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Yields of the Field Experiments 1963

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63/W/WCW/B/11 Weedkiller-cultivation Rotation

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63/B/11.1

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 1963, the fourth year.

For history, rotation etc., see 'Numerical Results of the Field Experiments' 60/B/11, 61/B/11 and 62/B/11.

Area of each plot (acres): 0.0482. Area harvested: Potatoes - 0.0107, barley - 0.0115.

Treatments.

Potatoes: All combinations of:-

Initial cultivations: Ploughed (P), rotary cultivated (R), rigid-tine cultivated (T).

Treatments after planting: Normal cultivations (M), prometryne* plus paraquat* applied immediately before crop emergence (S) - duplicate plots.

Barley: All combinations of:-

Initial cultivations: As for potatoes.

Prometryne to potatoes 1962: None (O), after planting (X), after early cultivations (Y).

*Prometryne at 2 lb, plus 0.75 lb paraquat, in 40 gallons per acre.

Basal dressings per acre:

Potatoes: 10 cwt compound fertiliser (17% N, 11% $P_{2}O_{5}$, 22% $K_{2}O$).

Barley: 3.5 cwt compound fertiliser (16% N, 9% $P_{2}O_{5}$, 9% $K_{2}O$) combine drilled.

Cultivations, etc.:

Potatoes: T plots rigid-tine cultivated twice: Nov 6, 1962. R plots rotary cultivated (one stroke), P plots ploughed: Nov 9. Ground chalk applied at 62 cwt per acre: Feb 20, 1963. P and T plots spring-tine cultivated: Apr 18. Basal dressing applied: Apr 22. P and T plots spring-tine cultivated: Apr 23. R plots rotary cultivated, potatoes machine planted: Apr 24. Ridges rolled: Apr 27. M plots chain harrowed: May 9. Prometryne and paraquat treatment applied: May 24. M plots grubbed: May 25 and June 18. M plots earthed up: June 24. Sprayed with copper oxychloride fungicide at 2.3 lb Cu in 20 gallons per acre: July 25, and again at the same rate, plus 0.35 pints of menazon (against aphids) in

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30 gallons per acre: Aug 22. Haulm destroyed with diquat at 0.9 pints in 40 gallons per acre: Sept 23. Lifted: Oct 10. Variety: Majestic.

Barley: T plots rigid-tine cultivated on 2 occasions: Nov 6 and 9, 1962. R plots rotary cultivated, P plots ploughed: Nov 9. Ground chalk applied at 62 cwt per acre: Feb 20, 1963. P and T plots spring-tine cultivated, R plots rotary cultivated: Apr 11. Seed drilled at 2.3 bushels per acre: Apr 18. Sprayed with mecoprop/2,4-D at 6 pints in 40 gallons per acre: May 21. Combine harvested: Sept 9. Variety: Proctor.

Standard errors per plot.

Potatoes, total tubers: 1.702 tons per acre or 13.5% (11 d.f.)

Barley, grain (at 85% dry matter): 1.63 cwt per acre or 6.7% (8 d.f.)

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Summary of Results

Potatoes

Treatments after planting	Initial cultivation			Mean
	P	R	T	
<u>Total tubers: tons per acre</u>				
M (± 1.204)	11.48	11.86	10.89	11.41 (± 0.695)
S (± 0.851)	13.04	12.54	14.14	13.24 (± 0.491)
Mean (± 0.695)	12.52	12.31	13.05	12.63

Percentage ware (1.5 inch riddle)

M	81.0	80.5	80.5	80.6
S	82.9	81.4	85.8	83.4
Mean	82.3	81.1	84.0	82.4

Barley

Prometryne to potatoes 1962	Initial cultivation			Mean
	P	R	T	
<u>Grain (at 85% dry matter): cwt per acre</u>				
		(± 1.15)		(± 0.67)
O	24.4	24.4	23.6	24.2
X	25.8	24.8	24.3	25.0
Y	23.6	23.7	23.1	23.5
Mean (± 0.67)	24.6	24.3	23.7	24.2

Mean dry matter % as harvested: 79.4

For explanation of treatment symbols see page 63/B/11.1