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88/R/WW/6 Control of Eyespot and Septoria - W. Wheat

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88/R/WW/6

WINTER WHEAT

CONTROL OF EYESPOT AND SEPTORIA

Object: To test effects of different strategies on disease control and yield under different degrees of risk from eyespot and Septoria - Bylands/Black Horse I.

Sponsors: A. Goulds, B.D.L. Fitt.

Associate Sponsors: J.F. Jenkyn, D.J. Royle (LARS).

Design: 3 whole plots divided into 40 sub-plots arranged as 4 replicates of 10 treatments.

Whole plot dimensions: 9.0 x 12.0.

Treatments: All combinations of:-

Whole plots

| | |
|-------------------|------------|
| 1. VARIETY | Variety: |
| AVALON | Avalon |
| Longbow | Longbow |
| RENDEZVO | Rendezvous |

Sub plots

| | |
|---------------------|---|
| 2. FUNGICIDE | Fungicides applied according to growth stage or disease forecast: |
| O | None |
| F1 | Prochloraz to Avalon on 21 Apr, 1988 (G.S.30/31), to Longbow on 11 May (G.S.32/33) and to Rendezvous on 20 May (G.S.37). Rendezvous also received propiconazole on 7 June (G.S.57/59) and benodanil on 26 May (G.S.41) and 14 June (G.S.59) |
| F2 | Prochloraz on 17 May (G.S.37) and propiconazole on 16 June (G.S.67) |
| F3 | Prochloraz on 21 Apr (duplicated) |
| F4 | Prochloraz on 21 Apr, propiconazole on 25 May (G.S.39) |
| F5 | Prochloraz on 21 Apr, propiconazole on 7 June |
| F6 | Prochloraz on 20 May (duplicated) |
| F7 | Prochloraz on 20 May, propiconazole on 7 June |

- NOTES:** (1) **FUNGICIDE** F1 was applied in accordance with ADAS eyespot forecast except that the variety RENDEZVO did not reach the target and on this variety the treatment was replaced by those shown.
- (2) Prochloraz was applied at 0.40 kg in 200 l.
- (3) Propiconazole was applied at 0.12 kg in 200 l on 25 May and 16 June and in 260 l on 7 June.
- (4) Benodanil was applied at 1.0 kg in 220 l.

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Basal applications: Manures: Chalk at 5.0 t. 'Nitram' at 120 kg and later at 480 kg. Weedkillers: Paraquat at 0.60 kg ion in 200 l. Isoproturon at 2.5 kg in 200 l. Fluroxypyr at 0.20 kg with clopyralid at 0.07 kg and bromoxynil at 0.34 kg in 200 l. Fungicide: Tridemorph at 0.52 kg in 200 l. Insecticide: Fonofos at 1.4 kg in 200 l.

Seed: Varieties, sown at 190 kg.

Cultivations, etc.:- Chalk applied: 15 Sept, 1987. Paraquat applied: 28 Sept. Ploughed: 13 Oct. Rotary harrowed, seed sown: 14 Oct. Isoproturon applied: 7 Nov. Insecticide applied: 14 Jan, 1988. First N applied: 29 Feb. Second N applied: 21 Apr. Remaining weedkillers applied: 25 Apr. Fungicide applied: 5 July. Combine harvested: 30 Aug. Previous crops: W. oilseed rape 1986, w. wheat 1987.

NOTE: Eyespot was assessed on plants at weekly intervals from early April until the beginning of August.

88/R/WW/6 AVALON

GRAIN TONNES/HECTARE

***** Tables of means *****

FUNGCIDE

| | |
|----|------|
| 0 | 7.32 |
| F1 | 8.05 |
| F2 | 8.78 |
| F3 | 8.18 |
| F4 | 8.99 |
| F5 | 8.54 |
| F6 | 7.97 |
| F7 | 8.35 |

| | |
|------|------|
| Mean | 8.23 |
|------|------|

*** Standard errors of differences of means ***

FUNGCIDE

| | |
|-------|---------|
| 0.319 | min.rep |
| 0.276 | max-min |
| 0.225 | max.rep |

FUNGCIDE

| | |
|---------|-----------------------------|
| max.rep | F3 v F6 |
| max-min | F3 or F6 v any of remainder |
| min.rep | any of remainder |

***** Stratum standard errors and coefficients of variation *****

| Stratum | d.f. | s.e. | cv% |
|----------|------|-------|-----|
| BLOCK.WP | 29 | 0.451 | 5.5 |

GRAIN MEAN DM% 84.2

PLOT AREA HARVESTED 0.00331

88/R/WW/6 LONGBOW

GRAIN TONNES/HECTARE

***** Tables of means *****

FUNGCIDE

| | |
|----|------|
| O | 7.79 |
| F1 | 8.61 |
| F2 | 9.14 |
| F3 | 8.79 |
| F4 | 9.44 |
| F5 | 9.58 |
| F6 | 8.20 |
| F7 | 9.34 |

Mean 8.79

*** Standard errors of differences of means ***

FUNGCIDE

| | |
|-------|---------|
| 0.375 | min.rep |
| 0.325 | max-min |
| 0.265 | max.rep |

***** Stratum standard errors and coefficients of variation *****

| Stratum | d.f. | s.e. | cv% |
|---------------------|---------|-------|-----|
| BLOCK.WP | 29 | 0.531 | 6.0 |
| GRAIN MEAN DM% | 84.6 | | |
| PLOT AREA HARVESTED | 0.00331 | | |

88/R/WW/6 RENDEZVOUS

GRAIN TONNES/HECTARE

***** Tables of means *****

| FUNGICIDE | |
|-----------|------|
| 0 | 7.88 |
| F1 | 8.82 |
| F2 | 9.58 |
| F3 | 8.46 |
| F4 | 8.91 |
| F5 | 9.10 |
| F6 | 8.82 |
| F7 | 9.03 |
| Mean | 8.79 |

*** Standard errors of differences of means ***

| FUNGICIDE | |
|-----------|---------|
| 0.289 | min.rep |
| 0.250 | max-min |
| 0.204 | max.rep |

***** Stratum standard errors and coefficients of variation *****

| Stratum | d.f. | s.e. | cv% |
|---------------------|---------|-------|-----|
| BLOCK.WP | 29 | 0.408 | 4.6 |
| GRAIN MEAN DM% | 84.6 | | |
| PLOT AREA HARVESTED | 0.00331 | | |