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## Yields of the Field Experiments 1949

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### 49/BC/1 Ley and Arable - Highfield and Fosters

49/BC/1 *Ley and Arable - Highfield and Fosters*, Rothamsted Research (1950) Yields Of The Field Experiments 1949, pp 39 - 42

49/Bc/1.1

## LEY AND ARABLE ROTATIONS

### Highfield and Fosters Field - 1949

For details of treatments and rotations see the 1948 Station Report pp 98-99.

Cultivations, etc.:

#### Highfield

Wheat. Ploughed: Nov 1-8. Rolled: Block 1 - Nov 6, Block 4 - Nov 9. Discod twice, seed and basal superphosphate drilled and harrowed in: Nov 10. Wireworm powder drilled: Nov 22. Limed: Feb 2 and 14. Powdered Agroxone drilled: Mar 30 and Apr 27. Nitrochalk applied: Apr 27. Harvested: Aug 4. Variety: Yooman.

Hay, Cut Grass, Grazed Ley and Reseeded Pasture. Ploughed: Nov 17-19. Limed: Feb 2 and 14. Discod: Mar 22. Harrowed: Mar 26. Discod, ring rolled and harrowed: Mar 28. Seeds sown, basal compound drilled: Mar 29. Nitrochalk applied: Apr 29. Hand pulled and cut thistles: June 13-15, July 16-18.

Hay: Harvested: July 27.

Cut Grass: 1st cut June 16. 2nd application of nitrochalk: June 17. 2nd cut: July 27. 3rd application of nitrochalk: July 28.

Grazed Ley: 2nd application of nitrochalk: Aug 2. Grazed: Various periods between June 17 and Sept 11.

Reseeded Pasture: 2nd application of nitrochalk: Aug 2. Grazed: various periods between June 17 and Sept 9.

Old Pasture. Limed: Feb 2 and 14. Chain harrowed: Mar 28. Basal compound drilled: Mar 29. Flat rolled: Mar 30. 1st application of nitrochalk: Apr 29. 2nd application: Aug 2. Grazed: various periods between May 4 and June 16.

Lucerne. Ploughed: Nov 17-19. Limed: Feb 2 and 14. Discod: Mar 22. Harrowed: Mar 26. Discod, ring rolled, harrowed, basal compound drilled, rolled: Mar 29. Seed drilled: Mar 30. Ring rolled: Mar 31. Dusted with D.D.T. against flea beetle and bean weevil: Apr 22. Hood: May 19 and June 9-10. Cut: July 27. Variety: Provence.

#### Fosters Field

Wheat. Ploughed: Oct 25-28. Harrowed twice: Oct 29. Seed and basal superphosphate drilled, and harrowed in: Oct 30. Harrowed and rolled: Apr 12. Nitrochalk applied: Apr 25.

49/Bc/1.2

Poppies pulled: June 22-30. Thistles cut: July 1 and 2.  
Harvested: Aug 3. Variety: Yeoman.

Hay, Cut Grass, Grazed Ley, Reseeded Pasture. Ploughed:  
Nov 24-26. Springtined: Feb 23. Harrowed and ring rolled:  
Mar 25. Basal compound drilled, seeds sown, and harrowed  
in: Mar 26. Ring rolled: Mar 28. Nitrochalk applied:  
Apr 25. Hoed, pulled thistles and weeds: May 31-June 2 and  
July 4-5. Weeds cut with motor scythe: July 11.

Hay. The crop was insufficient for cutting.

Cut Grass. Cut: June 16. Owing to poor crop, no further  
cuts were made. Sprayed with 10% B.O.V. to kill off  
weeds: Oct 7. Because of high proportion of weeds crop  
was ploughed in: Dec-Jan.

Grazed Ley. 2nd application of nitrochalk: Sept 15.  
Sprayed with 10% B.O.V. to kill off weeds: Oct 7.  
Grazed: various periods between June 10 and Sept 11.

Reseeded Pasture. 2nd application of nitrochalk: Sept 15.  
Sprayed with 10% B.O.V. to kill off weeds: Oct 7.  
Grazed: various periods between June 10 and Sept 9.

Lucerne. Ploughed: Nov 24-26. Springtine: Feb 23. Ring  
rolled: Mar 25. Basal compound drilled: Mar 26. Ring  
rolled: Mar 28. Seed drilled, ring rolled: Mar 31.  
Dusted with D.D.T. dust against pea and bean weevil: Apr 22.  
Hoed: May 16 and 19, and June 3-8. Hoed and weeded:  
July 7-12. Cut: July 30. Variety: Provence.

|                               |                           |                                      |                 |
|-------------------------------|---------------------------|--------------------------------------|-----------------|
| Standard errors per sub-plot. |                           |                                      |                 |
| Per $\frac{1}{4}$ plot        | Wheat. Grain.             | Highfield $\pm 2.06$ cwt per acre or | 13.3% (23 d.f.) |
| "                             |                           | Fosters $\pm 2.39$ cwt per acre or   | 10.3% (23 d.f.) |
| "                             | Straw.                    | Highfield $\pm 4.11$ cwt per acre or | 16.6% (23 d.f.) |
| "                             |                           | Fosters $\pm 4.15$ cwt per acre or   | 11.5% (23 d.f.) |
| "                             | Hay. Dry Matter           | Highfield $\pm 2.02$ cwt per acre or | 24.6% (5 d.f.)  |
| Per $\frac{1}{2}$ plot        | Ley and Reseeded Pasture. | Highfield $\pm 2.08$ cwt per acre or | 8.9% (5 d.f.)   |
| "                             |                           | Fosters $\pm 1.16$ cwt per acre or   | 7.9% (5 d.f.)   |

49/Bc/1.3

Wheat. cwt per acre

|           | cwt N per acre  |      |      | cwt N per acre  |      |      |
|-----------|-----------------|------|------|-----------------|------|------|
|           | 0.3             | 0.6  | Mean | 0.3             | 0.6  | Mean |
|           | Grain           |      |      | Straw           |      |      |
| Highfield | 15.3<br>(±0.52) | 15.9 | 15.6 | 24.1<br>(±1.03) | 25.5 | 24.8 |
| Foster's  | 22.4<br>(±0.60) | 24.1 | 23.3 | 34.2<br>(±1.04) | 38.3 | 36.2 |

Hay. Dry Matter. cwt per acre

|           | cwt N per acre |     |      |
|-----------|----------------|-----|------|
|           | 0.3            | 0.6 | Mean |
| Highfield | 9.0<br>(±1.01) | 7.4 | 8.2  |

Cut Grass. 1st year. Dry Matter. cwt per acre.

|                   | cwt N per acre* |     |      |
|-------------------|-----------------|-----|------|
|                   | 0.15            | 0.3 | Mean |
| Highfield (2 cut) | 7.2             | 8.4 | 7.8  |
| Foster's (1 cut)  | 4.4             | 2.4 | 3.4  |

Lucerne. 1st year. Dry Matter. cwt per acre

|                   |      |
|-------------------|------|
| Highfield (1 cut) | 18.6 |
| Foster's (1 cut)  | 12.7 |

\* Applied in early spring and after each cut.

49/Bc/1.4

Grazed Plots. Estimates from sample cuts of amount of Dry Matter cwt per acre, consumed by sheep.

|  | cwt N per acre  |      | Mean |
|--|-----------------|------|------|
|  | 0.15            | 0.30 |      |
| Old Pasture - Highfield                            | 19.2            | 13.9 | 16.6 |
| Ley and Reseeded Pasture - Highfield<br>(1st year) | 23.4<br>(±0.85) | 23.2 | 23.3 |
| Ley and Reseeded Pasture - Foster's<br>(1st year)  | 13.2<br>(±0.47) | 6.2  | 14.7 |

Note. For a variety of reasons the sheep weights were considered unreliable and have therefore been omitted.

Average sampling error per sample of Dry Matter Determination expressed as a percentage of a single sample (2 samples per plot).

|                          |             |     |
|--------------------------|-------------|-----|
| Old Pasture              | - Highfield | 49% |
| Ley and Reseeded Pasture | - Highfield | 37% |
| " " " "                  | - Foster's  | 18% |

| <u>Mean Grazing Days per acre</u>                  | cwt N per acre |      | Mean |
|--|----------------|------|------|
|  | 0.15           | 0.30 |      |
| Old Pasture - Highfield                            | 1292           | 1142 | 1217 |
| Ley and Reseeded Pasture - Highfield<br>(1st year) | 602            | 628  | 615  |
| " " " " - Foster's                                 | 343            | 360  | 351  |