

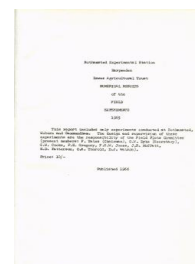
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65/R/CW/B/8 Cultivation-weedkiller Rotation

Rothamsted Research

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65/B/8.1

CULTIVATION - WEEDKILLER ROTATION

(CW)

Great Harpenden I 1965 - the 5th year

A comparison of weed control by various cultivation methods and by pre-emergence weedkillers.

For previous history, rotation, treatments etc., see 'Results' 61/B/10, 62/B/10, 63/B/10 and 64/B/9.

Area harvested: Winter beans - 0.0110. Winter wheat, potatoes and barley: 0.0107.

Because of difficulty in drilling close rows, winter beans on the T plots were all sown at 21 inch row spacing.

Weedkillers used on potatoes 1965: As 1964.

Operations in 1965

Cultivations, etc.:-

Winter beans: T plots rigid-tine cultivated 3 times: Oct 22, 1964. P, A and reserve plots ploughed: Oct 23. P, A and reserve plots disced: Oct 26. T plots disced: Oct 27. R plots rotary cultivated: Oct 29. Seed drilled at 275 lb: Nov 2. X and Y plots sprayed: Nov 9. Y plots sprayed: Mar 15, 1965. M and reserve plots tractor hoed: May 13. 11 ft at each end of all plots sprayed with menazon at 4 oz in 40 gals: June 14, and again at 6 oz in 37 gals: July 1. Combine harvested: Sept 28.

Winter wheat: Sprayed with aminotriazole at 4 lb and ammonium thiocyanate at 3.7 lb in 40 gals: Oct 24, 1964. T plots rigid-tine cultivated 3 times: Dec 1. P, A and reserve plots ploughed: Dec 2. R plots rotary cultivated, P, T, A and reserve plots spring-tine cultivated, seed drilled at 185 lb: Dec 22. All plots harrowed: Apr 13, 1965. 'Nitro-Chalk' applied: Apr 15. H sub plots and reserve plots sprayed with mecoprop/2, 4-D (Methoxone Extra at 7 pints in 40 gals): May 6. Combine harvested: Sept 13.

Potatoes: Sprayed with aminotriazole at 4 lb and ammonium thiocyanate at 3.7 lb in 40 gals: Oct 24, 1964. T plots rigid-tine cultivated 3 times: Dec 1. P and reserve plots ploughed: Dec 3. R plots rotary cultivated: Dec 22. T, P and reserve plots spring-tine cultivated: Apr 6, 1965. Basal compound fertiliser applied, T, P and reserve plots spring-tine

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cultivated, A plots rotary cultivated twice, R plots once, potatoes machine planted: Apr 7. Ridges rolled: May 8. M and reserve plots chain harrowed, X and Y plots sprayed: May 10. M and reserve plots grubbed: May 11. M and reserve plots weeded mechanically: May 31. M and reserve plots grubbed second time: June 2. M and reserve plots earthed up: June 21. Sprayed 3 times with mancozeb at 1.2 lb in 37 gals: July 1, July 28, Aug 10. Sprayed with diquat (Reglone at 4 pints in 40 gals): Sept 6. Haulm destroyed mechanically: Sept 13. Lifted: Oct 11.

Barley: All plots spring-tine cultivated twice, sprayed with sodium trichloroacetate at 18 lb in 40 gals: Oct 22, 1964. All plots spring-tine cultivated: Nov 25. Sprayed second time with sodium trichloroacetate at 18 lb in 40 gals: Nov 26. All plots spring-tine cultivated: Dec 22. T plots rigid-tine cultivated twice, P and reserve plots ploughed, R plots rotary cultivated: Jan 19, 1965. A plots rotary cultivated, all other plots spring-tine cultivated, seed drilled at 155 lb: Mar 29. H sub-plots and reserve plots sprayed with mecoprop/2,4-D (Methoxone Extra at 6 pints in 40 gals): May 13. Combine harvested: Sept 2.

Standard errors per plot.

Winter beans.	Grain, whole plot: 2.81 or 11.3% (8 d.f.)
Potatoes.	Total tubers, whole plot: 0.590 or 3.0% (8 d.f.)
	sub plot: 0.755 or 3.9% (9 d.f.)
Barley.	Grain, whole plot: 1.89 or 4.8% (8 d.f.)
	sub plot: 0.99 or 2.5% (9 d.f.)
Winter wheat.	Grain, whole plot: 1.70 or 3.6% (11 d.f.)
	sub plot: 1.43 or 3.0% (12 d.f.)

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SUMMARY OF RESULTS

	P	R	T	Mean
WINTER BEANS				
GRAIN				
Mean (± 1.15)	24.4	24.7	25.8	25.0
		(± 1.99)		(± 1.15)
M	28.5	29.4	24.6	27.5
X	23.4	22.2	24.3	23.3
Y	21.3	22.3	28.6	24.1
	AY	Reserve M		
	23.0	27.2		

General mean: 25.2

Mean D.M. %: 72.7

WINTER WHEAT

GRAIN				
Mean (± 0.69)	47.8	47.6	47.7	47.7
1964				
M (± 1.20)	47.6	45.9	48.9	47.5 (± 0.69)
X (± 0.85)	47.9	48.4	47.1	47.8 (± 0.49)
1965		(1) and (2)		(± 0.34)
-	49.5	50.2	49.7	49.8
H	46.0	45.0	45.8	45.6
	AX-	AXH	Reserve XH	
	47.5	46.6	46.8	

General mean: 47.5

Mean D.M. %: 76.8

- (1) (± 0.58) For use in vertical and interaction comparisons
 (2) (± 0.81) For use in horizontal and diagonal comparisons

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POTATOES

	P	R	T	Mean
TOTAL TUBERS				
Mean (± 0.241)	18.90	19.37	19.92	19.40
1964		(± 0.417)		(± 0.241)
M	19.05	19.83	20.30	19.72
X	19.29	18.97	20.09	19.45
Y	18.37	19.32	19.38	19.02
	AX	Reserve M		
	19.19	20.48		

General mean: 19.56

% WARE

Mean	97.4	97.7	97.7	97.6
M	97.7	97.8	98.2	97.9
X	96.7	97.4	97.9	97.3
Y	97.8	97.9	97.1	97.6
	AX	Reserve M		
	98.0	97.8		

General mean: 97.7

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BARLEY

GRAIN

	P	R	T	Mean
Mean (± 0.77)	39.1	40.5	39.8	39.8
1964		(± 1.34)		(± 0.77)
M	38.1	39.4	40.7	39.4
X	39.4	41.9	39.0	40.1
Y	39.9	40.3	39.7	40.0
1965		(1) and (2)		(± 0.23)
-	39.4	41.2	40.7	40.4
H	38.8	39.9	38.9	39.2
	AX-	AXH	Reserve MH	
	42.5	40.4	39.2	

General mean: 39.8

Mean D.M. %: 76.6

- (1) (± 0.40) For use in vertical and interaction comparisons
 (2) (± 0.82) For use in horizontal and diagonal comparisons