nipper	Hurricane					
ALB Terrier <sup>Ⓛ</sup>	R	MR(p)	MRMS (p)	MR	MR	MI	MI
GIA Thunder <sup>Ⓛ</sup>	R(p)	MRMS(p)	MRMS (p)	MR (p)	MR	–	–
PBA Hallmark XT <sup>Ⓛ</sup>	RMR	MRMS	MRMS	MRMS	MR	I	MI
PBA HighlandXT <sup>Ⓛ</sup>	MR	MR(p)	MS	MRMS	MR	I	MI
PBA Hurricane XT <sup>Ⓛ</sup>	RMR	MRMS(p)	MS	MRMS	MRMS	I	I
PBA Kelpie XT <sup>Ⓛ</sup>	MRMS	MRMS	MS	MRMS	MRMS	I	MI

**Disease ratings:** R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible (p) indicates provisional rating

**Boron and salinity ratings:** MI = moderately intolerant, I = intolerant

**Source:** Disease ratings are from GRDC NVT pathology ratings 2023.

**Table 4. Agronomic and physiological traits ratings of lentil varieties**

Variety	Size	Vigour	Flowering	Maturity	Lodging	Pod drop	Shattering
ALB Terrier <sup>Ⓛ</sup>	Small	M	M	M	MRMS	MR	MR
GIA Thunder <sup>Ⓛ</sup>	Small	M	M	M	MRMS	MR	MRR
PBA Hallmark XT <sup>Ⓛ</sup>	Medium	MG	M	ML	MR	MR	R
PBA HighlandXT <sup>Ⓛ</sup>	Small	MG	E	EM	MR	MR	MR
PBA Hurricane XT <sup>Ⓛ</sup>	Small	M	M	M	MR	MR	R
PBA Kelpie XT <sup>Ⓛ</sup>	Large	MG	EM	EM	MRMS	MR	R

**Vigour ratings:** M = medium, G = good

**Flowering and maturity ratings:** E = early, M = mid, L = late

**Lodging, pod drop and shattering ratings:** R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible

# ALB Terrier<sup>Ⓛ</sup>

## Small red lentil

### GRAIN QUALITY

#### Crop desiccation and harvest

The maturity timing of ALB Terrier<sup>Ⓛ</sup> is similar to PBA Hurricane XT<sup>Ⓛ</sup> and earlier than PBA Hallmark XT<sup>Ⓛ</sup>.

Correct timing of crop desiccation, timely harvest and optimum machine setup will optimise yield and seed quality of ALB Terrier<sup>Ⓛ</sup>.

#### Seed characteristics

ALB Terrier<sup>Ⓛ</sup> is a small red lentil variety with a grey seed coat. Seed size (as measured by average 100 seed weight) is slightly bigger than PBA Hurricane XT<sup>Ⓛ</sup> and not different from PBA Highland XT<sup>Ⓛ</sup>. As with all other lentil varieties, seasonal variations may occur.

#### Quality assurance

Seed purity is very important in lentils with a restriction of 1% for varieties not of the same type. Prevent seed contamination when changing varieties, particularly where cotyledon or seed coat colour differs.

Be particularly careful to avoid contamination of ALB Terrier<sup>Ⓛ</sup> with green lentils, such as PBA Giant<sup>Ⓛ</sup> or PBA Greenfield<sup>Ⓛ</sup>, as when split the yellow kernel of the green lentil seeds will contaminate and reduce the value of the red lentil product.

#### Grain characteristics

Variety	Seed shape	Seed coat colour	Cotyledon colour	Rel. seed size %
ALB Terrier <sup>Ⓛ</sup>	Round	Grey	Red	108
PBA Kelpie XT <sup>Ⓛ</sup>	Lens	Grey	Red	141
PBA Hallmark XT <sup>Ⓛ</sup>	Lens	Grey	Red	109
PBA Highland XT <sup>Ⓛ</sup>	Lens	Grey	Red	111
PBA Hurricane XT <sup>Ⓛ</sup>	Round	Grey	Red	100

**Source:** Data based on 100 GWT of each varieties from Agriculture Victoria's lentil breeding program analyses.

### MARKETING

ALB Terrier<sup>Ⓛ</sup> fits into the small sized lentil class for the human food market.

### BREEDING

ALB Terrier<sup>Ⓛ</sup> (evaluated as CIPAL2122) was developed by conventional plant breeding techniques and selected from a cross between PBA Jumbo2<sup>Ⓛ</sup> and PBA Hurricane XT<sup>Ⓛ</sup>. It was developed by Agriculture Victoria Research's (AVR) lentil breeding program using technology from Agriculture Victoria Services Pty Ltd.

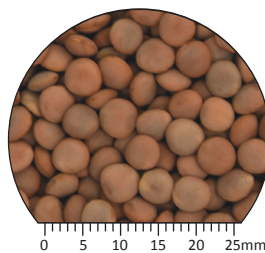
The breeding program's partnership with Seednet managed ALB Terrier<sup>Ⓛ</sup>'s seed multiplication process and commercialised the release of the variety.

**Seednet**

# ALB

## AUSTRALIAN LENTIL BREEDING

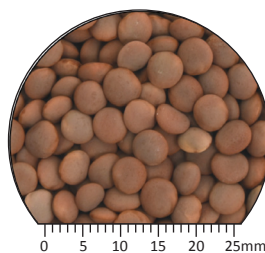
ALB is a collaborative project between the GRDC and Agriculture Victoria.



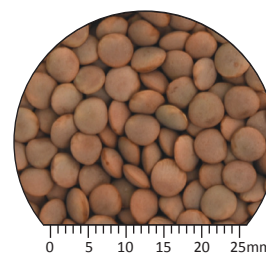
ALB Terrier<sup>Ⓛ</sup>



PBA Kelpie XT<sup>Ⓛ</sup>



PBA Hallmark XT<sup>Ⓛ</sup>



PBA Hurricane XT<sup>Ⓛ</sup>

### FOR MORE INFORMATION

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### SEED ENQUIRIES

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Seednet is proud to partner with Australian Lentil Breeding and invest in the improvement of Australian lentil varieties.

### AGRONOMIC ENQUIRIES

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