

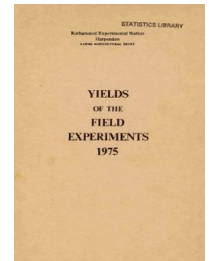
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ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1975

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## 75/ R/M/1 - Maize & Spring Wheat Physiological Study - Grass

### Rothamsted Research

Rothamsted Research (1976) 75/ R/M/1 - *Maize & Spring Wheat Physiological Study - Grass* ; Yields Of The Field Experiments 1975, pp 399 - 400 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/M/1

# SPRING WHEAT AND MAIZE

## PHYSIOLOGICAL STUDY

Object: To study the photosynthetic mechanisms of spring wheat and maize and assess the effects of a photorespiration inhibitor - Fosters Corner.

Sponsors: A.J. Keys, A.J. Barnard.

Design: Spring wheat: 3 randomised blocks of 9 plots. Maize: 1 randomised block of 9 plots.

Whole plot dimensions: Spring wheat: 4.06 x 6.10. Maize: 4.27 x 6.10.

Treatments: All combinations of:-

1. Rates of photorespiration inhibitor (ethyl-2,3-epoxypropanoate) kg:

|      | E E RATE |
|------|----------|
| None | 0.00     |
| 0.27 | 0.27     |
| 0.77 | 0.77     |

2. Times of applying photorespiration inhibitor:

|  | E E TIME |
|--|----------|
| Early, wheat: 24 June. Maize: 11 July  | EARLY    |
| Middle, wheat: 11 July. Maize: 29 July | MIDDLE   |
| Late, wheat: 29 July. Maize: 7 Aug     | LATE     |

NOTE: Yields were not taken from the maize.

Basal applications: Manures: (20:14:14) at 500 kg combine drilled for wheat and at 750 kg for maize. Weedkillers: Wheat: Dicamba with mecoprop and MCPA ('Tetralex Plus' at 7.0 l in 340 l), maize: Atrazine at 1.7 kg in 340 l.

Seed: Wheat: Kleiber, sown at 190 kg.

Maize: Cargill Primeur 170 sown at 123000 seeds per ha.

Cultivations, etc.: Ploughed: 11 Nov, 1974. Spring-tine cultivated: 21 Apr, 1975. Spring-tine cultivated and rotary harrowed: 24 Apr. Wheat: NPK applied and seed sown: 26 Apr. Weedkiller applied: 9 June. Combine harvested: 28 Aug. Maize: NPK applied: 12 May. Power harrowed and seed sown: 14 May. Weedkiller applied: 23 May. Harvested: 14 Nov. Previous crops: Barley 1973, beans 1974.

75/R/M/1

GRAIN TONNES/HECTARE

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

|          |       |        |      |      |
|----------|-------|--------|------|------|
| E E TIME | EARLY | MIDDLE | LATE | MEAN |
| E E RATE |       |        |      |      |
| 0.27     | 2.92  | 2.87   | 2.97 | 2.92 |
| 0.77     | 2.87  | 3.01   | 2.85 | 2.91 |
| MEAN     | 2.89  | 2.94   | 2.91 | 2.91 |

E E RATE 0.0 2.91

GRAND MEAN 2.91

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

| TABLE | E E RATE | E E TIME | E E RATE<br>E E TIME<br>AND E E RATE 0.0 |
|-------|----------|----------|--|
| SED   | 0.092    | 0.112    | 0.159                                    |

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

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 18 | 0.194 | 6.7 |

MEAN D.M% 87.9

PLOT AREA HARVESTED 0.00101