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Yields of the Field Experiments 1972

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72/R/HB/2 Hoosfield - Potatoes, Spring Beans, Barley

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72/R/HB/2

HOOSFIELD

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

The 121st year, potatoes, beans, barley. The 5th year of revised scheme.

For previous years see 'Details' 1967, Station Report for 1966, 68/A/2(t), 69/R/HB/2(t) and 70-71/R/HB/2.

Standard applications:

Potatoes: Weedkillers: Paraquat at 0.56 kg ion in 220 l. Linuron at 0.84 kg plus paraquat at 0.42 kg ion in 440 l. Fungicide: Mancozeb at 1.4 kg in 440 l on 3 occasions. Insecticide: Demeton-s-methyl at 0.25 kg applied with the mancozeb on the second occasion.

Spring beans: Insecticide: Phorate at 1.1 kg applied as granules.

Barley: Paraquat at 0.56 kg ion in 220 l. Weedkiller: MCPA, mecoprop and dicamba ('Banlene Plus' at 5.6 l in 220 l).

Seed: Potatoes: King Edward, Rothamsted once grown chitted seed.

Spring beans: Maris Bead sown at 220 kg.

Barley: Julia, seed dressed with ethirimol, sown at 160 kg.

Cultivations, etc.: Fertilisers, except N, applied: 22 Sept, 1971.

FYM applied: 5 Nov. Ploughed: 6 Nov. N applied: 17 Apr, 1972.

Potatoes: Paraquat applied: 9 Sept, 1971. Plots rotary cultivated, potatoes machine planted: 19 Apr, 1972. Linuron plus paraquat applied: 17 May. Grubbed: 14 June. Rotary ridged: 15 June.

Fungicide applied: 11 July, 21 July, 10 Aug. Insecticide applied: 21 July. Sprayed with undiluted BOV at 110 l: 16 Sept, and at 200 l: 20 Sept. Lifted: 28 Sept.

Spring beans: Seed drilled: 16 Mar, 1972. Insecticide applied: 17 June. Combine harvested: 27 Sept.

Barley: Paraquat applied: 9 Sept, 1971. Seed drilled: 15 Mar, 1972. 'Banlene Plus' applied: 18 May. Combine harvested: 23 Aug.

72/R/HE/2

TABLES OF MEANS

BARLEY

N: KG/HA

Treatment**		0	48	96	144	Mean
GRAIN: TONNES/HECTARE						
1852-1972	1852-1966					
-	-	1.81	3.15	3.84	4.34	3.29
-	N	2.02	3.08	3.42	3.86	3.10
P	-	2.07	3.78	4.82	4.89	3.89
P	N	2.43	3.69	4.38	3.65	3.54
K Na Mg	-	0.64	3.69	4.83	5.64	3.70
K Na Mg	N	1.80	3.38	3.54	4.33	3.26
P K Na Mg	-	0.94	3.78	5.52	6.34	4.15
P K Na Mg	N	2.17	4.12	5.89	6.61	4.70
D	-	6.11	6.79	6.25	6.13	6.32
(D)	-	1.18	4.07	6.24	6.25	4.43
(Ashes)	-	1.25	4.18	4.63	5.47	3.88
-	-	0.96	2.88	3.73	4.63	3.05
STRAW: TONNES/HECTARE						
-	-	0.74	1.64	2.16	2.14	1.67
-	N	0.75	1.53	1.65	1.86	1.45
P	-	0.76	1.48	2.76	2.84	1.96
P	N	0.97	1.90	2.63	2.25	1.94
K Na Mg	-	0.18	1.95	2.90	3.94	2.24
K Na Mg	N	0.88	2.04	2.10	2.41	1.86
P K Na Mg	-	0.34	1.94	3.45	4.79	2.63
P K Na Mg	N	0.86	2.18	3.43	5.03	2.87
D	-	3.51	5.19	4.63	6.20	4.88
(D)	-	0.46	2.27	3.81	4.03	2.64
(Ashes)	-	0.48	1.94	2.50	3.20	2.03
-	-	0.46	1.38	2.09	2.36	1.58

** For explanation of symbols see 'Details' 1967

Mean D.M. % (all plots): Grain: 84.7
Straw: 87.0

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BARLEY

N: KG/HA

Treatment**			0	48	96	144	Mean
GRAIN: TONNES/HECTARE							
1852-1972	1852-1966						
-	N*		2.33	3.18	3.88	3.65	3.26
	Si	N*	2.43	4.23	5.92	5.06	4.41
P		N*	2.76	4.59	5.61	5.88	4.71
P		Si	2.52	4.73	5.39	6.05	4.67
	K Na Mg	N*	2.02	3.60	4.25	4.51	3.59
	K Na Mg	Si	2.63	4.19	5.60	6.20	4.66
P	K Na Mg	N*	2.26	4.35	6.15	6.46	4.81
P	K Na Mg	Si	2.37	5.06	6.08	6.25	4.94
	-	R(c)	2.49	4.33	5.75	6.95	4.88
	-	R(r)	4.21	4.50	6.09	7.15	5.49
P		R(c)	2.76	4.57	5.55	6.32	4.80
P		R(r)	3.91	5.29	6.59	6.88	5.67
	K Na Mg	R(c)	2.47	4.32	6.24	6.90	4.98
	K Na Mg	R(r)	3.22	4.73	6.08	6.85	5.22
P	K Na Mg	R(c)	2.74	4.45	6.48	6.58	5.06
P	K Na Mg	R(r)	4.45	6.08	7.03	6.96	6.13
STRAW: TONNES/HECTARE							
		N*	0.96	0.67	2.01	2.00	1.41
	Si	N*	0.93	2.32	3.33	3.01	2.40
P		N*	1.02	2.40	3.15	3.49	2.51
P		Si	0.96	2.67	3.41	3.98	2.75
	K Na Mg	N*	0.64	1.94	2.37	3.16	2.03
	K Na Mg	Si	1.22	2.55	3.60	4.60	2.99
P	K Na Mg	N*	0.97	2.32	4.01	5.54	3.21
P	K Na Mg	Si	0.92	3.27	3.87	4.99	3.26
	-	R(c)	0.94	1.99	3.28	4.73	2.73
	-	R(r)	2.06	2.79	4.08	4.80	3.43
P		R(c)	1.31	2.32	3.37	4.64	2.91
P		R(r)	1.78	3.03	3.64	4.99	3.36
	K Na Mg	R(c)	1.26	2.60	3.95	5.24	3.26
	K Na Mg	R(r)	1.61	2.53	3.54	5.91	3.40
P	K Na Mg	R(c)	1.23	2.32	4.32	5.56	3.36
P	K Na Mg	R(r)	2.20	3.89	4.94	6.29	4.33

** For explanation of symbols see 'Details' 1967

NOTE: (c) = continuous (i.e. barley after barley)
(r) = rotational (i.e. barley after beans)

72/R/HB/2

BARLEY

Plots	Treatment**			GRAIN: TONNES/ HECTARE	STRAW: TONNES/ HECTARE
	1852-1972	1852-1966			
551	N2	PK	N	5.63	4.33
561	-	PK	-	1.65	0.77
571	N2	-	N*	4.91	2.88
581	N2	-	N*	4.25	2.51

** For explanation of symbols see 'Details' 1967

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POTATOES

N: KG/HA 1971

Treatment**		0	48	96	144	Mean
TOTAL TUBERS: TONNES/HECTARE						
1852-1972	1852-1966					
-	R	18.9	17.4	19.8	20.4	19.1
P	R	8.0	7.0	10.3	8.0	8.3
K Na Mg	R	29.7	27.9	31.0	31.3	30.0
P K Na Mg	R	37.0	37.7	37.6	35.4	36.9
Mean		23.4	22.5	24.7	23.8	23.6

PERCENTAGE WARE: 3.81 CM (1.5 INCH) RIDDLE

-	R	85.0	88.8	87.6	86.9	87.1
P	R	33.6	40.3	50.8	36.6	40.3
K Na Mg	R	91.4	90.2	91.6	95.7	92.2
P K Na Mg	R	87.3	87.0	90.3	84.4	87.3
Mean		74.3	76.6	80.1	75.9	76.7

** For explanation of symbols see 'Details' 1967

72/R/HB/2

BEANS

N: KG/HA 1970

Treatment**			0	48	96	144	Mean
GRAIN: TONNES/HECTARE							
1852-1972	1852-1966						
-		N*	2.55	2.32	2.68	2.16	2.43
	Si	N*	1.80	2.10	2.10	2.24	2.06
P		N*	2.63	1.84	2.30	2.08	2.22
P	Si	N*	1.36	1.44	1.16	1.81	1.44
	K Na Mg	N*	3.50	3.11	3.01	3.21	3.21
	K Na Mg Si	N*	3.63	3.00	3.83	2.87	3.33
P	K Na Mg	N*	3.50	3.40	4.03	2.33	3.31
P	K Na Mg Si	N*	3.59	4.00	3.02	3.49	3.53
	-	R	3.06	2.95	3.53	3.04	3.15
P		R	2.62	3.50	2.24	3.08	2.86
	K Na Mg	R	3.11	2.78	3.24	3.16	3.07
P	K Na Mg	R	3.96	3.70	3.99	4.27	3.98
STRAW: TONNES/HECTARE							
-		N*	0.98	1.30	0.89	1.49	1.17
	Si	N*	1.40	1.65	1.20	1.21	1.37
P		N*	2.05	1.91	1.38	2.01	1.84
P	Si	N*	1.44	1.49	0.92	1.90	1.44
	K Na Mg	N*	2.05	1.40	1.22	2.22	1.72
	K Na Mg Si	N*	1.94	1.69	2.49	1.54	1.92
P	K Na Mg	N*	2.39	3.07	4.62	2.33	3.10
P	K Na Mg Si	N*	3.18	3.86	2.90	3.12	3.27
	-	R	1.84	1.66	2.02	2.15	1.92
P		R	1.82	1.97	1.91	2.18	1.97
	K Na Mg	R	2.48	2.35	2.48	2.45	2.44
P	K Na Mg	R	3.90	3.70	4.37	3.90	3.97

** For explanation of symbols see 'Details' 1967

Mean D.M. % (all plots): Grain: 80.8
Straw: 48.9