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RESEARCH

## Yields of the Field Experiments 1982

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### **82/R/CS/280 *Rhizobium* Strains - Lucerne, *Melilotus alba***

#### **Rothamsted Research**

Rothamsted Research (1983) *82/R/CS/280 Rhizobium Strains - Lucerne, Melilotus alba* ; Yields Of The Field Experiments 1982, pp 181 - 182 - DOI: <https://doi.org/10.23637/ERADOC-1-33>

82/R/CS/280

RHIZOBIUM STRAINS

Object: To compare the effectiveness of five strains of *Rhizobium meliloti* in fixing nitrogen with lucerne and *Melilotus alba* - Claycroft.

Sponsor: A. Fyson.

The first year, lucerne and *Melilotus alba*.

Design: 4 randomised blocks of 2 plots split into 6.

Whole plot area: 7.0 x 39.0.

Treatments: All combinations of:-

Whole plots

| 1. SPECIES | Species:              |
|------------|-----------------------|
| LUCERNE    | Lucerne, Vertus       |
| MEL ALBA   | <i>Melilotus alba</i> |

Sub plots

| 2. RM STRN | Strain of <i>Rhizobium meliloti</i> : |
|------------|---------------------------------------|
| RCR 2001   | RCR 2001                              |
| MEL 5      | MEL 5                                 |
| MEL 10     | MEL 10                                |
| MEL 16     | MEL 16                                |
| MEL 17     | MEL 17                                |
| MIXTURE    | Mixture of all above strains          |

Basal applications: Manures: (0:18:36) at 250 kg.

Seed: Both species sown at 10 kg.

Cultivations, etc.: - Ploughed: 27 Nov, 1981. PK applied: 20 Apr, 1982.  
Power harrowed, seed sown: 21 Apr. Cut by hand: 23 July, 7 Sept.  
Discards cut by machine: 1 Dec. Previous crops: W. wheat 1980, w. wheat 1981.

NOTE: Yields were recorded only from the harvest on 23 July. Nodules were sampled in July and September for identification of *Rhizobium* strains.

82/R/CS/280

1ST CUT (23/7/82) DRY MATTER TONNES/HECTARE

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

| SPECIES  | LUCERNE | MEL ALBA | MEAN |
|----------|---------|----------|------|
| RM STRN  |         |          |      |
| RCR 2001 | 4.30    | 10.57    | 7.43 |
| MEL 5    | 4.67    | 7.00     | 5.83 |
| MEL 10   | 4.83    | 7.87     | 6.35 |
| MEL 16   | 4.60    | 10.67    | 7.63 |
| MEL 17   | 5.23    | 9.47     | 7.35 |
| MIXTURE  | 4.00    | 10.70    | 7.35 |
| MEAN     | 4.61    | 9.38     | 6.99 |

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

| TABLE   | SPECIES | RM STRN | SPECIES<br>RM STRN |
|---|---------|---------|--------------------|
| -----   | -----   | -----   | -----              |
| SED   | 0.574   | 0.979   | 1.388              |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:<br>SPECIES |         |         | 1.385              |

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

| STRATUM             | DF      | SE    | CV%  |
|---------------------|---------|-------|------|
| BLOCK.WP.SP         | 30      | 1.959 | 28.0 |
| PLOT AREA HARVESTED | 0.00001 |       |      |