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DEPARTMENT OF AGRICULTURE
Western Australia

SUMMARY OF EXPERIMENTAL RESULTS 1979

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BLACKLEG DISEASE OF RAPESEED

CONTROL OF SEEDLING INFECTION

Aim : To test the effectiveness of the fungicides RH-2161EC and thiabendazole in controlling blackleg seedling infection in rapeseed.

Locality : Mt. Barker Research Station (79MT21)

Treatments :

1. Wesreo - no seed treatment
2. Wesreo - 0.1% ai RH-2161 EC
3. Wesreo - 0.5% ai thiabendazole
4. Tower - no seed treatment
5. Tower - 0.1% ai RH-2161 EC
6. Tower - 0.5% ai thiabendazole

Assessments

Plots were assessed for the level of cotyledon infection at the beginning of August by examining 25 plants at each of four places in each plot and recording the numbers of plants with diseased cotyledons.

Harvest yields were also recorded.

Results and comments

The results are shown in the attached table 1.

Neither RH-2161 EC nor thiabendazole appeared to have any beneficial effects in reducing the levels of blackleg seedling cotyledon infection nor in increasing harvest yields.

TABLE 1: Effect of seed treatments on the levels of blackleg seedling infection and upon harvest yields.

Treatment	% plants with cotyledon infection (Av. 4 reps)	Av. yield kg/ha (Av. 4 reps)
1. Wesreo - untreated control	13.3	1209
2. Wesreo - 0.1% ai RH2161 EC	18.8	1153
3. Wesreo - 0.5% ai thiabendazole	13.3	1111
4. Tower - untreated control	20.5	464
5. Tower - 0.1% ai RH2161 EC	16.8	520
6. Tower - 0.5% ai thiabendazole	17.5	464

LOOSE SMUT OF BARLEY

FUNGICIDAL CONTROL OF LOOSE SMUT IN BARLEY

Aim : To test the effectiveness of four fungicides in controlling two levels of loose smut seed infection, and to examine the relationship between the level of smut seed infection and the subsequent crop infection levels.

Localities : Albany (79AL19); Narrogin (79NA14)

Treatments

1.	Low smut seed infection	+	no seed treatment
2.	" " " "	+	Vitavax 75 @ 125g/100 kg
3.	" " " "	+	Panoram 25 @ 150g/100 kg
4.	" " " "	+	Furavax 7.5 @ 100g/100 kg
5.	" " " "	+	Erex 15 @ 100g/100 kg
6.	High " " "	+	no seed treatment
7.	" " " "	+	Vitavax 75 @ 125g/100 kg
8.	" " " "	+	Panoram 25 @ 150g/100 kg
9.	" " " "	+	Furavax 7.5 @ 100g/100 kg
10.	" " " "	+	Erex 15 @ 100g/100 kg

Assessments

Plant density counts were made 10 days after emergence, the % smutted heads were recorded at flowering, and grain yields recorded at harvest.

Results and comments

Results are shown in the attached table 2.

There was an apparent relationship between the level of loose smut seed infection and the subsequent crop infection levels. The low smut infection seed, assessed by embryo staining at 0 infection per 500 seeds, resulted in an average of 0.025% of heads infected for the average of the controls at both sites. The high smut seed infection, assessed at 3.8% seed infection, resulted in an average of 0.767% of heads infected for the average of the controls at both sites.

Overall, the pickles tested gave generally good disease control where low infection seed had been used. However, for all pickles the level of smut head infection was much higher where high smut infection seed was used. This was most evident for Erex which gave poor smut control compared to the other three pickles tested.

Allowing for variation between the replications it is very unlikely that there are any significant treatment effects upon the harvest yields.

TABLE 2: Effects of various seed treatments upon the levels of loose smut head infection and upon harvest yields (Av. 4 reps)

Treatment	Albany (79AL19)		Narrogen (79NA14)	
	% heads with loose smut	Av. yield kg/ha	% heads with loose smut	Av. yield kg/ha
1. Control Low infection	0.010	1809	0.037	1622
2. Vitavax "	0.0005	1781	0	1518
3. Panoram "	0	1819	0	1575
4. Furavax "	0	1828	0	1678
5. Erex "	0.0005	1884	0	1865
6. Control High infection	0.514	1744	1.020	1500
7. Vitavax "	0.011	1659	0	1668
8. Panoram "	0.020	1790	0.006	1490
9. Furavax "	0.026	1912	0.003	1687
10. Erex "	0.109	1828	0.062	1706

LOOSE SMUT OF BARLEY

METHODS OF PICKLE APPLICATION FOR CONTROL OF LOOSE SMUT IN BARLEY

Aim : To test the effectiveness of various methods of pickle application for control of loose smut in barley.

Localities : Albany (79AL20); Narrogin (79NA15)

Treatments

1. Control - untreated seed.
2. Vitavax 75 - treated seed - applied by seed auger (125g/100 kg)
3. " " - treated seed - applied by commercial grader (163g/100 kg)
4. " " - treated seed - applied by seed auger - twice (125g/100 kg)
5. " " - treated seed - applied by continuous tumbling (125g/100 kg)
6. " " - treated seed - applied by continuous tumbling (62.5g/100 kg)

Assessments

Plant density counts were made 10 days after emergence, the % smutted heads were recorded at flowering, and the grain yields recorded at harvest.

Results and comments

Results are shown in the attached table.

There is probably little, if any significant differences between the smut head infection levels for any of the different pickle application methods used, but all methods had much lower smut head infection compared to the controls.

Allowing for variation between the replications it is unlikely that there are any significant treatment effects upon the harvest yields.

TABLE 3: Effect of various pickle application methods upon the loose smut head infection and upon harvest yields (Av. 4 reps)

Treatment	Albany (79AL20)		Narrogin (79NA15)	
	% Heads with loose smut	Av. Yield kg/ha	% Heads with loose smut	Av. Yield kg/ha
1. Control - untreated	0.470	1725	0.458	1256
2. Vitavax by seed auger	0.028	1781	0.006	1378
3. Vitavax by commercial pickler	0.014	1734	0.010	1359
4. Vitavax by seed auger x 2	0.018	1837	0.014	1134
5. Vitavax by continuous tumbling	0.021	1800	0.006	1172
6. Vitavax ½ rate by continuous tumbling	0.034	1922	0.018	1172