

F8. Crop-topping/Desiccation, Mid North (Balaklava), South Australia

Aim

To determine the correct maturity timing required in field pea for successful crop topping practice.

Treatments

Varieties: Alma, Bundi, Dundale, Glenroy, Kaspia, Morgan, Parafield, PBA Gunyah, PBA Twilight, Sturt, SWCeline, Yarrum, PSL-RESEL, OZP0703, OZP0804, OZP0805.

Sowing date: 4 June

Treatments: see tables for dates

Nil - no desiccant applied

Early Crop-top - applied 7-14 days pre ryegrass milky dough stage

Mid Crop-top - applied at ryegrass milky dough stage ("Recommended")

Late Crop-top - applied 7-14 days post ryegrass milky dough stage

Fertiliser: Map + Zn @ 90kg/ha

Results and Interpretation

Crop-topping treatments had a significant effect on both grain yield and grain weight in 2010. The early crop-top timing significantly reduced yield and grain weight of all varieties, while the late timing had no significant effect on either yield or grain weight (Table F8.1). Yarrum and Parafield had reduced yield and grain weights from crop-topping at the recommended timing, while Glenroy also had reduced yields and OZP0804 showed reduced grain weight.

Table F8.1. Effect of crop-top timing on grain yield and grain weight of field peas, Balaklava 2010. Varieties are ranked according to their visual maturity rating from earliest to latest

Treatment	Yield (t/ha)	Yield (% of Nil)			Grain Wt. (g/100)	Grain Weight (% of Nil)		
Variety	Nil	- 2 wks ^a (20/10)	Recommended (5/11)	+ 2 wks ^b (19/11)	Nil	- 2 wks ^a (20/10)	Recommended (5/11)	+ 2 wks ^b (19/11)
PSL-RESEL	1.45	54	94	93	16.2	73	95	96
SWCeline	2.22	61	86	93	19.2	68	103	93
PBA Twilight	1.73	53	91	95	16.4	74	99	99
PBA Gunyah	1.79	55	92	101	17	81	106	102
Bundi	1.69	43	94	99	16.8	78	101	104
OZP0703	2.03	54	89	99	17.6	72	101	99
OZP0805	2.29	48	93	100	17.2	69	97	102
Dundale	1.85	50	92	86	17.1	79	97	91
OZP0804	2.24	49	98	110	15.9	62	89	99
Yarrum	3.07	32	72	98	19.4	52	91	96
Kaspia	1.99	45	100	94	15.9	73	99	99
Sturt	2.38	49	89	100	15.4	78	97	101
Parafield	1.96	40	70	85	14.3	69	89	95
Alma	1.57	45	93	96	15.4	75	100	102
Glenroy	2.03	38	74	85	14.2	79	95	101
Morgan	2.03	31	84	105	13.7	69	93	97
Mean	2.02	0.93	1.76	1.95	16.4	11.7	15.9	16.1

NB: Shading denotes significant difference from the Nil treatment.

^a = 2 weeks prior to recommended timing

^b = 2 weeks after recommended timing

Key Findings and Comments

- The wet season end in 2010 meant that all varieties showed reduced yield and grain weight from the early crop-top timing, regardless of maturity.
- At the recommended crop-top timing yield of the later maturing lines Parafield, Yarrum and Glenroy was significantly affected, while some later maturing lines were not. This may have

been a result of a moderate powdery mildew infection at this site, which sped up maturity of sensitive lines. Yarrum, which has mid maturity and is powdery mildew resistant, would not otherwise have been expected to show this yield penalty at this timing as shown by 2009 results.

- Further work is required to validate these results.