

1981

Clover scorch fungicide trials, Cercospora leaf spot, Facial eczema investigation.

A Bokor

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DEPARTMENT OF AGRICULTURE

Western Australia

1981 - SUMMARY OF RESULTS OF
FIELD EXPERIMENTS

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- (1) Clover Scorch Fungicide Trials
- (2) Cercospora Leaf Spot
- (3) Facial Eczema Investigation

A. BOKOR
PLANT PATHOLOGIST

CLOVER SCORCH FUNGICIDE TRIALS

81 A1 33 File 483.11SC
81 D 8

Location: Marbellup (near Albany)
Denmark Research Station

Background: Chemical control of clover scorch was initially regarded only as an interim measure to control this disease until resistant varieties became available. The length of this period could not be defined and in spite of success in the breeding program fungicides are still the only reliable means of disease control in a hay crop. The product Benlate is used now by farmers to control clover scorch on hay crops. In the 1980 season distributors have sold up to 3 tonnes of Benlate for this purpose alone. It was considered desirable to have alternate choice of chemicals to recommend with similar or better efficiency.

Aim: Test a range of recently developed fungicides for clover scorch control in comparison with Benlate.

Method: At the two sites plots of 2.5 x 40 m were set up in a randomized layout replicated four times.

Treatments: Five different systemic fungicide were applied at two rates. At Marbellup the sprays were applied on 24/8 and at the Denmark Research Station on 19/10.

Disease estimates were made on ten quadrats in a plot on a 0 - 10 scale.

Results: 81 AL 33

Fungicide	Rate of a.i./ha	Disease score
		0 - 10 scale 28/9
1. Bayleton 25 WP	150	1.5
2. "	75	3.0
3. Baycor 300 EC	150	2.7
4. "	75	3.0
5. Bavistin 50 WP	150	0.5
6. "	75	1.80
7. Tilt CGA 64250 EC 250	150	0.3
8. "	75	0.58
9. Benlate 50 WP	150	0.8
10. "	75	0.0
11. NIL	-	5.8

81 D 8

At the Denmark Research Station site the disease has failed to develop to any appreciable level and was also affected by drought. No assessments were made.

Comments:

All treatments have controlled clover scorch to a comparable level. Benlate appeared to be the best fungicide. As the disease has developed only to a limited extent there was no real pressure for the performance of the chemicals.

CERCOSPORA LEAF SPOT

81AL35 File 483.11SC

Location:

South of the Porongorups

Background:

The presence of Cercospora leaf spot affecting a number of subclover cultivars was identified in 1980. According to unconfirmed observations the Esperance clover pastures and particularly seed crops were seriously affected by a disease which could have been caused by Cercospora leaf spot.

Aim:

Determine the effect of Cercospora or other leaf spot diseases on seed yield of the cv Esperance.

Method:

Paired plots of 2.5 x 20 m size twelve times replicated were set up in a randomized block with buffer zones between the pairs to allow spraying with offset booms.

Treatments:

1. Benlate spray, 300 g/ha.
2. Nil

Spray application dates were: 31/8, 7/10, 4/11.

Results:

Cercospora leaf spot could be found only at close inspection of untreated plots on 2/10. At the next inspection of 6/11 due to unseasonably dry weather conditions the pasture was found died off prematurely. No disease or seed yield measurements were obtained.

FACIAL ECZEMA INVESTIGATION

File 485.62 FE

BACKGROUND:

In New Zealand facial eczema is associated with rapidly growing perennial pastures. In W.A. a serious outbreak of this disease has occurred on mixtures of annual and perennial species in the autumn. Much weathered plant material was carried over the summer and it was considered that this has supported good growth of *Pithomyces chartarum* to cause the outbreak.

According to work carried out in New Zealand the fungus requires newly dead plant material for rapid development. The ability of *P. chartarum* to grow on various pasture species has also been studied there.

No information is available on the ability of aged stubble residue nor the quality of plant material to support growth of the fungus.

AIM:

To compare the quality of a range of pasture species and stubble residue to support growth of the FE fungus.

METHOD:

The various pasture species were collected freshly cut, oven dried green and as oversummered residue. The components were inoculated with a spore suspension of *P. chartarum* and incubated in a moist chamber at room temperature.

RESULTS:

On the 5th day of incubation the growth of the fungus was assessed visually and ranked.

Growth of *P. chartarum* on pasture components

Pasture species	Fresh Green	Dried	Aged
Perennial rye grass	-	++++	-
Yorkshire fog	-	+++	-
Barley Grass	-	++	-
Sub clover	-	++	-
Kikuyu grass	-	++	-
Aged stubble residue of mixed species			-

++++ Dense growth of *P. chartarum* colonies
- No visible colonies.

COMMENTS:

- (1) Living pasture plants and aged residue did not support the growth of the FE fungus
- (2) Some evidence that there is a difference between newly dead pasture species as a substrate for the fungus.