

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

Vetch variety evaluation for grazing and hay

Warren 2025

Key findings

- Mid-April sown Timok[®] produced the most total biomass (graze + hay; 10.2 t/ha) when grazed early (9 July) and then cut for hay.
- Mid-April sown vetch varieties, with the exception of Studenica[®], produced the same biomass (graze only; average 6.2 t/ha).
- Mid-April sown vetch grazed late (14 August) did not recover sufficiently to enable a hay cut.
- Early May sown Timok[®] and Morava produced more biomass (graze only; 3.4 t/ha) compared with the other 4 varieties (3.1 t/ha) at the mid August grazing.
- Early May sown Benetas produced the most biomass (hay only; 12.4 t/ha) from the hay cut on 9 October, compared to the other 5 varieties (hay only; average 7.6 t/ha).
- Grazing feed value (digestibility, metabolisable energy and crude protein) was higher in Morava and Timok[®] from 14 April sowing with 10 July grazing compared to 8 May sowing with 14 August grazing.

Treatments

Vetch varieties Benetas, Morava, Rasina, Studenica[®], Timok[®], and Volga[®] were sown on 2 dates with grazing and hay cut treatments as in Table 1.

Table 1: Sowing date and grazing/hay cut treatments of vetch grown at Warren in 2025.

Sow date	Grazing/hay
Sow date 1: 14 April	Early graze + hay cut
	Late graze only
Sow date 2: 8 May	Late graze + hay cut
	Hay cut only

Results

Dry matter yield

Table 2: Date of grazing or hay cut and dry matter yield at each graze/cut and total dry matter produced by six vetch varieties sown on 2 dates at Warren in 2025.

Timing	Variety	Graze		Hay		Total DM (t/ha)
		DM (t/ha)	Date	DM (t/ha)	Date	
Sow date 1: 14 April						
Early graze + hay cut	Benetas	3.2	9 Jul	6.1	7 Oct	9.3
	Morava	3.3	9 Jul	5.8	7 Oct	9.1
	Rasina	3.3	9 Jul	6.4	7 Oct	9.7
	Studenica	2.9	9 Jul	6.8	23 Sep	9.6
	Timok	3.6	9 Jul	6.6	7 Oct	10.2
	Volga	3.8	9 Jul	5.4	23 Sep	9.3
Late graze only	Benetas	6.4	14 Aug	–		6.4
	Morava	6.0	14 Aug	–		6.0
	Rasina	6.2	14 Aug	–		6.2
	Studenica	5.2	14 Aug	–		5.3
	Timok	6.3	14 Aug	–		6.3
	Volga	6.3	14 Aug	–		6.3
	I.s.d. (<i>P</i> = 0.05)	1.10		1.71		1.60
Sow date 2: 8 May						
Late graze + hay cut	Benetas	3.1	14 Aug	4.5	7 Oct	7.6
	Morava	3.4	14 Aug	4.1	7 Oct	7.4
	Rasina	3.1	14 Aug	4.9	7 Oct	8.1
	Studenica	3.0	14 Aug	4.4	7 Oct	7.3
	Timok	3.4	14 Aug	5.2	7 Oct	8.6
	Volga	3.1	14 Aug	4.4	7 Oct	7.5
Hay cut only	Benetas	–		12.4	7 Oct	12.4
	Morava	–		6.7	23 Sep	6.7
	Rasina	–		8.1	23 Sep	8.1
	Studenica	–		7.2	23 Sep	7.2
	Timok	–		8.2	23 Sep	8.2
	Volga	–		7.8	23 Sep	7.8
	I.s.d. (<i>P</i> = 0.05)	0.73		2.38		2.37

Feed quality

Table 3: Feed quality at grazing time and hay cut of select vetch varieties sown on 2 dates at Warren in 2025.

Timing	Variety	Graze			Hay		
		DMD [#] (%)	ME [#] (MJ/kg DM)	CP (%)	DMD [#] (%)	ME [#] (MJ/kg DM)	CP (%)
Sow date 1: 16 April							
Early graze + hay cut	Morava	76.3	11.8	24.0	66.7	9.8	18.0
	Timok	75.6	11.8	25.2	67.6	10.0	15.5
	Benetas	–	–	–	66.3	9.8	22.3
	Volga	–	–	–	77.2	11.7	19.3
Late graze only	Morava	64.2	9.4	22.4	75.2*	11.3*	19.1*
	Timok	64.3	9.1	19.3	–	–	–
Sow date 2: 7 May							
Late graze + hay cut	Morava	64.7	9.2	23.3	65.7	9.7	17.9
	Timok	67.2	9.7	22.6	69.6	10.4	15.6
	Benetas	–	–	–	66.5	9.8	22.4
	Volga	–	–	–	70.8	10.6	16.1
Hay cut only	Morava	–	–	–	68.2	10.1	20.0
	Timok	–	–	–	71.0	10.6	18.2
l.s.d. (<i>P</i> = 0.5)		2.99	0.75	3.00	3.48	0.60	2.53

DMD = digestibility of the dry matter; ME = metabolisable energy per kilogram of dry matter; CP = crude protein.

* Morava was sampled at hay cut time and quality analysed.

Acknowledgement

We gratefully acknowledge the investment support of the GRDC for BRA2105-001RTX, 'Development and extension to close the economic yield gap and maximise farming systems benefits from grain legume production in New South Wales'.

Thanks to farm co-operator Rit & Jes McKay, 'North Winnabri', Warren.

Contributor

Ben O'Brien – Grain Orana Alliance ben.obrien@grainorana.com.au

© Brill Ag 2025

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of publication (July 2026). Readers should make their own enquiries and rely on their own advice when making decisions related to material contained in this publication.

