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# Numerical Results of the Field Experiments 1970

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## 70/R/BK/1 Broadbalk - Winter Wheat, Potatoes, Spring Beans

### **Rothamsted Research**

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BROADEALK

(70/R/BK/1)

The 127th year, 3rd year of revised scheme.

Wheat, beans and potatoes 1970. For history, treatments etc. see 'Details' 1967, Station Report for 1966, pp. 229 - 231, Station Report for 1968, Part II and 'Results' 68/A/1 and 69/R/BK/1.

Areas harvested:

Wheat	Section 0	0.0107
	Section 1	0.0197
	Sections 5, 6 and 7	0.0163
	Sections 8 and 9	0.0171
Potatoes:	Section 2	0.0163
Beans:	Section 4	0.0183

Standard applications:-

Winter wheat: Weedkillers: Terbutryne and related triazines ('Prebane' at 4 lb in 20 gals) to all sections except 8 (no weedkillers). MCPA, mecoprop and dicamba ('Banlene Plus' at 4 pints in 20 gals) to all sections except 8.

Potatoes: Weedkillers: Paraquat at 0.375 lb ion plus linuron at 1 lb in 20 gals.

Fungicide: Mancozeb at 1.2 lb in 40 gals on 2 occasions.

Insecticide: Demeton-s-methyl at 3.5 oz with the first application of mancozeb.

Spring beans: Insecticide: Demeton-s-methyl at 3.5 oz in 40 gals.

Section 00: Methyl bromide sub-plots: No yields were taken. This investigation has now ceased.

Cultivations, etc.:-

ALL SECTIONS: Autumn fertilisers applied: 29 Sept, 1969. Plot 01 shallow rotary cultivated to incorporate fertiliser, FYM applied: 1 Oct. Ploughed: 2 - 4 Oct.

CROPPED SECTIONS:

Winter wheat: Rotary cultivated: 12 Sept, 1969. All plots rotary cultivated second time, plots 15 - 19, sections 0 and 1 rotary cultivated third time: 13 Oct. Seed drilled at 180 lb: 15 Oct. 'Prebane' applied: 17 Oct. N applied: 30 Apr, 1970. MCPA/mecoprop/dicamba applied: 6 May. Combine harvested: 27 Aug.

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Potatoes: Rotary cultivated: 12 Sept, 1969. N applied: 17 Apr, 1970. Plots rotary cultivated, potatoes machine planted: 30 Apr. Weedkiller applied: 20 May. All plots except 1, 21, 22, 7, 8, 9, 13, 15 grubbed and rotary ridged: 30 June. Fungicide and insecticide applied: 29 July. Fungicide applied: 14 Aug. Sprayed with undiluted BOV at 15 gals: 3 Sept. Lifted: 15 Sept.

Spring beans: Seed drilled at 200 lb: 21 Mar, 1970. N applied: 17 Apr. Insecticide applied: 19 June. Combine harvested: 2 Sept.

FALLOW SECTION: Rotary cultivated: 12 Sept, 1969. Ploughed second time: 20 May, 1970, third time: 9 July.

BROADBALK WILDERNESS:-

Ungrazed meadow (north): Topped with rotary grass cutter: 27 Oct, 1969.

Grazed meadow (centre): Grazed by sheep: 29 Apr, 1970 - 11 May, 27 May - 3 June, 29 June - 3 July, 3 - 14 Aug, 15 - 26 Sept, 14 - 19 Oct. Grass topped: 11 May, 3 June, 6 July, 20 Aug, 26 Sept.

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SUMMARY OF RESULTS

WHEAT

GRAIN: CWT

Section	5	6	7	1	8	9	0	
Years after fallow	1	2	**	4	7*	12	19	Mean
Plot								
01	39.9	47.4	46.8					44.7
21	45.6	45.4	45.2	50.3	34.7	41.2	36.3	42.7
22	49.7	40.1	46.7	47.0	35.7	41.2	42.3	43.2
03	23.5	11.6	18.0	14.2	14.1	12.5	17.2	15.9
05	31.5	15.0	20.0	15.6	18.9	16.6	21.3	19.8
06	36.1	27.3	37.4	28.7	26.8	28.6	32.6	31.1
07	36.8	38.3	42.4	38.4	31.5	39.8	41.0	38.3
08	38.0	42.6	39.4	40.6	38.7	44.4	46.4	41.5
09	36.8	46.3	41.0	45.9	41.3	46.9	44.1	43.2
10	34.4	21.2	34.6	18.3	20.9	14.2	15.2	22.7
11	30.2	31.7	36.3	24.2	22.3	20.0	29.3	27.7
12	36.6	40.1	46.4	34.5	28.7	32.6	38.1	36.7
13	38.9	39.0	44.4	36.8	28.9	36.3	40.7	37.8
14	36.1	40.9	48.1	36.5	29.6	32.3	38.0	37.4
15	36.5	41.2	44.2	38.6	35.5	34.6	41.5	38.9
16	36.7	36.8	41.2	36.5	27.4	31.4	36.2	35.2
17	38.5	36.2	43.0	33.6	29.8	31.2	34.3	35.2
18	36.1	38.9	43.1	33.9	33.4	33.6	32.2	35.9
19	36.7	28.4	38.9	29.3	24.6	22.7	29.2	30.0
20				17.8			20.0	18.9

Mean D.M. %: 84.2

\* No herbicide

\*\* After beans

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WHEAT

STRAW: CWT

Section Years after fallow	5	6	7	1	8	9	0	
	1	2	**	4	7*	12	19	Mean
Plot								
01	22.1	23.3	29.2					24.9
21	32.0	31.7	32.7	37.1	23.8	25.3	31.4	30.6
22	35.9	23.9	29.9	34.6	22.4	26.8	27.7	28.7
03	12.1	6.3	10.5	7.8	6.5	6.0	9.3	8.3
05	16.1	6.9	13.6	9.1	11.5	7.5	11.7	10.9
06	17.7	13.6	23.5	14.4	15.3	14.4	18.5	16.8
07	20.2	17.0	23.0	18.8	19.1	19.4	22.7	20.0
08	18.4	21.9	25.1	18.6	23.5	22.9	24.7	22.2
09	18.7	20.9	22.2	23.8	20.2	21.4	23.8	21.6
10	13.9	8.8	15.2	10.1	9.6	6.1	9.7	10.5
11	12.8	12.6	15.2	10.7	12.1	8.3	14.6	12.3
12	17.3	17.2	22.5	15.8	13.0	13.3	19.7	17.0
13	18.4	18.4	21.8	19.3	19.5	17.3	22.6	19.6
14	15.5	20.0	25.4	17.3	17.4	12.7	20.6	18.4
15	18.1	16.7	21.5	20.6	23.6	16.1	24.4	20.1
16	18.9	17.1	21.7	18.3	17.3	15.7	24.9	19.1
17	20.7	17.2	26.6	14.4	19.2	14.2	16.0	18.3
18	19.3	20.2	23.9	15.5	20.4	15.6	16.4	18.8
19	19.7	14.2	19.5	15.3	14.5	12.8	16.3	16.0
20				9.2			10.7	10.0

Mean D.M. %: 89.3

\* No herbicide

\*\* After beans

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Section	4		2	
	SPRING BEANS		POTATOES	
Plot	GRAIN: CWT	STRAW: CWT	TOTAL TUBERS: TONS	% WARE 1.5 INCH
01	9.1	10.4	11.92	90.2
21	7.9	16.9	19.60	93.2
22	10.9	14.3	17.51	93.9
03	2.6	3.8	4.99	81.9
05	3.1	6.6	7.56	81.5
06	5.1	7.6	10.36	81.0
07	7.3	9.7	13.73	87.6
08	8.8	14.1	15.86	89.3
09	8.9	16.5	16.68	93.6
10	4.7	1.9	4.25	75.3
11	4.9	6.4	3.41	43.4
12	8.8	9.6	7.97	81.0
13	10.1	10.9	7.71	79.5
14	8.3	9.3	8.36	87.0
15	9.5	12.5	14.15	91.1
16	10.9	14.5	11.18	93.7
17	10.5	10.7	10.15	90.6
18	11.3	10.6	10.41	91.0
19	7.7	7.1	8.06	87.2
Mean D.M. %:	77.1	46.8		