7.7 PULSE BEST MANAGEMENT PRACTICE DEMONSTRATION (YALLA-Y-POORA VIC)

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Location: SFS Site, Yalla-Y-Poora

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Rainfall (2005): 543 mm (total)

Summary:

- The use of pulses in the southern regions show some potential- further trial work needs to be done to examine this fit.
- Follow up Sub soil and Deep N tests need to show +/- effect of N in system
- Pulses could be economically viable as a crop, disease and weed break.

Background:
A demonstration trial was conducted by the local SFS Pulse Focus group to examine pulse varieties in this region to examine their fit in terms of the cropping program, ryegrass manipulation and nitrogen fixation . A farmer sown strip is also thought to be a better size to "look and see" newer varieties in a semi-commercial situation, and examine a treatment matrix for visual responses.

Data is not replicated and doesn't account for trial variation and should be used with caution.

Objectives:
To establish some potential performance of pulse crops in the region and if any crops, varieties and treatments are worthy of further trialling and replicated yield data.

Methodology:
10 x 10m x 100m plots were sown side by side, on Canola stubble at the YYP site. Plots were sprayed with 20m boom initially. Bean and Lupins were sown on 18" row pacings with Morgans RFM Airseeder, the Peas and Chickpeas with Walkers 7" Simplicity. Plots were to be treated with Industry best practice, to examine the full potential of these crops. Various soil and spray programs were applied across the treatments in 5m widths. Plots were weighed for yield.

	Varieties	Kg/ha	Pl/m^2
1	Kaspa Peas (B)[24]	120	
2	Genesis 90 Chickpeas[24]	100	
3	Jindalee Lupins	100	63
4	Mandelup Lupins	120	65
5	Kaspa Peas (B) [24]	120	
6	Farah Beans	180	25
7	Aquadulce Beans	170	20
8	Kaspa Peas (B) [24]	120	
9	Parafield Peas[24]	120	
10	Kaspa Peas (B) [24]		

[24] NB Kaspa yields are indicative of surrounding areas, not within the plot due to a harvesting technicality

Sowing Date: 23rd May 2005, (lupins, beans)
8 " rows, knife points
15th Aug 2005 (peas, chickpeas)
All seed double inoculated (peat).

Fertiliser: 100kg/ha MAP

Pre-sowing: 23-May-05
2L/ha Roundup Powermax
50ml/ha Hammer
1.5L/ha Triflur X IBS

10th June 2005	PSPE Herbicides	PSPE Fungicides
Lupins	2L/ha Gesatop 200ml/ha Supracide	
Beans	2L/ha Gesatop 100g/ha Spinnaker 200ml/ha Supracide	2kg/ha, Dithane, X 2
Peas	200ml/ha Supracide	
Chickpeas	100g/ha Balance 200ml/ha Supracide	

All Plots; 300ml/ha, Select, 1L/100L, Hasten

	Varieties	Treat-ments	(Additional to Standard)					
1	Kaspa Peas (B)*	1	2	3	4	5	6	7
2	Genesis 90 Chickpeas*						Spray-top 3	Spray-top 2
3	Jindalee Lupins							
4	Mandelup Lupins	Lime @ 2.5t/ha	Dolomite @ 2.5t/ha	Dual Gold	Diuron	Spinn-aker		
5	Kaspa Peas (B)*	Lime @ 2.5t/ha	Dolomite @ 2.5t/ha	500ml	275 g/ha	100 g/ha		
6	Farah Beans					+		
7	Aquadulce Beans					2L/ha Gesa-top		
8	Kaspa Peas (B)*							
9	Parafield Peas*							
10	Kaspa Peas (B)*							

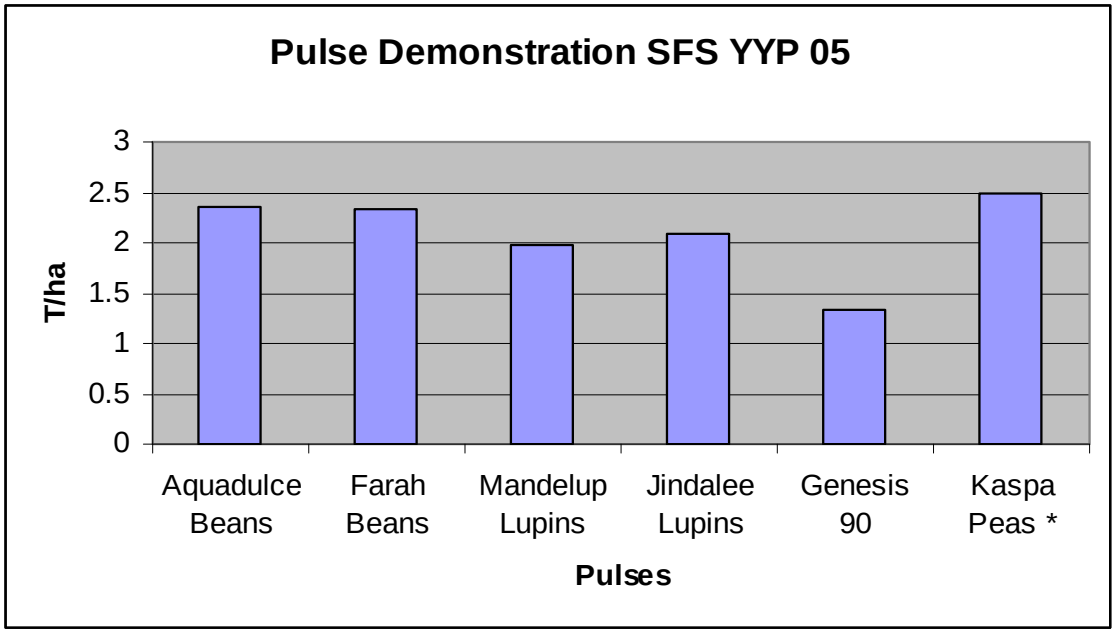
Results

Table 7-13: Grain Yield

YIELD	T/ha
Aquadulce Beans	2.36
Farah Beans	2.33
Mandelup Lupins	1.98
Jindalee Lupins	2.10
Genesis 90	1.34
Kaspa Peas[25]	2.50

[25] NB Kaspa yields are indicative of surrounding areas, not within the plot due to a harvesting technicality.

Figure 7-7: Pulse Deomonstration SFS YYP 05



Discussion

As previously stated, the trial was purely for demonstration purposes. A relatively dry finish and harsh spring did not allow pulses to fill to full potential. The bean crops grew well all season, relatively clean of disease (sprayed twice), but only filled pods halfway up the plant. There were some sowing difficulties with the beans, being that seed was lighter and bridged easily. Lupins also grew well with Mandelup looking good, however slightly outyielded by Jindalee. In a heavier spray-top regime the Mandelup, due to shorter season length may perform as well. Peas and chickpeas grew well, with the Genesis 90 receiving no fungicide sprays and showing no ascochyta, however grain size may have been small. The peas also grew well, but were not harvested. The beans received 2 fungicide sprays- but the drier season and wider row spacings may have meant lower thresholds.

Although plots were harvested as one, there were some visual responses across the plots. The beans showed response to Dolomite, which may be due to low Mg levels and a high Ca:Mg ratio on the soil tests. Aside from Spinakker, which severely stunted the lupins and chickpeas, most treatments appeared to have no visual effect. The main weed problem on-site was scotch thistle, which Balance and Spinnaker seemed to provide the best control.

From the outset, one of the aims was to show the viability of pulses in the Pulse Focus group area; whilst district yields were disappointing, I believe there is a fit for the sustainability of the system.

Table 7-14: Crop Gross Margins

Crop	Yield t/ha	On Farm @ $/t	Income $/ha	Less Costs Inputs/ha	Operation/ha	Gross Margin/ha
Aquadulce Beans	2.36	$220.00	$ 519.20	$265.00	$85.00	$169.20
Farah Beans	2.33	$220.00	$ 512.60	$265.00	$85.00	$162.60
Mandelup Lupins	1.98	$280.00	$ 554.40	$210.00	$73.00	$271.40
Jindalee Lupins	2.10	$280.00	$ 588.00	$210.00	$73.00	$305.00
Genesis 90	1.34	$380.00	$ 509.20	$249.00	$73.00	$187.20
Kaspa Peas[26]	2.50	$180.00	$ 450.00	$232.00	$73.00	$145.00

[26] NB Kaspa yields are indicative of surrounding areas, not within the plot due to a harvesting technicality.

Costs include Lime, seed and chemical. Operational costs include all seeding, spraying and harvesting, plus a finance and insurance cost. Grain prices from Weekly Times (1/3/06). Higher pricing for Lupins currently shows good earning potential, with some areas for beans and chickpeas. Time of sowing trials will confirm, but earlier sowings are a must for beans and lupins- a trade off is weed control.