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67/W/WCW/B/8 Cultivation-weedkiller Rotation

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67/B/8.1

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 1967, the eighth year.

For history, rotation, treatments etc., to barley, see 'Results' 60/B/11, 61/B/11, 62/B/11, 63/B/11, 64/B/10, 65/B/9 and 66/B/8.

Area of each plot: 0.0482. Area harvested: Potatoes - 0.0107, barley - 0.0227.

Potatoes.

Treatments: All combinations of:-

1. Primary cultivations: Ploughed (P), rotary cultivated (R), deep-tine cultivated (T).
2. Weedkiller: None, normal cultivations (M), linuron at 0.25 lb, plus paraquat at 0.75 lb ion in 50 gals (S).

NOTE: Weeds grew very vigorously and so all plots were rotary-ridged, except plot 36 where the haulm was exceptionally large and would have been damaged.

Basal applications:

Barley: 340 lb (20:10:10) combine drilled. Weedkiller: Ioxynil/mecoprop (Actril C at 5 pints in 25 gals).

Potatoes: 10 cwt (17:11:22). Weedkiller: Dalapon at 9 lb in 33 gals. Fungicide: Mancozeb at 1.2 lb in 30 gals. Fentin acetate at 4.2 oz plus maneb at 1.4 oz in 30 gals. Haulm destroyer: Undiluted BOV at 15 gals.

Cultivations, etc.:

Potatoes: Weedkiller applied: Oct 7, 1966. Ground chalk applied at 40 cwt: Nov 3. T plots deep-tine cultivated (two strokes): Nov 15. P plots ploughed: Nov 15-16. R plots rotary cultivated: Nov 21. P and T plots spring-tine cultivated, and basal NPK applied: Mar 20, 1967. P and T plots spring-tine cultivated (twice): Mar 22. R plots rotary cultivated, potatoes machine planted: Mar 23. M plots harrowed: Apr 20. M plots re-ridged: Apr 28. S plots sprayed with weedkiller: May 3. M plots earthed up: May 10. All plots (except plot 36) rotary ridged:

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June 9. Sprayed fungicide: July 1 and July 26. Sprayed haulm destroyer: Aug 22. Lifted: Sept 21. Variety: Maris Piper. Barley: Ground chalk applied at 40 cwt: Nov 3, 1966. T plots deep-tine cultivated (two strokes), and P plots ploughed: Nov 15. R plots rotary cultivated: Nov 21. All plots spring-tine cultivated: Feb 15, 1967. 'Nitro-Chalk' applied: Feb 16. Seed combine drilled at 140 lb: Mar 3. Sprayed weedkiller: Apr 28. Combine harvested: Aug 18. Variety: Maris Badger.

Standard errors per plot.

Potatoes, total tubers: 1.371 or 32.9% (8 d.f.)
Barley, grain: 1.73 or 6.0% (8 d.f.)

67/B/8.3

SUMMARY OF RESULTS

POTATOES

	M	S	Mean
TOTAL TUBERS			
	(±0.970)	(±0.685)	(±0.560)
P	4.67	4.30	4.42
R	3.84	4.51	4.29
T	3.33	4.01	3.79
Mean (±0.560)	3.95	4.28	4.17

% WARE

P	80.5	82.5	81.8
R	79.3	81.4	80.7
T	77.6	83.5	81.5
Mean	79.1	82.5	81.4

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BARLEY

GRAIN

	N1	N2	N3	Mean
		(±1.23)		(±0.71)
P	26.1	29.0	30.1	28.4
R	26.5	29.3	34.1	29.9
T	24.1	29.1	32.0	28.4
Mean (±0.71)	25.6	29.1	32.0	28.9

Mean D.M. %: 83.7