

### **L3. Crop Topping, LRZ Southern Mallee (Curyo), Victoria**

#### **Aim**

To investigate the suitability of a range of lentil varieties and breeding lines differing in flowering and maturity characteristics for crop-topping/desiccation.

#### **Treatments**

Varieties: Aldinga, Boomer, Nipper, Nugget, PBA Bounty, PBA Flash, PBA Blitz, CIPAL0501, CIPAL0802, CIPAL0803.

Crop Topping: Nil  
Early: Applied approximately 10-14 days pre rye grass milky dough stage (25<sup>th</sup> October)  
Mid: Applied at rye grass milky dough (9<sup>th</sup> November)  
Late: Applied approximately 10-14 days post rye grass milky dough stage (22<sup>nd</sup> November)

#### **Other Details**

Sowing date: 6 May  
Row Spacing/Stubble: 30 cm row spacing, inter-row, standing stubble (ST, 0.30);  
Fertiliser: MAP + Zn @ 40 kg/ha at sowing  
Plant Density: 120 plants/m<sup>2</sup>

#### **Results and Interpretation**

- Key Message: results generally showed that earlier maturing lines displayed less yield loss in crop-topping treatments than later maturing types.
- Grain Yield – Due to extreme rainfall events throughout harvest, grain yields were significantly reduced similar to previous trials. This trial was harvested December 16, however without the interruption of rain, the early desiccation treatment could have been harvested mid November. Crop-topping at the recommended time resulted in a 20% yield loss across all varieties, however the only varieties to produce a significant yield loss was Nugget, PBA Bounty, CIPAL0803 and CIPAL0501 (Table L3.1). None of the earlier maturing lines (PBA Blitz, PBA Flash and CIPAL0802) showed a significant yield loss compared to the nil, although there was a trend towards lower yield potential in these varieties due to the longer season in 2010. PBA Blitz showed no significant yield loss in any desiccation treatment, although its yield in the Nil treatment was 50% less than Nugget and in other treatments was equal or less than other varieties.

**Table L3.1.** The interaction effect of crop topping treatment and lentil genotype on grain yield (t/ha) at Curyo in 2010. Varieties are ranked according to their visual maturity rating, i.e. PBA Blitz was earliest and Nipper latest.

Variety	Nil	- 2 weeks (25 Oct)	Recommended (9 Nov)	+ 2 weeks (22 Nov)
PBA Blitz	0.56	0.38	0.50	0.56
CIPAL0802	0.64	0.36	0.63	0.62
PBA Flash	0.80	0.41	0.64	0.78
Nugget	1.05	0.29	0.79	0.82
PBA Bounty	0.97	0.38	0.72	0.82
Aldinga	0.47	0.25	0.36	0.43
Boomer	0.70	0.50	0.52	0.68
CIPAL0803	0.93	0.48	0.70	0.65
CIPAL0501	0.88	0.31	0.64	0.77
Nipper	0.76	0.26	0.62	0.53
Mean	0.78	0.36	0.61	0.67

lsd(P<0.05)Crop Top x Gen = 0.21, except when comparing genotypes within a crop topping treatment = 0.19.

**Key Findings and Comments**

Similar to previous experiments it is important to interpret the grain yield results with caution as it was demonstrated that yield loss due to extreme rainfall events was between 27% and 65% (Trial L1). Despite these limitations the general trend in results was that the earlier maturing lines displayed less yield loss in crop-topping treatments than later maturing types.