*CONFIDENTIAL

7.4 **COMBINED PEAS -DISEASE CONTROL, FUNGICIDE PROGRAMMES, 1989** NAS 928
(Supported through the P.G.R.O. by the voluntary pulse levy fund) 1st year

Summary

In a trial which set out to compare the responsiveness to fungicides of a semi-leafless pea variety (Solara) with a conventional leaved pea (Birte), there was no obvious signs of disease presence in a dry season and there were no significant yield effects from using fungicides.

Object

To evaluate the yield potential of semi-leafless and conventionally leaved pea types with or without the aid of a fungicide programme, mainly aimed to control *Botrytis cinerea* and *Mycosphaerella pinodes*.

Treatments and method

All combinations of:

Variety

a) Solara - large blue, semi-leafless type.
b) Birte - white, normal leaf type.

Fungicide programme

Tank-mix of: Ronilan FL (1.0 l/ha)
+ Bravo (3.0 l/ha)

Timings:

a) Untreated
b) 1 spray at first pod set (G.S. 204)
c) 1 spray at pods filling (G.S. 206)
d) 2 sprays at first pod set and pods filling.

(N.B. All seed treated with thiabendazole and thiram).

Drilling was carried out using an Oyjard drill delivering 290 kg/ha of Solara and 230 kg/ha of Birte on 28 March. Establishment was satisfactory, resulting in plant populations of 95/m^2 from Solara and 101/m^2 from Birte.

Fungicides were applied by knapsack sprayer in 200 l/ha of water using 8003 flat fan nozzles.

*NOT FOR PUBLICATION WITHOUT THE DIRECTOR'S CONSENT. This report deals primarily with only one year's work, so any conclusions given are only provisional.

Results

Disease

Regular observations failed to detect any disease symptoms on either variety during a predominantly dry season.

Yield and grain size

Grain yields (t/ha at 85% dm)

Fungicide programme *first pod set* (20 June)	*Pods filling* (4 July)	Solara	Birte	Means
(LSD)		(NS)		(NS)
Nil	Nil	5.39	5.18	5.28
Ronilan + Bravo	Nil	5.45	5.90	5.67
Nil	Ronilan + Bravo	5.26	5.57	5.41
Ronilan + Bravo	Ronilan + Bravo	5.26	5.45	5.36
(LSD)		(NS)		
Means		5.34	5.52	
S.E. per plot (21 d.f.) = ± 0.351 or 6.5% of G.M.				

There appeared to be yield responses following the use of fungicides applied to Birte, but *these differences were not statistically significant.* Overall, there were no significant effects of fungicide treatment on yield.

Thousand grain weight (g at 85% dm)

Fungicide programme first pod set (20 June)	Pods filling (4 July)	Solara	Birte	Means
(LSD)		(NS)		(NS)
Nil	Nil	358.1	333.4	345.7
Ronilan + Bravo	Nil	361.2	337.6	349.4
Nil	Ronilan + Bravo	356.3	337.4	346.9
Ronilan + Bravo	Ronilan + Bravo	356.0	341.5	348.8
(LSD)		(3.60)		
Means		357.9	337.5	
S.E. per plot (21 d.f.) = ± 4.89 or 1.4% of G.M.				

Apart from the overall difference in grain size between the varieties there were no effects from fungicide treatments.

G.M. Palmer.

APPENDIX - NAS 928 ML 89

COMBINED PEAS - DISEASE CONTROL, FUNGICIDE PROGRAMMES, 1989

Field: Davies.
Soil type: Sandy loam over chalky boulder clay (Ashley Series).
Previous cropping: Winter wheat.

Diary

28 March	Ploughed land cultivated by power harrow to produce moist seedbed. Trial drilled with Oyjard. Seedrates: Solara = 290 kg/ha Birte = 230 kg/ha.
29 March	Trial area rolled.
31 March	Farm sprayed Opogard (2.0 l/ha) overall for weed control.
3 May	Satisfactory emergence (Solara = 95/m^2, Birte = 101/m^2).
17 May	Farm applied overall a tank-mix of Cypermethrin (0.25 l/ha) + chelated manganese (3.0 l/ha) for aphid control and correction of manganese deficiency.
14 June	Farm applied overall a tank-mix of Decis (0.25 l/ha) and Metasystox (0.4 l/ha) to control aphids and thrips.
20 June	Applied 'first pod set' treatments.
4 July	Applied 'pods filling' treatments.
1 August	Trial combined. No lodging.