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Numerical Results of the Field Experiments 1970

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

Rothamsted Research

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HOOSFIELD

(70/R/HB/2)

The 119th year, 3rd year of revised scheme.

Barley, beans and potatoes 1970. For history, treatments etc., see 'Details' 1967, Station Report for 1966, 'Results' 68/A/2 and 69/R/HB/2.

The barley variety for the period 1970 - 1972 will be Julia.

Standard applications:

Barley: Weedkillers: Paraquat at 0.75 lb ion in 20 gals. MCPA, mecoprop and dicamba ('Banlene Plus' at 4 pints in 20 gals).
Spring beans: Insecticide: Demeton-s-methyl at 3.5 oz in 40 gals.
Potatoes: Weedkillers: Paraquat at 0.75 lb ion in 20 gals.
Linuron at 1 lb in 39 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.

Cultivations, etc.: Fertilisers applied: 22 Oct, 1969. FYM applied: 10 Nov. Ploughed: 11 - 12 Nov.

Barley: Paraquat applied: 17 Sept, 1969. Seed drilled at 140 lb: 20 Mar, 1970. N applied: 9 Apr. MCPA/mecoprop/dicamba applied: 26 May. Combine harvested small combine plots: 18 Aug, large combine plots: 25 Aug. Variety: Julia.

Spring beans: Seed drilled at 200 lb: 21 Mar, 1970. Insecticide applied: 18 June. Combine harvested: 2 Sept.

Potatoes: Paraquat applied: 17 Sept, 1969. N applied: 29 Apr, 1970. Plots rotary cultivated, potatoes machine planted: 30 Apr. Linuron applied: 23 May. Grubbed and rotary ridged: 30 June. Fungicide and insecticide applied: 29 July. Fungicide applied: 14 Aug. Sprayed with undiluted BGV at 15 gals: 3 Sept. Lifted: 15 Sept.

Errata to 'Results' 1969 page 16. Row P K Na Mg Si N* column N1.
Insert + against the figures 29.8 for grain and 27.0 for straw.
In the note replace * by +.

70/R/HB/2

SUMMARY OF RESULTS

BARLEY

N

Treatment**		0	1	2	3	Mean
1852-1970 1852-1966		GRAIN: CWT				
-	-	6.5	15.9	19.5	20.2	15.5
-	N	8.6	15.5	14.7	15.6	13.6
P	-	9.5	22.3	29.9	28.4	22.5
P	N	10.5	16.5	16.0	16.7	14.9
K Na Mg	-	2.2	17.7	25.4	30.9	19.0
K Na Mg	N	10.3	16.4	19.7	20.7	16.8
P K Na Mg	-	9.4	25.2	36.2	45.4	29.0
P K Na Mg	N	15.5	23.8	34.2	37.5	27.8
	D	34.7	44.8	45.8	46.1	42.8
	(D)	7.6	20.7	38.8	33.6	25.2
	(Ashes)	2.9	22.1	22.5	25.1	18.1
	-	9.3	18.0	19.1	23.3	17.4
		STRAW: CWT				
-	-	2.2	5.4	8.7	7.7	6.0
-	N	3.3	5.5	5.5	6.6	5.2
P	-	3.3	7.7	10.9	7.8	7.4
P	N	3.4	5.7	5.6	6.8	5.4
K Na Mg	-	1.1	8.6	10.6	12.2	8.1
K Na Mg	N	3.3	8.3	8.5	8.5	7.2
P K Na Mg	-	4.1	10.6	18.4	23.9	14.3
P K Na Mg	N	6.3	12.2	16.9	20.0	13.9
	D	14.6	26.0	30.0	31.1	25.4
	(D)	4.3	7.4	17.2	14.1	10.7
	(Ashes)	15.8	10.2	8.7	10.0	11.2
	-	2.9	5.9	7.3	8.5	6.1

** For explanation of symbols see 'Details' 1967

Mean D.M. % (all plots): Grain: 84.0
Straw: 85.1

70/R/HB/2

BARLEY

Treatment**			N				Mean
			0	1	2	3	
			GRAIN: CWT				
1852-1970	1852-1966						
-	N*		13.6	21.7	20.8	22.2	19.6
Si	N*		14.2	27.9	31.0	30.7	26.0
P	N*		19.0	30.9	37.6	36.1	30.9
P	N*	Si	19.8	33.6	37.0	36.3	31.7
K Na Mg	N*		15.9	25.9	27.0	28.1	24.2
K Na Mg Si	N*		20.5	28.8	33.4	37.4	30.0
P K Na Mg	N*		16.4	30.8	39.2	41.0	31.9
P K Na Mg Si	N*		17.9	34.0	40.5	44.2	34.1
-	R(c)		13.4	28.2	34.0	37.5	28.3
-	R(r)		20.6	32.4	35.0	36.0	31.0
P	R(c)		15.9	28.2	38.4	39.9	30.6
P	R(r)		21.7	32.8	36.9	40.6	33.0
K Na Mg	R(c)		12.1	24.5	34.8	33.5	26.2
K Na Mg	R(r)		17.5	28.0	34.1	34.3	28.5
P K Na Mg	R(c)		16.1	26.7	36.2	36.8	29.0
P K Na Mg	R(r)		28.7	35.8	40.2	42.1	36.7

STRAW: CWT

-	N*		5.7	7.7	7.8	9.5	7.7
Si	N*		5.8	11.7	11.4	13.6	10.6
P	N*		5.8	9.7	14.6	13.5	10.9
P	N*	Si	7.7	15.5	13.5	15.6	13.1
K Na Mg	N*		7.2	11.1	14.1	16.4	12.2
K Na Mg Si	N*		9.0	13.3	20.1	21.4	16.0
P K Na Mg	N*		7.3	13.6	20.1	25.2	16.5
P K Na Mg Si	N*		9.2	16.9	23.8	26.4	19.1
-	R(c)		3.8	7.8	15.8	15.3	10.7
-	R(r)		7.8	11.8	11.7	15.3	11.7
P	R(c)		7.7	11.7	11.6	14.3	11.3
P	R(r)		7.4	11.5	11.9	15.7	11.6
K Na Mg	R(c)		3.8	7.8	19.3	18.5	12.4
K Na Mg	R(r)		7.3	11.7	15.3	20.3	13.6
P K Na Mg	R(c)		7.6	11.5	18.0	21.0	14.5
P K Na Mg	R(r)		14.5	15.5	25.6	21.1	19.2

** For explanation of symbols see 'Details' 1967

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

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BARLEY

Plots	Treatment**			GRAIN: CWT	STRAW: CWT
	1852-1970	1852-1966			
551	N2	PK	N	36.5	20.6
561	-	PK	-	8.9	2.8
571	N2	-	N*	27.3	10.3
581	N2	-	N*	19.7	9.3

** For explanation of symbols see 'Details' 1967

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BEANS

GRAIN: CWT

1968

Treatment**		NO	N1	N2	N3	Mean
1852-1970 1852-1966						
-	R	9.9	9.0	7.9	9.5	9.1
P	R	5.5	6.6	6.3	5.5	6.0
K Na Mg	R	8.6	6.2	6.6	8.5	7.5
P K Na Mg	R	11.1	11.0	11.7	11.2	11.3
Mean		8.8	8.2	8.1	8.7	8.5

Mean D.M. %: 79.6

** For explanation of symbols see 'Details' 1967

70/R/HB/2

POTATOES

Treatment**		1969				Mean
		N0	N1	N2	N3	
TOTAL TUBERS: TONS						
1852-1970 1852-1966						
-	R	8.62	6.83	5.87	9.02	7.58
P	R	8.44	5.12	5.18	6.64	6.34
K Na Mg	R	9.42	10.65	10.23	11.05	10.34
P K Na Mg	R	13.34	13.47	13.18	13.72	13.43
Mean		9.95	9.02	8.61	10.11	9.42

WARE: 1.5 INCH

1852-1970	1852-1966					
-	R	92.3	88.4	89.0	92.4	90.5
P	R	86.4	73.9	66.1	85.8	78.1
K Na Mg	R	89.8	89.6	91.6	89.2	90.1
P K Na Mg	R	92.3	92.2	89.4	91.7	91.4
Mean		90.2	86.0	84.0	89.8	87.5

** For explanation of symbols see 'Details' 1967