

F4 Crop Topping/Harvest timing (Blue pea focus), MRZ Wimmera (Pimpinio), Victoria

Aim

To compare the growth, grain yield of potential new blue field varieties.

Treatments

Varieties: OZB1303, OZB1308, OZB1309, OZB1310, OZB1311, OZB1315, OZB1324, Maki, Bluey, Excell (blue, control), PBA Pearl (White), Kasper (Dun).

Treatments:

Treatment	Detail
Nil	No desiccant applied (Harvested at correct time)
Mid Crop-top	Paraquat 250 @800ml /ha applied at ryegrass milky dough stage ("Recommended").
Delay Harv 1	Harvest delayed by approximately 7 days
Delay Harv 2	Harvest delayed by approximately 14 days

Other Details

Sowing date: 14 May
Row Spacing: 30cm
Stubble: Standing, approximately 30 cm (sown inter-row)
Fertiliser: MAP + Zn @ 80 kg/ha at sowing.
Plant Density: 40 plants/m²
Soil Type: Alkaline Black cracking clay (Table 1 in Trial L2 above)

Results and Interpretation

- Key Message: The new blue line OZB1309 displayed yields equivalent to PBA Pearl, which is generally the highest yielding pea in many NVT and breeding trials in Victoria.
- Plant establishment – Establishment was generally consistent across varieties, although there was some mouse damage.
- Plant growth, Disease, Flowering and Maturity – Similar to Curyo growth until August was good, however the dry and frosty conditions throughout August and September slowed growth and significantly reduced grain yields. Ascochyta blight was observed earlier in the season at significant levels. All the new blue lines showed less damage than current cultivars with OZB10308 and OZB1309 looking particularly good (Table 1). Bluey and Excell showed quite severe ascochyta blight damage. Severe frosts caused major flower drop and pod loss at various stages throughout the season. There appeared to be no major differences between varieties visual in response to these events, probably due to the severity and frequency of events. Both flowering and maturity were impossible to accurately assess due to the severe weather events. In addition to all this, a hail storm in August caused further crop damage and initial signs of bacterial blight were observed. Symptoms did not progress, probably due to the lack of rain.
- Grain Yield and Grain Weight – Due to the extensive frost events during flowering and podding and extremely dry finish to the season there was no significant impact of harvest treatment on grain yield, weight and seed quality. However, there were significant differences in the yields of varieties. Grain yields of the new blues ranged from 0.35 to 0.83 t/ha, all significantly higher than Excell (0.20t/ha) and most higher than Kasper (0.40t/ha) (Table 1). The white pea PBA Pearl was the highest yielding line at 0.85t/ha. Grain weights were generally 20 – 30% lower than observed in the similar trial at Curyo and quality was relatively poor.

Table 1. Ascochyta Blight Scores, Grain Yield and Grain Weight of new blue field pea lines at Pimpinio in 2014 compared with Excell (Blue), PBA Pearl (White), and Kaspas (Dun).

Variety	AB Score (0-100) ¹	Grain Yield (t/ha)	Grain Weight (g/100seed)
PBA Pearl	26	0.85	14.3
OZB1309	15	0.83	14.2
OZB1315	20	0.74	14.0
OZB1308	15	0.71	13.3
OZB1324	21	0.69	13.8
OZB1310	18	0.65	16.1
OZB1303	20	0.55	14.0
Kaspas	37	0.40	15.5
Maki	30	0.37	15.0
OZB1311	20	0.35	15.5
Bluey	46	0.21	15.5
Excell	47	0.20	15.8
lsd	6	0.09	0.9

1. 0-100 score where 0 = 'No Disease', 100 = 'Crop death'

Key Findings and Comments

- The ascochyta blight resistance of the new blue lines appears to be significantly better than the commercial blue varieties, Bluey and Excell and the dun variety, Kaspas. Most of the new lines also appear better than PBA Pearl and commercial white variety.
- Despite the extreme weather events during spring, including a multitude of frosts, most of the new blue lines produced yields above a potential break even yield of 0.55t/ha (based on grain prices at \$330/t with fixed management costs of \$180/ha). Bluey and Excell were barely worth harvesting, with yields less than half of most of the new blue lines. Similar to Curyo several lines have quite mixed seed colour (darker and lighter blue), which needs to be investigated and sorted in trials for 2015.