

L5 Sowing Time, H-MRZ Wagga Wagga, NSW

Aim

To maximise yield of new lentil varieties through the identification of optimum variety and sowing dates.

Treatments

Varieties:	Boomer, Nipper, PBA Blitz, PBA Flash, CIPAL0801 (PBA Bolt), CIPAL0802, CIPAL0803 (PBA Ace) and CIPAL0901
Sowing dates:	10th May (Early), 14 th June (Late)
Row spacing:	300mm
Fertiliser:	Legume Starter @ 115 kg/ha at sowing banded below the seed
Plant population:	120pl/m ² target

Results and Interpretation

In the 2011 season, lentil variety choice significantly influenced grain yield (see Figure L5.1), while sowing time and variety by sowing time effects were not significant (Figure L5.2). The two emerging PBA lentil varieties CIPAL0803 (PBA Ace) and CIPAL0901 yielded higher than current commercial varieties, with CIPAL0803 significantly higher yielding than all commercial varieties. The yields achieved would suggest lentil production within the southern NSW cropping zone could be highly profitable.

PBA Ace is a new high yielding disease resistant mid maturity vigorous lentil variety well suited to southern NSW. This variety should re-invigorate interest in lentil in this region.

While yields generally trended lower with delayed sowing time, yield effects were not significant in any variety. Spring growth conditions and water supply were favourable for continued spring growth and in this season later sown crops were able to fulfil most of the plants yield potential.

Management significantly affects plot emergence and subsequent growth

For many years at Wagga, we have experienced emergence problems, patchy uneven growth and low yields across our lentil trials, often attributing much of this to an unfavourable southern NSW environment, and in particular our acidic red-brown soils. However, we altered some of our management practices in 2011 and this resulted in significantly better emergence, establishment and even growth across our trials -

- The sowing boots were modified to separate seed and fertiliser within the sowing row, placing fertiliser approximately 20mm below the seed. This minimised fertiliser toxicity.
- We increased sowing depth from 25mm to 40mm. This assisted separation of seed and herbicide.
- Row spacing was increased from 200mm to 300mm to adopt more of an industry practice and conform to most growers' machinery.
- Herbicide damage from Metribuzin was reduced by reducing post sowing rate of from maximum to minimum label rates.

Overall, these changes resulted in improved emergence, more even and vigorous crop growth, less variable trials and higher yields. Identifying roles of each factor in improving crop establishment and growth could guide direction for future agronomy investigations. Weed control during the preceding years becomes even more paramount for lentils.

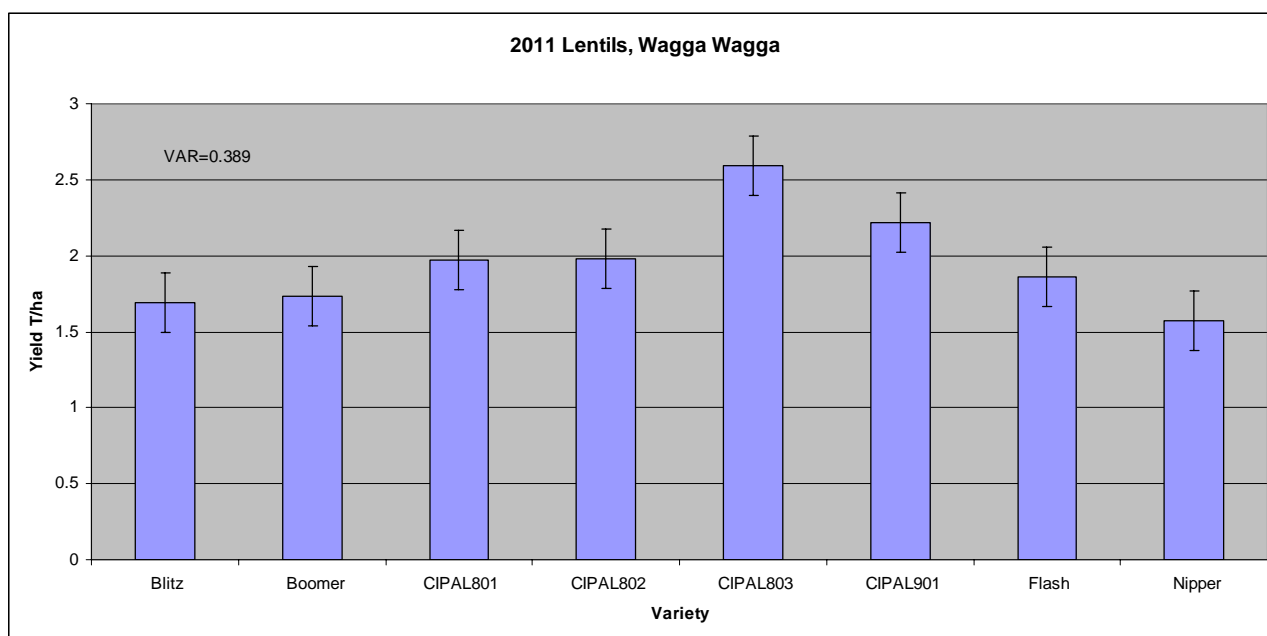


Figure L5.1. Effect of variety on grain yield (t/ha) of 8 lentil varieties, Wagga 2011

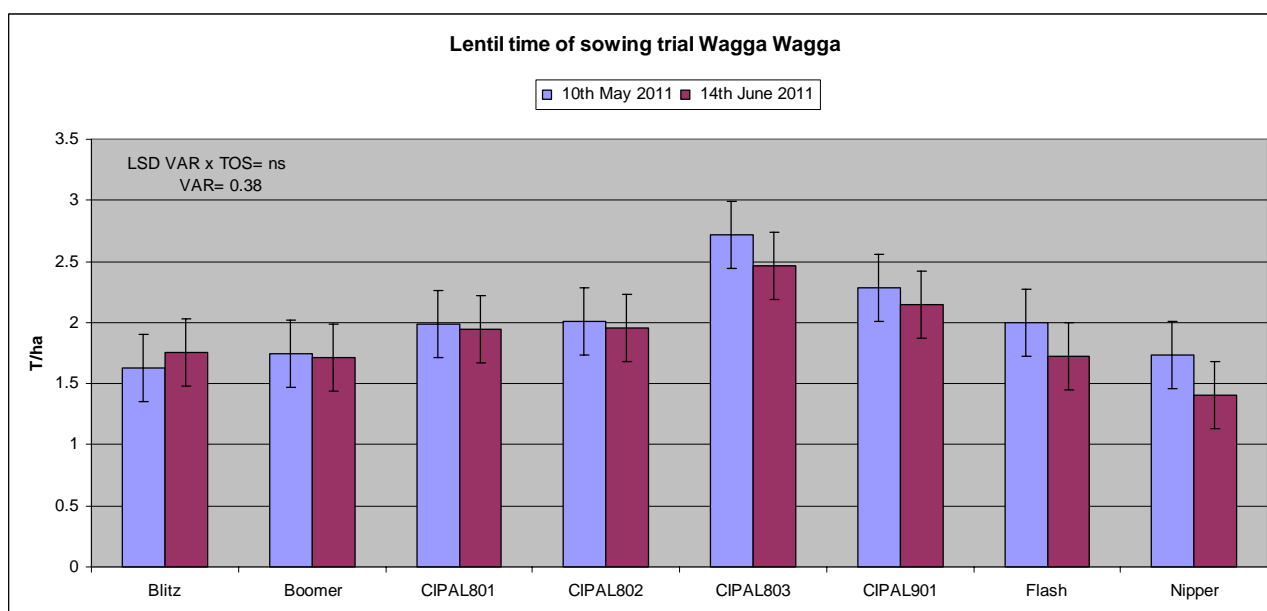


Figure L5.2. Effect of sowing date on grain yield (t/ha) of 8 lentil varieties, Wagga 2011.

Key Findings and Comments

- Lentils grew well on acidic red brown soils of southern NSW
- PBA Ace (CIPAL0803) and CIPAL0901 were the highest yielding varieties.
- Sowing from 10 May to 7 June had no significant affect on yield in 2011 growing season.
- These yields (> 2 t/ha) support a viable and profitable lentil industry in southern NSW
- Lentils are more sensitive to commonly used herbicides and considerable care must be taken.