

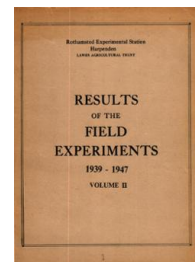
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Yields of the Field Experiments 1939-1947 Volume 2

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S Lettuce

Rothamsted Research

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LETTUCE

Woburn Butt Close 1942

Effects of intensity of weedings, of pulling and hoeing weeds, of basal nitrogen in inorganic or in organic form, and of top dressing. Notes on the development of the crop were made by the Physics Department.

Design; 4 randomized blocks of 8 plots each, certain high order interactions being confounded with block differences.

Area of each plot, 0.00287 acre.

Treatments

Weeding: Light, intensive.

Removal of weeds: Pulling, hoeing.

Nitrogen in seed bed: None, 0.6 cwt. N per acre

Form of nitrogen: Inorganic (nitrochalk), organic (hoof meal).

Top dressing: None, 0.2 cwt. N per acre (nitrochalk).

The difference between the light and intensively weeded plots was an extra weeding for the latter.

Basal Manuring: Superphosphate 0.5 cwt. P₂O₅ per acre, muriate of potash 0.5 cwt. K₂O per acre.

Crop Notes

Sown: May 20. Cut: Aug. 4 and 12. Variety: All the Year Round. Previous crop: Sugar beet.

Standard errors per Plot: Total weight: 29.4 cwt. per acre or 20.1%, 13 d.f.
Total number: 2.97 thousands per acre or 11.1%, 13 d.f.

Differential responses

| Mean response | Weeding | | Hoeing | Pulling | Seedbed nitrogen | | Top dressing | |
|---------------|---------|-----------|--------|---------|------------------|---------|--------------|-----|
| | Light | Intensive | | | Inorganic | Organic | None | ing |

Total weight, cwt. per acre: Mean 146.6

| | ±10.4 | | | | ±14.7 | | | | | | |
|---|-------------------|------------|-------|------------------|-------------------|------|-------|--------------------|--------------------|-------------------|--------------------|
| A | 34.9 | - | - | 34.2 | 35.6 | 28.7 | 41.1 | confounded | 46.7 | 23.1 | |
| B | 14.9 | 14.2 | 15.6 | - | - | -5.4 | 35.2 | 18.0 ^b | 52.4 ^b | -7.4 | 37.2 |
| C | 13.8 | 7.6 | 20.0 | -6.5 | 34.1 | - | - | - | - | 47.0 | -19.4 ^b |
| D | 22.0 ^a | confounded | | 4.8 ^b | 39.2 ^b | - | - | - | - | 39.6 ^b | 4.4 |
| E | -33.7 | -21.9 | -45.5 | -56.0 | -11.4 | -0.5 | -66.9 | -49.3 ^b | -84.5 ^b | - | - |

A = Intensive - light weeding

B = Pulling - hoeing

C = Nitrogen in seed-bed

D = Seedbed nitrogen organic v.inorganic

E = Top dressing nitrogen

Standard errors (a) 14.7 (b) 20.8

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Lettuce - Woburn 1942

Differential Responses

| Mean response | Weeding | | Hoeing | Pulling | Seed-bed nitrogen | Seedbed nitrogen | | Top dressing |
|---------------|---------|-----------|--------|---------|-------------------|------------------|---------|--------------|
| | Light | Intensive | | | | Inorganic | Organic | |

Plant number (thousands per acre): Mean 26.7

| | ±1.05 | | | ±1.48 | | | | | | | |
|---|------------------|------------|------|-------------------|------------------|------|------|-------------------|-------------------|------------------|-------------------|
| A | 1.9 | - | - | 1.9 | 1.9 | 2.3 | 1.5 | confounded | | 2.9 | 0.9 |
| B | 0.5 | 0.5 | 0.5 | - | - | -1.3 | 2.3 | 1.7 ^d | 2.9 ^d | -1.6 | 2.6 |
| C | -0.6 | -0.2 | -1.0 | -2.4 ^d | 1.2 ^d | - | - | - | - | 1.5 ^d | -2.7 ^d |
| D | 2.1 ^c | confounded | | 1.5 ^d | 2.7 ^d | - | - | - | - | 2.2 ^d | 2.0 ^d |
| E | -2.8 | -1.8 | -3.8 | -4.9 | -0.7 | -0.7 | -4.9 | -4.8 ^d | -5.0 ^d | - | - |

A = Intensive - light weeding

B = Pulling - hoeing

C = Nitrogen in seed-bed

D = Seedbed nitrogen organic v. inorganic

E = Top dressing nitrogen

Standard errors (c) 1.48 (d) 2.09

LETTUCE

Woburn Butt Close 1943

The effect of dung, of sulphate of ammonia and of method and intensity of weeding. Notes on the development of the crop were made by the Physics Dept.

Design; 2 randomized blocks of 8 plots each, the third order interaction being confounded with block differences.

Area of each plot: 0.00287 acre.

Treatments

Dung: None, 15 tons per acre.
 Sulphate of ammonia: None, 0.6 cwt. N per acre
 Weeding: Normal (on 3 days) or intensive (on 5 days).
 Method of weeding: Hoeing or pulling.

Crop Notes

Sown: Mar 29. Cut: June 21-29, July 5-14. Variety: All the Year Round.
 Previous crop: Potatoes.

Note: Some of the plants in the first cutting were attacked by Botrytis.

Standard errors per plot:

Total weight: 0.86 tons per acre or 7.6%, 9 d.f.
 Weight of first cutting: 1.01 tons per acre or 10.0%, 9 d.f.
 Plant number, first cutting: 3.30 thousands per acre or 8.4%, 9 d.f.

Differential Responses

| | Mean | Cultivations | | Weeding | |
|---|-------|------------------|-----------|---------|---------|
| | | Normal | Intensive | Hoeing | Pulling |
| Total weight: tons per acre. | | Mean yield 11.28 | | | |
| | ±0.43 | | | ±0.61 | |
| Dung | 1.06 | | | | |
| Nitrogen | 4.67 | | | | |
| Intensive - | | | | | |
| Normal Cultivation | 2.02 | | | 1.48 | 2.56 |
| Hoeing - Pulling | 0.88 | 1.42 | 0.34 | | |
| Total weight cut before June 29th: tons per acre. | | Mean yield 10.05 | | | |
| | ±0.50 | | | ±0.71 | |
| Dung | 1.33 | | | | |
| Nitrogen | 5.59 | | | | |
| Intensive - | | | | | |
| Normal Cultivation | 2.61 | | | 1.88 | 3.34 |
| Hoeing - Pulling | 1.09 | 1.82 | 0.36 | | |

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Lettuce - Woburn 1943

Differential Responses

| | Mean | Cultivations | | Weeding | | |
|--|-------|--------------|-----------|---------|---------|--|
| | | Normal | Intensive | Hoeing | Pulling | |
| Total number cut before June 29th: thousands per acre. Mean yield 39.4 | | | | | | |
| | ±1.65 | | | ±2.33 | | |
| Dung | 1.9 | | | | | |
| Nitrogen | 7.8 | | | | | |
| Intensive - | | | | | | |
| Normal Cultivation | 5.0 | | | | | |
| Hoeing - Pulling | 2.6 | 4.1 | 1.1 | 3.5 | 6.5 | |

• Percentage number over 400 gms. Mean 9.5

| | | | | | | |
|--------------------|------|-----|-----|-----|-----|--|
| Dung | 3.2 | | | | | |
| Nitrogen | 15.0 | | | | | |
| Intensive - | | | | | | |
| Normal Cultivation | 7.5 | | | | | |
| Hoeing - Pulling | 2.7 | 3.0 | 2.5 | 7.3 | 7.8 | |

LETTUCE

Woburn Butt Furlong 1944

Effects of cultivation under various manurial conditions (dung, hoof meal and sulphate of ammonia). Notes on the development of the crop were made by the Physics Department.

Design; 2 randomized blocks of 8 plots each, the 3rd order interaction being confounded with blocks.

Area of each plot, 0.00307 acre.

Treatments

Dung: None, 15 tons per acre (surface mulch)
 Nitrogen: Hoof meal or sulphate of ammonia, 0.6 cwt. N per acre.
 Method of removing weeds: Pulling or hoeing.
 Weeding: Continuous intensive May and June, or early intensive May only

Crop Notes

Sown: April 14. Cut: July 8 to Aug. 4. Variety All the Year Round.
 Previous crop: Sugar beet.

Standard errors per plot: Total Weight, 0.53 tons per acre or 6.3%, 9 d.f.
 Total number, 3.14 thousands per acre or 10.5%, 9 d.f.

| | Differential Responses | | | | |
|----------------------------|------------------------------------|------------------------|------|---------------------------------------|------|
| | Mean | Dung Absent Present | | Intensive Weeding Early Continuous | |
| Total weight. | Mean yield 11.79 tons per acre | | | | |
| | ±0.36 | | | ±0.52 | |
| Response to dung | 1.04 | - | - | -0.59 | 2.66 |
| Continuous - Early weeding | 4.94 | 3.32 | 6.57 | - | - |
| Hoof meal - Sulph. amm. | -0.84 | | | | |
| Pulling - Hoeing | -0.90 | | | | |
| Total number. | Mean yield 41.9 thousands per acre | | | | |
| | ±2.2 | | | ±3.2 | |
| Response to dung | 1.8 | - | - | -2.1 | 5.7 |
| Continuous - Early weeding | 11.3 | 7.4 | 15.3 | - | - |
| Hoof meal - Sulph. amm. | -0.8 | | | | |
| Pulling - Hoeing | -2.1 | | | | |
| Percentage total weight. | Class I Lettuce. Mean 21.5 | | | | |
| | -0.1 | - | - | -4.5 | 4.3 |
| Continuous - early weeding | 10.3 | 5.9 | 14.7 | - | - |
| Hoof meal - Sulph. amm. | -7.3 | | | | |
| Pulling - Hoeing | -4.7 | | | | |

Class I lettuces weigh over $\frac{3}{4}$ lb. each.

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Lettuce - Woburn 1944

| | Differential Responses | | | Intensive Weeding | |
|---|------------------------|-------------|--------------|-------------------|------------|
| | Mean | Dung Absent | Dung Present | Early | Continuous |
| Percentage total weight cut before July 19. Mean 92.3 | | | | | |
| Response to dung | 3.1 | - | - | 2.1 | 4.1 |
| Continuous - Early weeding | -8.6 | -9.6 | -7.6 | - | - |
| Hoof Meal - Sulph. amm. | -0.8 | | | | |
| Pulling - Hoeing | 5.5 | | | | |