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

Rothamsted Research

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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