

L7. Crop-topping/Desiccation, MRZ Yorke Peninsula (Melton), South Australia

Aim

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

Treatments

Varieties: Boomer, Cumra, Nipper, Nugget, PBA Blitz, PBA Bounty, PBA Flash, CIPAL0501, CIPAL0605, CIPAL0607, CIPAL0611, CIPAL0801, CIPAL0802, CIPAL0804, CIPAL0901, CIPAL0902.

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

Grain yield of all varieties in this study was reduced by crop-topping at 2 weeks prior to the recommended timing (ryegrass milky dough stage) (Table L7.1). Grain yield was also reduced at the recommended timing in the later maturing varieties Boomer, CIPAL0501, CIPAL0607 and Nugget. CIPAL0501 (the latest maturing variety in this trial) suffered the most significant yield penalty at all crop-top timings, and was also the only variety affected at the late crop-top timing.

At the early crop-top timing only Boomer, CIPAL0801, CIPAL0804, Nipper and Nugget did not show a reduction in grain weight (Table L7.1), while CIPAL0804 showed an increase in grain weight at this timing. The same varieties affected at the early crop-top timing also showed reduced grain weight at the mid timing with the exception of PBA Bounty, PBA Flash, CIPAL0802, CIPAL0901 and CIPAL0902. Boomer and Nugget also showed reduced grain weight at this timing, but their early crop-top grain weights were the same as the nil. The late crop-top timing had no effect on grain weight.

Table L7.1. Effect of crop-top timing on grain yield and grain weight of lentils, Melton 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 (25/10)	Recommended (11/11)	+ 2 wks ^b (23/11)	Nil	- 2 wks ^a (25/10)	Recommended (11/11)	+ 2 wks ^b (23/11)
PBA Blitz	3.86	25	101	101	5.29	91	92	98
Cumra	2.51	37	113	122	4.23	79	91	100
CIPAL901	3.44	34	115	112	4.84	82	97	102
CIPAL902	3.67	33	110	115	3.87	90	96	102
PBA Flash	3.46	33	98	104	4.79	89	97	100
CIPAL802	4.04	39	93	99	4.37	89	95	98
CIPAL605	4.35	33	97	100	5.08	91	94	99
CIPAL611	3.24	28	105	118	4.79	92	95	96
CIPAL801	3.69	35	101	90	4.29	94	95	97
PBA Bounty	3.51	33	99	98	3.79	83	95	102
Nipper	3.52	38	98	108	3.33	94	92	98
CIPAL804	3.05	31	105	108	5.72	111	96	103
CIPAL607	4.13	27	86	96	3.57	97	93	102
Boomer	3.89	29	86	96	6.87	103	89	98
Nugget	3.78	29	78	90	4.16	98	88	104
CIPAL501	4.01	17	68	86	5.28	94	92	105
Mean	3.63	1.13	3.50	3.70	4.64	4.31	4.32	4.65

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 and late finish to the 2010 season meant that early crop-topping was very detrimental to yield of all lentil varieties
- Later maturing lentil varieties also showed a yield penalty from crop-topping at the recommended timing (ryegrass milky dough stage).
- CIPAL0501 was the most sensitive variety to crop-topping, showing a reduction in yield from crop-topping at all three timings. This variety also has the latest maturity in this trial.
- The early crop topping treatment reduced grain yields of most pulse varieties, while the late crop-top timing had no effect on grain weight.