

6.1.4 PULSE FUNGICIDE TRIAL (LAKE BOLAC)

Location: McMaster's paddock at Lake Bolac

Researchers: Steve Holden, *DPI*
Sheldon Johnson, *DPI*

Background:

To maximise returns from most pulse crops it is necessary to chase the human consumption market and produce grain that is as clean as possible of any disease, stain or discolouration. Hence disease management is critical if we are to maximise the yield and quality of all pulse crops.

While in the past it has been common to use fungicides to control foliar disease's in faba beans, it has not been as common to use a late spray to control disease on the pods and hence the seed. Also the use of fungicides in the past has not generally been economic on field peas, but with the current high prices it may become viable.

Aim:

This trial was established to look at disease management in beans and peas by the use of different varieties, different row spacings to increase airflow through the canopy and through different fungicide timing regimes.

Methodology:

Sown on the 1st of August (optimum time for the peas but at least a month too late for the beans) the trial was established as a fully replicated trial with six reps for each treatment. Two faba bean varieties and two pea varieties were sown at three different row spacings. Adjustments were made on seed size and row spacing to ensure that the field peas were established with a seedling density of 55 plants/m² and the faba beans were established with a seedling density of 35 plants/m². Two fungicide timing treatments were used on the peas and three different treatments on the beans.

The varieties selected were Fiesta VF and Manafest in the Faba Beans and Excell and Kasper in the field peas.

The row spacings selected were 15 cm, 30 cm and 45 cm.

The fungicide treatments were:

No fungicide (peas and beans)
Two applications (beans)
Four applications (peas and beans)

Results:

Table 68: The Yield Results for Different Fungicide Treatments

Variety	Yield (t/ha)		
	Fungicide Treatment		
	Nil application	Two applications	Four applications
Excell Field Peas	0.89	n.a.	0.88
Kasper Field Pea	1.00	n.a.	0.96
Fiesta Faba Beans	1.03	0.95	0.72
Manafest Faba Beans	0.65	0.69	0.73
Least Significant Difference cv %	0.40 t/ha (not significant) 12		

Table 69: The Yield Results for Different Row Spacings

Variety	Yield (t/ha)		
	Row spacing		
	15 cm	30 cm	45 cm
Excell Field Peas	0.68	1.26	0.57
Kasper Field Peas	1.14	1.13	0.71
Fiesta Faba Beans	0.27	1.09	1.20
Manafest Faba Beans	0.27	0.82	0.75
Least Significant Difference cv %	0.39 t/ha 11.2		

Conclusions:

In the dry conditions there was no significant differences between the two pea varieties and no significant difference between the faba bean varieties. The yields for all of the varieties was disappointing and is due in part to the hot dry conditions at flowering but also due to the late sowing of the beans. There are also some indications that a frost may have had some affect on the final yields.

Due to the dry seasonal conditions there was very little sign of disease in either the beans or the peas. This was reflected in the crop yields where there were no significant differences between any of the fungicide treatments.

There were significant differences between the row spacings of both the peas and the beans. In the peas the 30 cm row spacing performed best for both varieties although there was also no difference between the 30 cm spacing and the 15 cm spacing in the Kasper peas. The 45 cm spacing was not suitable for any of the pea varieties as they were not able to support themselves across the bed.

There were a lot of problems with the peas on the outside of the beds falling into the furrows and hence not being able to be harvested. In the narrower row spacing the peas were able to reach between rows and support each other. This resulted in better standability and less harvest losses.

In the beans the wider spacings resulted in increased yields. There were no significant difference between the 30 cm and 45cm spacings. Interestingly though the 15 cm row spacing resulted in a significant yield depression in both varieties. With fungal disease not an issue in the beans this year it is hard to come up with a rational reason as to why this yield depression occurred. With the dry year it is possible that the narrower row spacings may have dried out the soil profile quicker than the wider spacings making these plots more prone to water stress at flowering. However this is only supposition.

It is hoped to duplicate this trial in the 2003 season.

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