

Pulse species and variety comparison

Barellan 2021

Key findings

- The site chosen for the trial was a red sandy loam soil with inherent low fertility and an acidic topsoil, pH (CaCl₂) 4.5.
- In the lentil trial PBA Hallmark[Ⓛ] had the highest grain yield (2.6 t/ha), higher than both PBA Highland[Ⓛ] and PBA Kelpie[Ⓛ]. There was no difference in peak biomass between any of the varieties.
- Sturt[Ⓛ] had the highest grain yield in the field pea trial (5.3 t/ha), with PBA Wharton[Ⓛ] lower yielding (3.9 t/ha). PBA Wharton[Ⓛ] also had a lower peak biomass (9.9 t/ha), compared to Sturt[Ⓛ] (12.5t/ha) and PBA Taylor[Ⓛ] (12.7 t/ha).
- CBA Slasher[Ⓛ] yielded the highest in the chickpea trial (2.7 t/ha), with both CBA Slasher[Ⓛ] (5.0 t/ha) and CBA Captain[Ⓛ] (4.9 t/ha) having higher peak biomass than the kabuli variety PBA Royal[Ⓛ].
- There were no differences in yield between varieties in the faba bean variety trial. PBA Samira[Ⓛ] had the highest peak biomass of the faba bean varieties (9.4 t/ha).
- The Albus lupin variety Luxor[Ⓛ] was the highest yielding variety in the lupin trial (3.0 t/ha), higher than both Murringo[Ⓛ] and PBA Bateman[Ⓛ].
- There were no differences in yield or biomass between varieties in the vetch trial.

Trial Details

Table 1: Trial management and pulse species by variety assessed at Barellan in 2021.

Management				
Pre-sow herbicides		13 May: 2 L/ha Crucial [®] (600 g/L glyphosate) + 20 g/ha Terrad [®] or [®] (700 g/kg tiafenacil) + 800g/ha Terbyne [®] (750 g/kg terbuthylazine) + 1.2 L/ha Treflan (480 g/L trifluralin) + Hasten (0.5 L/100 L)		
Sowing date		13 May		
Starter fertiliser		80 kg/ha SuPerfect [®] (phosphorus 8.8%, sulphate sulphur 11.0%, calcium 19%)		
Species	Target plant population (plant/m ²)	Variety		
Lentils	100	PBA Hallmark XT [Ⓛ]	PBA Highland XT [Ⓛ]	PBA Kelpie XT [Ⓛ]
Vetch	40	Timok [Ⓛ]	Rasina [Ⓛ]	Volga [Ⓛ]
Field Pea	40	PBA Taylor [Ⓛ]	Sturt [Ⓛ]	PBA Wharton [Ⓛ]
Lupin	30–40	PBA Bateman [Ⓛ]	Murringo [Ⓛ]	Luxor
Chickpea	40	CBA Captain [Ⓛ]	PBA Slasher [Ⓛ]	PBA Royal [Ⓛ]
Faba bean	20	PBA Samira [Ⓛ]	PBA Marne [Ⓛ]	PBA Nasma [Ⓛ]

Results

Grain Yield

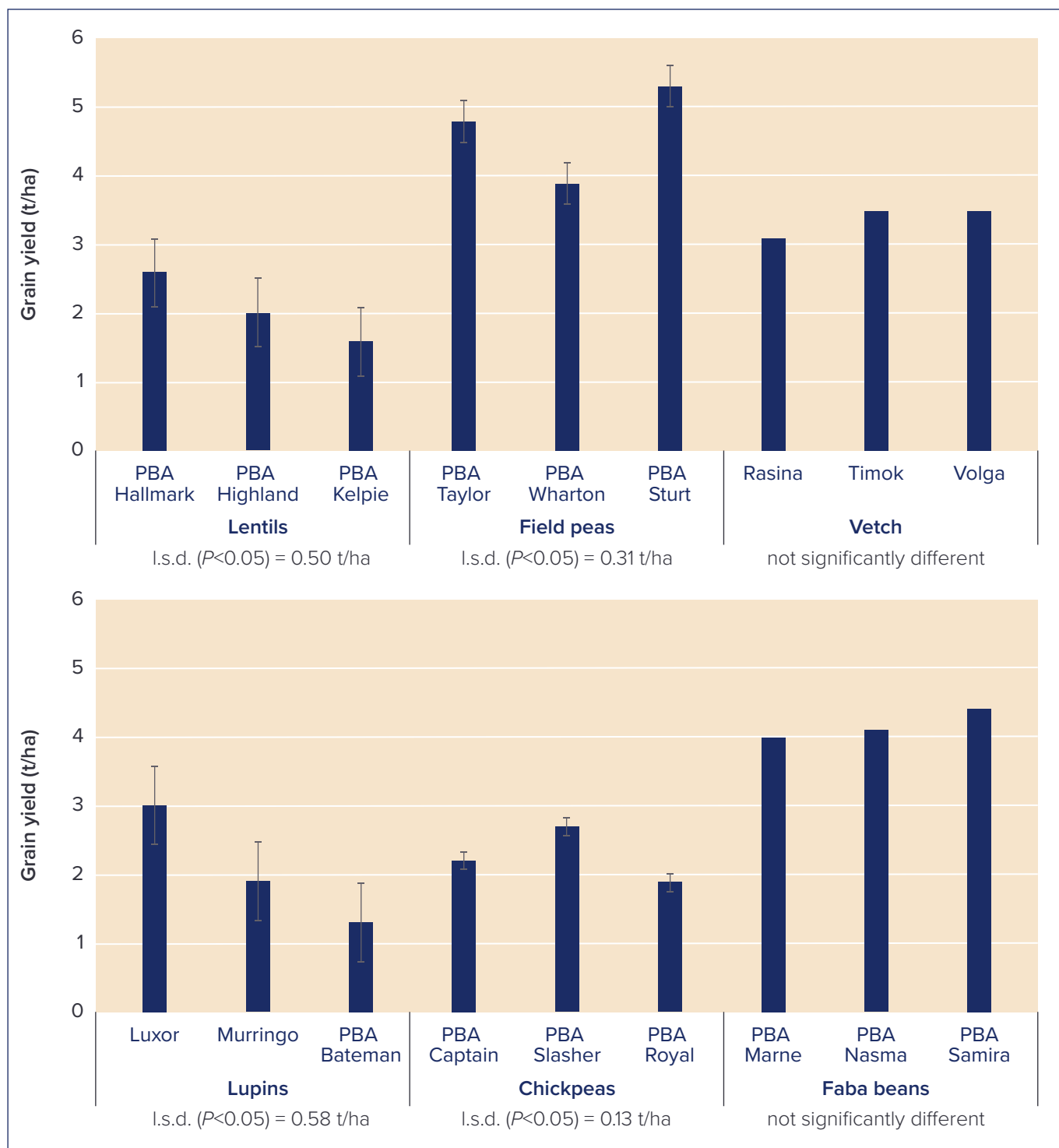


Figure 1: Grain yield of each pulse species by variety at Barellan in 2021.

Peak Biomass

Table 2: Peak biomass (measured at early to mid podding) of each pulse species by variety at Barellan in 2021.

Variety	Peak biomass (t/ha)	Variety	Peak biomass (t/ha)	Variety	Peak biomass (t/ha)
Chickpeas		Faba beans		Field peas	
CBA Captain	4.9	PBA Marne	6.3	PBA Taylor	12.7
PBA Royal	3.7	PBA Nasma	7.0	PBA Wharton	9.9
CBA Slasher	5.0	PBA Samira	9.4	Sturt	12.5
l.s.d. ($P < 0.05$)	0.68	l.s.d. ($P < 0.05$)	1.20	l.s.d. ($P < 0.05$)	1.60
Lentils		Lupins		Vetch	
PBA Hallmark	6.8	Luxor	5.5	Rasina	8.6
PBA Highland	5.2	Murringo	6.3	Timok	9.3
PBA Kelpie	5.1	PBA Bateman	*	Volga	8.9
l.s.d. ($P < 0.05$)	n.s.	l.s.d. ($P < 0.05$)	n.s.	l.s.d. ($P < 0.05$)	n.s.

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