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# Yields of the Field Experiments 1981

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## 81/R/B/9 Electrostatic Spray Study (Biological) - S. Barley

### Rothamsted Research

Rothamsted Research (1982) *81/R/B/9 Electrostatic Spray Study (Biological) - S. Barley* ; Yields Of The Field Experiments 1981, pp 287 - 288 - DOI: <https://doi.org/10.23637/ERADOC-1-35>

81/R/B/9

SPRING BARLEY

ELECTROSTATIC SPRAY STUDY (BIOLOGICAL)

Object: To study the effects of applying fungicides by an electrostatic sprayer on the control of mildew and on the yield of s. barley - Gt. Knott III.

Sponsors: D.C. Griffiths, A.J. Arnold, G.R. Cayley, P. Etheridge, F.T. Phillips, B. Pye, G.C. Scott.

Design: 3 randomised blocks of 11 plots.

Whole plot dimensions: 4.27 x 24.4.

Treatments: All combinations of:-

1. SPR FORM                      Sprayer and formulation of spray material:

|          |                                          |
|----------|------------------------------------------|
| EL OIL   | Electrostatic sprayer, oil formulation   |
| EL WATER | Electrostatic sprayer, water formulation |

2. FUNGCIDE                      Fungicides:

|           |            |
|-----------|------------|
| DITAL IMF | Ditalimfos |
| TRIDEMOR  | Tridemorph |

3. FUNGRATE                      Fungicide rate (kg):

0.26  
0.52

plus three extra treatments:

|         |                                                             |
|---------|-------------------------------------------------------------|
| EXTRA   |                                                             |
| NONE    | No fungicides                                               |
| ST W D2 | Standard sprayer, water formulation, ditalimfos at 0.52 kg. |
| ST W T2 | Standard sprayer, water formulation, tridemorph at 0.52 kg. |

NOTE: Treatments were applied on 18 June, in 3.73 l of oil or water by electrostatic sprayer, in 340 l of water by standard sprayer.

Basal applications: Manures: (20:10:10) at 450 kg, combine drilled.  
Weedkillers: Dicamba with mecoprop and MCPA, (as 'Banlene Plus' at 5.0 l) in 250 l.

Seed: Wing, sown at 160 kg.

Cultivations, etc.: - Ploughed: 25 Nov, 1980. Spring-tine cultivated twice: 9 Apr, 1981. Seed sown: 10 Apr. Weedkillers applied: 30 May. Combine harvested: 2 Sept. Previous crops: W. oats 1979, w. wheat 1980.

NOTES: Mildew was assessed in July.

81/R/B/9

GRAIN TONNES/HECTARE

## \*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

|          |          |          |         |      |
|----------|----------|----------|---------|------|
| FUNGCIDE | DITALIMF | TRIDEMOR | MEAN    |      |
| SPR FORM |          |          |         |      |
| EL OIL   | 3.97     | 4.46     | 4.21    |      |
| EL WATER | 4.04     | 4.48     | 4.26    |      |
| MEAN     | 4.01     | 4.47     | 4.24    |      |
| FUNGRATE | 0.26     | 0.52     | MEAN    |      |
| SPR FORM |          |          |         |      |
| EL OIL   | 4.18     | 4.24     | 4.21    |      |
| EL WATER | 4.19     | 4.34     | 4.26    |      |
| MEAN     | 4.19     | 4.29     | 4.24    |      |
| FUNGRATE | 0.26     | 0.52     | MEAN    |      |
| FUNGCIDE |          |          |         |      |
| DITALIMF | 3.97     | 4.04     | 4.01    |      |
| TRIDEMOR | 4.40     | 4.54     | 4.47    |      |
| MEAN     | 4.19     | 4.29     | 4.24    |      |
| SPR FORM | FUNGRATE | 0.26     | 0.52    |      |
| EL OIL   | FUNGCIDE |          |         |      |
|          | DITALIMF | 4.02     | 3.91    |      |
|          | TRIDEMOR | 4.34     | 4.58    |      |
| EL WATER | DITALIMF | 3.91     | 4.18    |      |
|          | TRIDEMOR | 4.47     | 4.50    |      |
| EXTRA    | NONE     | ST W D2  | ST W T2 | MEAN |
|          | 4.13     | 4.03     | 4.53    | 4.23 |

GRAND MEAN 4.24

## \*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

|       |          |          |          |          |
|-------|----------|----------|----------|----------|
| TABLE | EXTRA    | SPR FORM | FUNGCIDE | FUNGRATE |
| SED   | 0.132    | 0.066    | 0.066    | 0.066    |
| TABLE | SPR FORM | SPR FORM | FUNGCIDE | SPR FORM |
|       | FUNGCIDE | FUNGRATE | FUNGRATE | FUNGCIDE |
|       |          |          |          | FUNGRATE |
|       |          |          |          | & EXTRA  |
| SED   | 0.093    | 0.093    | 0.093    | 0.132    |

## \*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

|                |      |                     |         |
|----------------|------|---------------------|---------|
| STRATUM        | DF   | SE                  | CV%     |
| BLOCK.WP       | 20   | 0.161               | 3.8     |
| GRAIN MEAN DM% | 85.5 | PLOT AREA HARVESTED | 0.00520 |