

# Trangie

## Trangie site attributes

2023

### Rainfall

**Table 5:** Monthly rainfall in 2023 and long-term average (LTA, 1878–2023), total annual and growing season (GSR, April–October) rainfall at Trangie (Silo PPD).

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	GSR
2023	42	52	36	55	4	36	26	10	3	18	63	67	412	152
LTA	56	52	47	39	40	42	37	34	34	47	45	46	519	273

### Soil characteristics

Sampled May 2023		Soil depth (cm)			
Characteristic	Unit	0–10	10–30	30–60	60–90
pH (CaCl <sub>2</sub> )		4.7	5.0	5.9	6.2
pH (water)		5.8	6.1	7.1	7.4
Organic Carbon	%	0.9	0.4	0.3	0.2
Electrical conductivity (1:5 water)	dS/m	0.07	0.05	0.03	0.03
Phosphorus (Colwell)	mg/kg	34	12	<5	<5
Sulphur (KCl4O)	mg/kg	5	4	<1	3
Chloride	mg/kg	<10	<10	<10	<10
Nitrate N	mg/kg	17.0	13.0	3.3	1.7
Ammonium N	mg/kg	1.2	<0.6	2.6	1.2
Cation exchange capacity (CEC)	meq/100 g	5.7	6.0	8.9	15.5
Exc. calcium	%	3.7	4.2	5.4	8.7
Exc. magnesium	%	1.0	1.1	2.9	6.2
Exc. potassium	%	1.00	0.75	0.54	0.47
Exc. sodium	%	<0.02	<0.02	0.04	0.17
Soil colour		brown	brown	orange/yellow	orange/yellow
Soil texture		clay	clay	clay	clay

### Crop sequence and key management dates

Crop sequence			Site management 2023		
Year	Crop	Cultivar	Activity	Date	Comments
2022			Sowing	9 May	Main sowing: all species
2021				7 June	Late sowing: faba beans, lupins, vetch
2020			Harvest	18 October	Field peas, vetch
				1 November	Chickpeas, faba beans, lentils
				15 November	Lupin, canola, wheat

# Faba bean disease management

## Trangie 2023

### Key findings

- In-crop rainfall was very low in 2023 (~92 mm) and therefore diseases such as chocolate spot were not detected.
- The dry season suited PBA Nasma<sup>Ⓛ</sup> better than PBA Samira<sup>Ⓛ</sup>, with grain yield of 1.58 t/ha and 1.22 t/ha, respectively. Much of this yield was grown using residual stored soil moisture from the very wet 2022 season.
- Four fungicide treatments were planned including Nil, Budget, Reactive and Complete. As two of these treatments were reactive to rainfall forecasts, only the Complete and Nil fungicide treatment were applied.
- Despite the lack of disease present, there was a small (likely uneconomic) benefit of fungicide application on grain yield (0.1 t/ha).

### Trial details

**Table 10:** Trial management details for faba bean disease management trial at Trangie in 2023.

Management	2023
Sowing date	9 May
Starter fertiliser	MAP @ 75 kg/ha
Harvest date	9 November
Target plant population	20 plants/m <sup>2</sup>
Varieties	PBA Samira <sup>Ⓛ</sup> – moderately susceptible (MS) to chocolate spot PBA Nasma <sup>Ⓛ</sup> – susceptible (S) to chocolate spot

**Table 11:** Proposed fungicide treatments for faba bean disease management at Trangie in 2023.

Fungicide treatment	Description	Timing of fungicide application			
		~3 weeks post emergence	~6 weeks post emergence	Early flowering	Early podding
Nil	No fungicides applied	Nil	Nil	Nil	Nil
Budget*	Preventative management with lower cost products	Spray if rain forecast	Spray if rain forecast	Spray if rain forecast	Spray if rain forecast
Reactive*	Reacting to presence of disease, with higher cost products	nil	nil	Spray if disease present and rain forecast	Spray if disease present and rain forecast
Complete	Application based on time	Spray	Spray	Spray	Spray

\* Treatments were not applied due to dry season



**Table 12:** Fungicide treatments applied to faba bean disease management trial at Trangie in 2023.

Fungicide treatment	Date applied	Fungicide applied
Nil	Nil	
Complete	21 June	Mancozeb 750 @ 1.5 kg/ha
	20 July	Mancozeb 750 @ 1.5 kg/ha
	17 August	Carbendazim 500 @ 0.5 L/ha + chlorothalonil 720 @ 1.5 L/ha
	7 September	Carbendazim 500 @ 0.5 L/ha + chlorothalonil 720 @ 1.5 L/ha

## Results

### Grain yield

**Table 13:** Grain yield of two faba bean varieties and two fungicide treatments at Trangie in 2023.

Fungicide treatment	Grain yield (t/ha)		
	PBA Nasma	PBA Samira	Mean (fungicide)
Nil	1.58	1.19	1.39
Complete	1.70	1.29	1.49
Mean (variety)	1.64	1.24	
I.s.d. ( $P < 0.05$ ) variety	0.10		
I.s.d. ( $P < 0.05$ ) fungicide	0.10		
I.s.d. ( $P < 0.05$ ) variety × fungicide	n.s.		

n.s. = not significantly different