

Site attributes

Warren 2025

Seasonal conditions

Table 1: Rainfall at the Warren pulse site in 2025 compared with 2024 and the long-term average (LTA). In-crop rainfall (April to September) was 274 mm.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2024	86	76	50	74	38	59	65	69	14	44	87	40	702
2025	73	59	56	42	41	40	37	21	90	10	3	48	520
LTA	61	51	51	46	42	45	43	40	43	51	57	56	586

Soil characteristics

The soil at the Warren site is a Chromosol. The main limitation for pulse growth was low phosphorus. Predicta®B testing revealed a low to medium risk from low to medium population of *Pratylenchus thornei* (2.7 per gram of sample).

Table 2: Soil characteristics at the pulse site at Warren in June 2025.

Characteristic	Unit	Soil depth (cm)			
		0–10	10–30	30–60	60–90
pH	(CaCl ₂)	7.5	8.0	8.4	8.0
Organic carbon (W&B)	%	0.89	0.48	0.32	0.21
Phosphorus (Colwell)	mg/kg	23.0	<5.0	<5.0	<5.0
Nitrate nitrogen	mg/kg	17.0	9.8	8.0	2.1
Ammonium nitrogen	mg/kg	0.85	1.20	0.83	<0.60
Cation Exchange Capacity	meq/100g	25.1	33.9	42.0	54.4
Exchangeable aluminium	%	<1	<1	<1	<1
Salinity EC 1:5	dS/m	0.22	0.28	0.38	2.83

Site details

Table 3: Key site management activities at the pulse site at Warren in 2025.

Activity	Date	Comments
Soil moisture at sowing	All sow dates	Good
Sowing	Sowing date 1	14 April 2025
	Sowing date 2	8 May 2025
	Sowing date 3	30 May 2025
	All	Knife point press wheel
		Row spacing: 250 mm
		Phosphorus: 75 kg/ha MAP with seed
		Seed depth: 25–30 mm
Harvest	24 October	Faba beans, narrow leaf lupins
	27 October	Field peas, lentils
	6 November	Chickpea, Albus lupins
Crop sequence	2024	Wheat
	2023	Chickpea

Pulse species and variety comparison

Warren 2025

Key findings

Chickpeas

- Chickpea average grain yield was 1.98 t/ha, and peak biomass of CBA Captain[Ⓢ] was 6.6 t/ha.

Faba beans

- The highest grain yield was from the early sown trial (16 April), with PBA Warda[Ⓢ] (4.1 t/ha) followed by FBA Ayla[Ⓢ] and PBA Nasma[Ⓢ] (3.6 t/ha).
- The highest grain yield from the late sown trial (7 May) was FBA Ayla[Ⓢ], PBA Nasma[Ⓢ] and PBA Warda[Ⓢ] (average 2.94 t/ha).
- Early sown (14 April) PBA Nasma[Ⓢ] produced 11.6 t/ha dry matter, 1.5 t/ha more than from 8 May sowing.

Field peas

- APB Bondi[Ⓢ] and PBA Taylor[Ⓢ] had the highest grain yield (2.59 t/ha).
- APB Bondi[Ⓢ] produced 8.9 t/ha dry matter.

Lentils

- Lentils averaged 2.12 t/ha with no difference between varieties.
- GIA Thunder[Ⓢ] produced 6.8 t/ha dry matter.

Lupins

- PBA Bateman[Ⓢ] had the highest yield (1.84 t/ha) of the narrowleaf lupins and the Albus lupin Luxor[Ⓢ] yielded 1.65 t/ha.
- Both Luxor[Ⓢ] and PBA Bateman[Ⓢ] produced similar dry matter, averaging 8.05 t/ha.

Trial details

Five trials were conducted, one for each of the pulse species chickpea, faba bean, field pea, lentil, and lupin. A selection of varieties were sown in each trial with target plant population and sowing time to suit each species, and faba bean sown at 2 times.

Treatments

Table 1: Chickpea, faba bean, field pea, lentil and lupin varieties, sowing date and target plant density in 5 pulse trials at Warren in 2025.

Trial	Target plant density (plants/m ²)	Sowing date(s)	Harvest date	Varieties
Chickpea	35	30 May	6 November	CBA Captain [Ⓛ] , PBA Drummond [Ⓛ] , PBA HatTrick [Ⓛ] , PBA Seamer [Ⓛ]
Faba bean	20	14 April & 8 May	24 October	FBA Ayla [Ⓛ] , PBA Amberley [Ⓛ] , PBA Nasma [Ⓛ] , PBA Samira [Ⓛ] , PBA Warda [Ⓛ]
Field pea	40	30 May	27 October	APB Bondi [Ⓛ] , PBA Butler [Ⓛ] , PBA Taylor [Ⓛ] , Sturt
Lentil	110	30 May	27 October	ALB Terrier [Ⓛ] , GIA Thunder [Ⓛ] , PBA Hallmark XT [Ⓛ] , PBA Kelpie XT [Ⓛ]
Lupin	35	8 May	6 November 24 October	Albus: Luxor [Ⓛ] ; Narrowleaf: Coyote [Ⓛ] , PBA Bateman [Ⓛ] , PBA Jurien [Ⓛ]

Results

Yield

Table 2: Grain yield of pulse varieties in each species trial, including 2 sowing time trials of faba beans at Warren in 2025.

Variety	Grain yield (t/ha)	Variety	Grain yield (t/ha)	Variety	Grain yield (t/ha)
Chickpea		Field pea		Lentil	
CBA Captain	2.09	APB Bondi	2.60	ALB Terrier	2.26
PBA Drummond	2.11	PBA Butler	1.69	GIA Thunder	2.18
PBA HatTrick	1.80	PBA Taylor	2.57	PBA Hallmark XT	1.93
PBA Seamer	1.90	Sturt	1.75	PBA Kelpie XT	2.10
I.s.d. ($P = 0.05$)	0.12	I.s.d. ($P = 0.05$)	0.45	I.s.d. ($P = 0.05$)	n.s.
Lupin		Faba bean – sown 16 April		Faba bean – sown 7 May	
Luxor (Albus)	1.65	FBA Ayla	3.6	FBA Ayla	3.11
Coyote	1.38	PBA Amberley	2.4	PBA Amberley	2.67
PBA Bateman	1.87	PBA Nasma	3.6	PBA Nasma	2.78
PBA Jurien	0.95	PBA Samira	2.4	PBA Samira	2.46
I.s.d. ($P = 0.05$)	0.42	PBA Warda	4.1	PBA Warda	2.94
		I.s.d. ($P = 0.05$)	0.47	I.s.d. ($P = 0.05$)	0.40

Dry matter

Table 3: Peak biomass of select pulse varieties from each species trial at Warren in 2025.

Species	Variety	Dry matter (t/ha)
Chickpea	CBA Captain	6.6
Faba bean	PBA Nasma (sown 14 April)	12.6
	PBA Nasma (sown 8 May)	11.1
Field pea	APB Bondi	8.9
Lentil	GIA Thunder	6.8
Albus lupin	Luxor	8.1
Narrowleaf lupin	PBA Bateman	8.0

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