ROTHAMSTED RESEARCH

# Yields of the Field Experiments 1993

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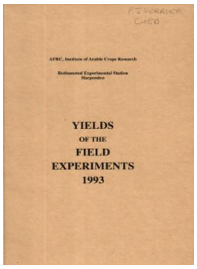


## 93/R/M/5 Weed Seed Production in Spring Crops - Mixed Crops

### Rothamsted Research

Rothamsted Research (1994) *93/R/M/5 Weed Seed Production in Spring Crops - Mixed Crops ;* Yields Of The Field Experiments 1993, pp 178 - 182 **- DOI: https://doi.org/10.23637/ERADOC-1-48**

# 93/R/M/5

## MIXED 5

## WEED SEED PRODUCTION IN SPRING CROPS

**Object:** To investigate the effects of competition of three different crops on the seed production of three contrasting weed species at two densities and the effects of these weeds on each crop - Great Knott II.

**Sponsor:** P.J.W. Lutman.

S. wheat, S. beans and linseed.

**Design:** 3 blocks of 3 plots split into 7 sub plots.

**Whole plot dimensions:** 5.0 x 21.0.

**Treatments:**

Whole plots

1. **CROP** Crops:

| | |
|---|---|
| S WHEAT | Spring Wheat |
| S BEANS | Spring Beans |
| LINSEED | Linseed |

Sub plots

2. **WEED DEN** Density of weed species:

| | |
|---|---|
| CHAR L | Charlock (*Sinapsis arvensis*), low density |
| CHAR H | Charlock, high density |
| CHICK L | Chickweed (*Stellaria media*), low density |
| CHICK H | Chickweed, high density |
| MAYWEED | Mayweed (*Matricaria perforata*) |
| ORACHE | Orache (*Atriplex patula*) |
| NONE | None |

**NOTES:** (1) Weeds were broadcast at drilling or shortly afterwards.
(2) Planned low density mayweed failed to establish and was replaced by naturally occuring orache.
(3) Density of sown weeds established (plants per square metre):

| | CHAR L | CHAR H | CHICK L | CHICK H | MAYWEED |
|---|---|---|---|---|---|
| S WHEAT | 11 | 553 | 5 | 54 | 19 |
| S BEANS | 12 | 647 | 3 | 41 | 3 |
| LINSEED | 12 | 708 | 2 | 46 | 27 |

**Experimental Diary:**

25-Jan-93 : B : Ploughed.
29-Mar-93 : B : Rotary harrowed, twice.
: **T** : **CROP** LINSEED: Rotary harrowed, Antares, dressed Prelude 20LF, drilled at 700 seeds per square metre.
: **T** : **CROP** S BEANS: Rotary harrowed, Alfred drilled at 60 seeds per square metre.



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**93/R/M/5**

**Experimental Diary:**

30-Mar-93 : **T** : **CROP** S WHEAT: Rotary harrowed, Canon, dressed Cerevax, drilled at 400 seeds per square metre.
07-May-93 : **T** : **CROP** LINSEED: 34.5% N at 217 kg.
: **T** : **CROP** S WHEAT: 34.5% N at 290 kg.
20-May-93 : **T** : **CROP** LINSEED: Decis at 0.30 l in 200 l.
27-Aug-93 : B : Harvested by hand (started).
02-Sep-93 : B : Harvested by hand (finished).

Previous crops: W. oats 1991, w. wheat 1992.

**NOTES:** (1) Emergence counts were made. Height and dry weight measurements and crop and weed numbers were noted throughout the season. Samples were taken in July and August to count numbers of ears, beans and bolls on the respective crops.
(2) Seed production by mayweed, chickweed amd charlock was estimated from selected plants in each of the three crops.
(3) One whole plot of linseed was lost due to poor establishment. Means were estimated from the other two plots.



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**93/R/M/5**

**SPRING WHEAT**

**GRAIN TONNES/HECTARE**

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

| **WEED DEN** | |
|---|---|
| CHAR L | 3.23 |
| CHAR H | 0.19 |
| CHICK L | 5.11 |
| CHICK H | 4.57 |
| MAYWEED | 4.58 |
| ORACHE | 5.47 |
| NONE | 4.71 |
| Mean | 3.98 |

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

| **WEED DEN** |
|---|
| 0.623 |

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

| Stratum | d.f. | s.e. | cv% |
|---|---|---|---|
| BLOCK.WP.SP | 12 | 0.76 | 19.2 |

GRAIN MEAN DM% 85.5



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**93/R/M/5**

**SPRING BEANS**

**GRAIN TONNES/HECTARE**

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

| **WEED DEN** | |
|---|---|
| CHAR L | 3.76 |
| CHAR H | 4.26 |
| CHICK L | 4.12 |
| CHICK H | 4.62 |
| MAYWEED | 4.70 |
| ORACHE | 4.69 |
| NONE | 4.46 |
| Mean | 4.37 |

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

| **WEED DEN** |
|---|
| 0.529 |

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

| Stratum | d.f. | s.e. | cv% |
|---|---|---|---|
| BLOCK.WP.SP | 12 | 0.65 | 14.8 |

GRAIN MEAN DM% 85.1



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**93/R/M/5**

**LINSEED**

**GRAIN (AT 90% DRY MATTER) TONNES/HECTARE**

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

| **WEED DEN** | |
|---|---|
| CHAR L | 0.37 |
| CHAR H | 0.06 |
| CHICK L | 1.34 |
| CHICK H | 0.68 |
| MAYWEED | 0.85 |
| ORACHE | 1.12 |
| NONE | 1.33 |
| Mean | 0.82 |

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

| **WEED DEN** |
|---|
| 0.145 |

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

| Stratum | d.f. | s.e. | cv% |
|---|---|---|---|
| BLOCK.WP.WP | 6 | 0.178 | 21.6 |

GRAIN MEAN DM% 86.0

PLOT AREA HARVESTED 0.00010



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