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Yields of the Field Experiments 1971

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71/R/BK/1 Broadbalk - Potatoes, Beans, Wheat

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71/R/BK/1

BROADBALK

Object: To study the effects of organic and inorganic manures on continuous winter wheat. Since 1968 a rotation of potatoes, beans and wheat has been included.

The 128th year, wheat, potatoes, beans. The fourth year of revised scheme.

For previous years see 'Details' 1967, Station Report for 1966, pp. 229-231, Station Report for 1968, Part 2, 68/A/1(t) and 69 - 70/R/BK/1.

Areas harvested:

Wheat:	Section 0	0.00433
	Section 1	0.00798
	Sections 3, 4 and 5	0.00659
	Sections 8 and 9	0.00694
Potatoes:	Section 7	0.00659
Beans:	Section 2	0.00741

Standard applications:-

Winter wheat: Weedkillers: Paraquat at 0.84 kg ion in 225 l to Section 0 only. Terbutryne and related triazines ('Prebane' at 4.48 kg in 225 l), MCPA, mecoprop and dicamba ('Banlene Plus' at 5.6 l in 225 l) to all sections except 8.

Potatoes: Weedkillers: Paraquat at 0.56 kg ion in 225 l. Linuron at 0.84 kg plus paraquat at 0.42 kg ion in 427 l. Fungicide: Mancozeb at 1.34 kg in 438 l on 2 occasions.

Spring beans: Weedkiller: Paraquat at 0.56 kg ion in 225 l. Insecticide: Demeton-s-methyl at 245 g in 438 l.

Cultivations, etc.:-

ALL SECTIONS: Autumn fertilisers applied: 18 Sept, 1970. FYM applied: 22 Sept. Ploughed: 21 - 23 Sept.

CROPPED SECTIONS:

Winter wheat: Paraquat applied to Section 0: 11 Sept, 1970. Seed drilled at 202 kg: 9 Oct. 'Prebane' applied: 10 Oct. N applied: 8 Apr, 1971. MCPA/mecoprop/dicamba applied: 15 Apr. Plot 19, Section 8 cut green and all produce removed (because of excessive weed infestation) and then deep-tine cultivated twice: 28 July. Combine harvested: 27 Aug. Variety: Cappelle.

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Potatoes: Paraquat applied: 4 Feb, 1971. N applied, plots rotary cultivated: 2 Apr. Potatoes machine planted: 3 Apr. Linuron plus paraquat applied: 8 May. Plots 01, 21 and 22 grubbed: 3 June and rotary ridged: 4 June. Remaining plots grubbed: 5 June and rotary ridged: 10 June. Fungicide applied: 23 June and 16 Aug. Haulm destroyed mechanically: 26 Aug - 8 Sept. Lifted: 14 Sept. Variety: King Edward.

Spring beans: Paraquat applied: 4 Feb, 1971. N applied: 24 Feb. Seed drilled at 224 kg: 25 Feb. Insecticide applied: 1 July. Combine harvested: 2 Sept. Variety: Maris Bead.

FALLOW SECTION: Ploughed second time: 19 Apr, 1971, third time: 8 July.

BROADBALK WILDERNESS:-

Ungrazed meadow (north): Topped with rotary grass cutter: 23 Oct, 1970.

Grazed meadow (centre): Grazed by sheep: 5 - 26 May, 1971, 8 - 16 June, 6 - 16 July, 13 - 19 Aug, 10 - 21 Sept. Grass topped: 27 May, 16 June, 16 July, 22 Sept.

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SUMMARY OF RESULTS

WHEAT

GRAIN: TONNES/HECTARE

Section Years after fallow	3	5	4	1	8	9	0	Mean
	1	2	**	5	8*	13	20	
Plot								
01	6.37	5.76	5.86					
21	6.10	5.30	4.88	5.38	3.91	5.54	4.86	5.14
22	7.31	6.65	6.88	6.68	3.29	6.62	6.54	6.28
03	3.13	2.21	2.53	2.08	1.57	2.05	2.08	2.24
05	3.78	1.95	2.64	2.00	2.10	2.20	2.54	2.46
06	4.66	4.17	4.93	4.29	1.39	4.09	4.52	4.01
07	5.14	6.29	6.37	5.57	2.85	5.94	5.95	5.44
08	5.33	5.97	6.05	5.36	3.65	6.23	5.73	5.48
09	5.45	5.81	5.95	5.37	2.58	5.91	5.27	5.19
10	4.14	5.38	5.44	4.66	3.53	4.06	3.30	4.36
11	2.95	4.98	5.11	3.46	2.45	3.46	4.23	3.81
12	4.40	5.74	5.74	5.55	2.90	5.79	5.31	5.06
13	5.07	6.00	6.35	5.51	2.75	6.29	5.57	5.36
14	4.89	6.13	6.38	6.04	3.66	6.09	5.58	5.54
15	5.44	6.06	6.18	6.00	3.80	6.99	5.82	5.76
16	5.43	5.67	6.14	5.32	2.36	5.49	4.93	5.05
17	5.36	5.81	6.18	5.23	2.22	5.85	5.52	5.17
18	5.40	5.84	6.16	5.42	2.80	6.23	5.17	5.29
19	5.25	5.29	5.70	4.26	+	4.90	4.56	
20				4.64			4.42	

Mean D.M. %: 80.8

* No herbicide

** After beans

+ Cut green - no yield taken

% Weed seeds + rubbish

Plot	Section		
05	8	46.7	
06	8	60.6	
10	8	1.9	
10	9	0.8	
11	3	0.9	
11	4	0.4	
16	0	0.3	11

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WHEAT

STRAW: TONNES/HECTARE

Section Years after fallow	3	5	4	1	8	9	0	Mean
	1	2	**	5	8*	13	20	
Plot								
01	5.25	5.80	6.15					5.73
21	7.29	6.83	9.02	6.04	9.04	7.43	5.96	7.37
22	7.37	6.84	7.72	8.01	10.01	7.23	8.04	7.89
03	1.81	1.61	2.21	2.13	2.51	1.36	1.82	1.92
05	3.05	1.52	2.00	2.09	5.10	1.80	1.95	2.50
06	4.51	3.40	4.68	3.99	5.12	3.79	4.00	4.21
07	4.27	6.35	6.23	4.98	8.25	5.71	5.15	5.85
08	4.67	6.21	7.24	5.83	9.99	5.95	4.51	6.34
09	4.78	5.61	5.85	5.80	9.98	5.48	4.56	6.01
10	2.19	3.88	3.56	3.61	6.77	3.94	3.09	3.86
11	1.78	3.21	3.74	2.79	6.45	3.11	2.88	3.42
12	3.04	4.36	5.15	4.21	7.12	4.81	5.90	4.94
13	4.50	5.48	6.57	5.40	7.73	7.97	4.40	6.01
14	3.88	4.87	6.65	4.99	8.08	6.00	5.22	5.67
15	4.74	6.14	6.14	5.06	8.61	7.15	5.86	6.24
16	4.84	5.36	6.18	4.90	8.30	5.62	4.72	5.70
17	4.47	5.31	6.13	4.69	8.86	6.19	4.79	5.78
18	4.93	5.52	5.68	5.08	10.70	5.54	4.77	6.03
19	3.05	4.61	5.26	4.37	7.28	4.24	4.54	4.77
20				4.17			3.84	4.00

Mean D.M. %: 90.2

* No herbicide

** After beans

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Section	2		2	
Plot	SPRING BEANS		POTATOES	
	GRAIN: TONNES/ HECTARE	STRAW: TONNES/ HECTARE	TOTAL TUBERS: TONNES/ HECTARE	% WARE 3.81 CM (1.5 INCH) RIDDLE
01	1.94	2.20	36.2	84.9
21	2.60	4.15	49.4	87.6
22	2.59	3.54	36.2	85.9
03	2.02	1.41	7.8	59.7
05	2.69	2.11	9.6	52.3
06	2.53	3.04	20.2	67.2
07	2.56	3.37	35.4	80.2
08	2.41	3.01	42.4	84.3
09	2.52	3.07	45.6	86.5
10	1.53	0.68	9.2	69.0
11	0.49	1.84	6.2	26.0
12	1.06	1.75	12.0	38.8
13	2.19	2.78	25.8	71.0
14	2.07	2.22	22.8	66.0
15	2.14	2.52	36.5	80.4
16	2.32	2.87	35.8	83.6
17	2.46	2.29	35.7	85.4
18	2.63	2.63	35.6	85.7
19	2.05	2.18	23.3	80.0
Mean D.M. %:	79.5	49.5		