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64/W/WCW/B/10 Cultivation-weedkiller Rotation

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64/B/10.1

CULTIVATION - WEEDKILLER ROTATION

(WCW)

A comparison of weed control by various cultivation methods and by a pre-emergence weedkiller - Woburn Great Hill I and II 1964, the fifth year.

For history, rotation etc., see 'Results' 60/B/11, 61/B/11, 62/B/11 and 63/B/11.

Because of potato cyst nematode sugar beet replaces potatoes.

Area of each plot: 0.0482. Area harvested: Sugar beet - roots - 0.0121, tops - 0.0040, barley - 0.0115.

Treatments:

Sugar beet: Ploughed (P), rotary cultivated (R), rigid-tine cultivated (T). Normal mechanical cultivations after sowing. (Three plots per block for each treatment). No weedkiller applied.

Barley: P, R and T as for sugar beet.

Basal dressing. Sugar beet: 5 cwt agricultural salt, 6 cwt 20:10:10. Barley: 3.5 cwt 16:9:9 combine drilled.

Cultivations, etc.:

Both crops: T plots rigid-tine cultivated twice, P plots ploughed, R plots rotary cultivated: Dec 2, 1963.

Sugar beet: Salt applied: Feb 4, 1964. T and P plots spring-tine cultivated: Feb 25. Basal NPK compound applied: Apr 6. T and P plots spring-tine cultivated: Apr 9. R plots rotary cultivated second time, all plots harrowed: Apr 10. Seed drilled at 5 lb: Apr 11. Singled: May 28. Lifted: Oct 14. Variety: Klein E.

Barley: All plots harrowed: Feb 14, 1964. Seed drilled at 2.5 bushels: Feb 15. Sprayed with mecoprop/2,4-D (Methoxone Extra at 6 pints in 40 gals): May 12. Combine harvested: Aug 26. Variety: Maris Badger.

Standard errors per plot.

| | | | | | |
|-------------|-----------------|-------|----|-------|-----------|
| Sugar beet. | Roots (washed): | 0.978 | or | 7.9% | (14 d.f.) |
| | Total sugar: | 4.39 | or | 8.2% | (14 d.f.) |
| | Tops: | 0.750 | or | 12.2% | (14 d.f.) |
| Barley. | Grain: | 4.16 | or | 26.0% | (14 d.f.) |

64/B/10.2

SUMMARY OF RESULTS

| P | R | T | Mean |
|-------------|----------|-------|-------|
| SUGAR BEET | | | |
| ROOTS | | | |
| | (±0.399) | | |
| 12.27 | 12.46 | 12.20 | 12.31 |
| SUGAR % | | | |
| 21.7 | 22.1 | 21.7 | 21.8 |
| TOTAL SUGAR | | | |
| | (±1.79) | | |
| 53.2 | 55.1 | 53.0 | 53.7 |
| TOPS | | | |
| | (±0.306) | | |
| 6.33 | 6.19 | 5.93 | 6.15 |
| BARLEY | | | |
| GRAIN | | | |
| | (±1.70) | | |
| 16.4 | 14.7 | 16.9 | 16.0 |

Mean D.M. %: 87.6