

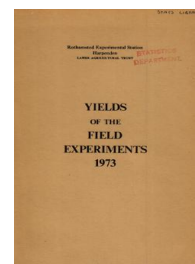
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## Yields of the Field Experiments 1973

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### 73/W/CS/52 - Copper Sprays & 'scorch' - Spring Wheat

#### Rothamsted Research

Rothamsted Research (1974) 73/W/CS/52 - *Copper Sprays & 'scorch' - Spring Wheat* ; Yields Of The Field Experiments 1973, pp 213 - 216 - DOI: <https://doi.org/10.23637/ERADOC-1-98>

73/W/CS/52

COPPER SPRAYS AND 'SCORCH'

Object: To study the residual effects of dazomet, formalin and aldicarb applied in 1971, repeated on half plots in 1972, at a range of nitrogen levels, on nematodes and yield of spring wheat. The effects of a copper oxychloride spray are also studied - Woburn Butt Close.

Sponsors: T.D. Williams, J. Bolton.

The third year, spring wheat.

For previous years see 71/W/CS/52(t) and 72/W/CS/52(t).

Design: 4 blocks of 12 plots, split into 2.

Whole plot dimensions: 2.13 x 9.14. Area harvested: 0.00059.

Treatments: All combinations of:-

|              |   |          |
|--------------|---|----------|
| Whole plots: | 1. Fumigants:   | FUMIGANT |
|              | None  | None     |
|              | Aldicarb 9 kg   | Aldicarb |
|              | Dazomet 380 kg  | Dazomet  |
|              | Formalin (38% formaldehyde) 3000 l  | Formalin |
|              | 2. Nitrogen fertiliser (kg N per annum) applied 1971 and 1972, with basal dressing of 165 kg N in 1973 only | NRESID   |
|              | 63  | 63       |
|              | 126   | 126      |
|              | 189   | 189      |
|              | 3. Copper oxychloride foliar spray in 1973 (kg Cu)  | COPPER   |
|              | 0.0   | 0.0      |
|              | 1.1   | 1.1      |
|              | 2.2   | 2.2      |
| Sub plots:   | 4. Years of application of fumigants:   | FUMYEAR  |
|              | 1971 only   | 1971     |
|              | 1971 and 1972 cumulatively  | 1971/72  |

On one block the test of copper oxychloride was omitted.

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Basal applications: Manures: Magnesian limestone at 7.5 tonnes. N at 180 kg as 'Nitro-Chalk', (0:20:20) at 400 kg combine drilled. Weedkiller: Ioxynil at 0.53 kg plus mecoprop at 1.6 kg in 280 l.

Seed: Kleiber, sown at 190 kg.

Cultivations, etc.: - Deep-tine cultivated: 27 Sept, 1972. Magnesian limestone applied: 3 Oct. Deep-tine cultivated: 28 Oct. Ploughed: 4 Jan, 1973. N applied: 8 Mar. Seed sown: 15 Mar. Copper oxychloride treatments applied: 31 May. Weedkiller applied: 11 May. Combine harvested: 20 Aug.

- NOTE: 1. Soil samples were taken before sowing and after harvest for counts of nematode eggs and larvae.  
2. Plant samples were taken in May for counts of root invasion by nematodes.

Standard errors per plot.

Grain, tonnes/hectare: Blocks 2, 3 and 4: Whole plot: 0.345 or 18.3% (10 d.f.)  
Sub plot: 0.216 or 11.5% (28 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

BLOCKS 2, 3 AND 4

| FUMIGANT | NRESID |      |      | COPPER |      |      | FUMYEAR |         |      |
|----------|--------|------|------|--------|------|------|---------|---------|------|
|          | 63     | 126  | 189  | 0.0    | 1.1  | 2.2  | 1971    | 1971/72 | Mean |
| None     | 1.69   | 1.78 | 1.53 | 1.64   | 1.83 | 1.53 | 1.67    | 1.67    | 1.67 |
| Aldicarb | 2.02   | 2.10 | 1.92 | 2.23   | 1.89 | 1.92 | 1.95    | 2.08    | 2.01 |
| Dazomet  | 2.12   | 1.90 | 2.03 | 2.13   | 1.78 | 2.12 | 1.94    | 2.08    | 2.01 |
| Formalin | 1.71   | 1.81 | 2.00 | 1.74   | 1.79 | 2.00 | 1.86    | 1.83    | 1.84 |
|          | NRESID |      |      |        |      |      |         |         |      |
|          |        | 63   |      | 1.88   | 1.82 | 1.95 | 1.87    | 1.90    | 1.88 |
|          |        | 126  |      | 1.87   | 1.89 | 1.93 | 1.88    | 1.92    | 1.90 |
|          |        | 189  |      | 2.05   | 1.76 | 1.79 | 1.81    | 1.92    | 1.87 |
|          |        |      |      | COPPER |      |      |         |         |      |
|          |        |      |      |        | 0.0  |      | 1.89    | 1.99    | 1.94 |
|          |        |      |      |        | 1.1  |      | 1.75    | 1.89    | 1.82 |
|          |        |      |      |        | 2.2  |      | 1.92    | 1.86    | 1.89 |
| Mean     |        |      |      |        |      |      | 1.85    | 1.91    | 1.88 |

STANDARD ERRORS OF DIFFERENCES

| FUMIGANT  | NRESID | COPPER | FUMYEAR | FUMIGANT<br>NRESID | FUMIGANT<br>COPPER | NRESID<br>COPPER | FUMIGANT<br>FUMYEAR |
|---|--------|--------|---------|--------------------|--------------------|------------------|---------------------|
|   | 0.163  | 0.141  | 0.051   | 0.282              | 0.282              | 0.247            | 0.178               |
| Except when comparing means with same level of FUMIGANT |        |        |         |                    |                    |                  | 0.102               |

| NRESID   | COPPER  |
|--|---------|
| FUMYEAR  | FUMYEAR |
| 0.154  | 0.154   |
| Except when comparing means with same level of |         |
| NRESID   | 0.088   |
| COPPER   | 0.088   |

Mean D.M. % 85.8

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GRAIN: TONNES/HECTARE

BLOCK 1

| FUMIGANT | NRESID |        |      | FUMYEAR |         | Mean |
|----------|--------|--------|------|---------|---------|------|
|          | 63     | 126    | 189  | 1971    | 1971/72 |      |
| None     | 1.85   | 2.01   | 2.05 | 1.93    | 2.00    | 1.97 |
| Aldicarb | 2.54   | 2.30   | 1.45 | 2.24    | 1.96    | 2.10 |
| Dazomet  | 2.04   | 2.28   | 2.00 | 2.02    | 2.19    | 2.11 |
| Formalin | 1.66   | 1.84   | 2.22 | 2.00    | 1.81    | 1.91 |
|          |        | NRESID |      |         |         |      |
|          |        | 63     |      | 2.11    | 1.94    | 2.02 |
|          |        | 126    |      | 2.07    | 2.14    | 2.11 |
|          |        | 189    |      | 1.97    | 1.89    | 1.93 |
| Mean     |        |        |      | 2.05    | 1.99    | 2.02 |

| FUMIGANT | NRESID 63 |         | NRESID 126 |         | NRESID 189 |         |
|----------|-----------|---------|------------|---------|------------|---------|
|          | 1971      | 1971/72 | 1971       | 1971/72 | 1971       | 1971/72 |
| None     | 1.76      | 1.94    | 2.02       | 1.99    | 2.02       | 2.08    |
| Aldicarb | 2.73      | 2.36    | 2.41       | 2.18    | 1.57       | 1.33    |
| Dazomet  | 1.97      | 2.10    | 2.15       | 2.42    | 1.96       | 2.04    |
| Formalin | 1.96      | 1.35    | 1.71       | 1.97    | 2.33       | 2.11    |

Mean D.M. % 85.8