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Yields of the Field Experiments 1971

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71/R/AG/6 Agdell - Barley, Potatoes

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71/R/AG/6

AGDELL

Object: To study, by crop yields and soil analysis, the residual value of phosphate applied in the period 1848 - 1951 and further dressings in 1964.

The second year of revised scheme. Rotation: Sugar beet, barley, potatoes. Crops in 1971: Barley and potatoes.

For previous years see 'Details' 1967, 68/A/4, 69/R/AG/6 and 70/R/AG/6(t).

Sub plot dimensions:

Fallow: Plots 1, 2, 3, 4 - 12.1 x 6.04. Plots 5, 6 - 10.9 x 6.04.
Barley and potatoes: Plots 1, 2, 3, 4 - 6.04 x 3.02. Plots 5, 6 - 5.43 x 3.02.

Area harvested: Barley: 0.00066, potatoes: 0.00069.

The remaining grass sub plots were rotary cultivated in autumn 1970 and bare-fallowed in 1971.

New superphosphate treatments:

Barley: As 1970.

Potatoes: None (0), 188 kg (3) P₂O₅ as single superphosphate.

Standard applications:

Barley: Manures as 1970.

Potatoes: Manures: 251 kg N, 251 kg K₂O, 100 kg MgO as 'Nitro-Chalk' 21, muriate of potash and kieserite. Weedkillers: Linuron at 0.84 kg plus paraquat at 0.84 kg ion in 449 l. Couch was spot-sprayed with paraquat. Fungicide: Mancozeb at 1.34 kg in 449 l on 3 occasions, followed by captafol at 1.68 kg in 449 l on one occasion. Insecticide: Menazon ('Saphicol' at 0.7 l) applied with each application of fungicide.

Cultivations, etc.:

Grass and fallow: Grass plots rotary cultivated: 21 Oct, 1970. All fallows sprayed with paraquat at 1.12 kg ion in 225 l: 6 Nov.

All fallows rotary cultivated: 21 Apr, 1971, 11 May, 2 June.

Barley: Ploughed: 29 Oct, 1970. Test P applied, seed drilled at 168 kg, basal NK applied: 10 Mar, 1971. Combine harvested: 9 Aug. Variety: Julia.

Potatoes: Ploughed: 29 Oct, 1970. Test P, basal NK and Mg applied, plots rotary cultivated, potatoes planted: 5 Apr, 1971. Linuron and paraquat applied: 10 May. Couch spot sprayed with paraquat: 2 June. Insecticide and fungicide applied: 16 June, 6 and 28 July, 18 Aug. Lifted 28 Sept. Variety: King Edward.

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SUMMARY OF RESULTS

BARLEY

GRAIN: TONNES/HECTARE

		Plot						Mean
Treatment 1848-1951		5 None	6	3 PK	4	1 NPK	2	
P		Previous cropping 1958-69, Arable or fallow						
1964	1970-71							
0	0	3.06	4.06	5.43	4.09	3.30	4.08	4.01
1	0	4.10	3.03	5.33	4.42	3.44	4.41	4.12
2	0	4.79	4.79	5.37	4.86	3.87	4.84	4.75
4	0	4.60	5.55	5.74	5.58	3.69	5.31	5.08
0	1	4.38	4.95	5.09	4.31	2.73	5.00	4.41
1	1	4.72	4.76	5.44	4.39	4.34	5.13	4.80
2	1	5.49	4.91	5.56	5.37	3.73	4.53	4.93
4	1	5.87	5.51	5.91	5.54	4.65	5.04	5.42
Mean		4.63	4.70	5.48	4.82	3.72	4.79	4.69
P		Previous cropping 1958-69, Grass						
1964-69	1970							
0	0	2.99	3.25	3.35	4.00	5.39	4.85	3.97
1	0	5.30	6.34	6.35	5.46	6.05	6.20	5.95
2	0	6.17	6.15	6.16	6.16	5.72	6.04	6.07
4	0	5.86	6.52	6.48	6.72	6.17	5.80	6.26
0	1	4.96	5.88	5.61	5.34	5.64	5.67	5.52
1	1	6.13	6.25	6.58	6.53	6.27	6.21	6.33
2	1	6.22	6.44	6.19	6.16	6.21	6.38	6.27
4	1	6.12	6.73	6.20	5.96	5.98	5.97	6.16
Mean		5.47	5.95	5.87	5.79	5.93	5.89	5.81

Mean D.M. %: 78.0

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BARLEY

STRAW: TONNES/HECTARE

Plot

Treatment 1848-1951	5 None	6	3 PK	4	1 NPK	2	Mean
P	Previous cropping 1958-69, Arable or fallow						
1964 1970-71							
0 0	2.14	2.72	4.00	2.72	2.35	2.85	2.80
1 0	3.16	2.20	3.59	2.85	2.55	2.77	2.85
2 0	3.60	3.27	3.62	3.28	2.69	3.18	3.27
4 0	3.37	4.25	3.80	3.67	2.58	3.26	3.49
0 1	3.16	4.05	3.73	2.85	2.23	3.58	3.27
1 1	3.59	3.39	3.81	3.00	3.11	3.27	3.36
2 1	3.89	3.55	3.72	3.92	2.67	3.06	3.47
4 1	4.22	4.38	4.04	3.99	3.17	3.02	3.80
Mean	3.39	3.48	3.79	3.28	2.67	3.12	3.29
P	Previous cropping 1958-69, Grass						
1964-69 1970							
0 0	1.85	2.30	2.29	2.64	4.04	3.36	2.75
1 0	3.83	4.76	4.90	3.95	4.16	4.12	4.29
2 0	4.62	4.71	4.35	4.84	4.45	4.62	4.60
4 0	4.90	5.27	5.36	5.58	4.43	4.34	4.98
0 1	3.60	4.23	4.22	4.30	4.32	4.33	4.17
1 1	4.70	4.88	5.02	5.35	4.32	4.76	4.84
2 1	4.91	5.14	4.49	5.31	4.68	4.42	4.83
4 1	4.69	5.23	5.01	5.12	4.65	4.55	4.87
Mean	4.14	4.56	4.46	4.64	4.38	4.31	4.41

Mean D.M. %: 61.2

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POTATOES

TOTAL TUBERS: TONNES/HECTARE

Plot

Treatment 1848-1951	5	6	3	4	1	2	Mean
	None		PK		NPK		
P	Previous cropping 1958-69, Arable or fallow						
1964 1970-71							
0 0	26.6	28.4	31.8	28.8	30.6	24.9	28.5
1 0	29.0	27.7	38.1	33.1	37.9	26.8	32.1
2 0	31.8	33.1	36.2	31.4	34.3	28.6	32.6
4 0	31.8	30.6	38.7	34.7	38.1	34.2	34.7
0 1	37.7	37.4	29.9	28.3	38.1	19.6	31.8
1 1	29.8	31.8	42.7	36.1	40.4	25.0	34.3
2 1	39.6	34.4	47.1	40.5	41.7	36.8	40.0
4 1	41.2	35.7	44.6	38.8	43.6	41.2	40.8
Mean	33.4	32.4	38.6	34.0	38.1	29.6	34.4

Previous cropping 1958-69, Grass

P							
1964-69 1970							
0 0	22.6	16.9	27.9	24.8	46.9	30.5	28.3
1 0	32.5	40.0	33.9	32.2	44.7	40.9	37.4
2 0	40.6	42.5	38.2	40.7	42.4	44.6	41.5
4 0	37.5	35.2	46.2	38.4	39.9	39.4	39.4
0 1	34.6	37.2	43.2	42.4	47.4	45.9	41.8
1 1	39.7	46.2	45.9	36.9	45.9	43.2	43.0
2 1	39.7	42.7	44.1	41.3	48.6	49.8	44.4
4 1	45.9	42.6	49.4	35.4	52.8	47.7	45.6
Mean	36.7	37.9	41.1	36.5	46.1	42.7	40.2

7L/R/AG/6

POTATOES

% WARE: 4.44 CM (1.75 INCH) RIDDLE

Plot

Treatment 1848-1951		5	6	3	4	1	2	
			None		PK		NPK	Mean
P		Previous cropping 1958-69, Arable or fallow						
1964	1970-71							
0	0	57.9	63.6	57.9	67.3	56.6	47.0	58.4
1	0	59.7	59.5	67.2	61.6	62.6	55.7	61.1
2	0	65.7	56.4	49.7	62.0	62.4	58.9	59.2
4	0	53.7	58.1	63.6	70.6	58.9	40.0	57.5
0	1	62.0	68.7	47.1	59.4	61.7	43.1	57.0
1	1	72.2	59.2	66.0	65.7	57.6	41.1	60.3
2	1	62.5	61.6	56.4	72.0	56.9	51.4	60.1
4	1	55.2	76.6	59.1	67.3	52.9	42.0	58.8
Mean		61.1	63.0	58.4	65.7	58.7	47.4	59.0

Previous cropping 1958-69, Grass

P								
1964-69	1970							
0	0	52.3	54.8	63.9	58.9	67.3	59.3	59.4
1	0	61.7	67.5	68.3	59.4	65.7	62.8	64.3
2	0	68.9	70.5	56.4	62.5	61.5	66.1	64.3
4	0	59.6	61.5	72.3	65.2	61.5	61.7	63.6
0	1	59.0	70.1	63.9	76.9	67.9	63.4	66.9
1	1	67.0	63.6	65.0	64.3	64.4	52.5	62.8
2	1	68.9	71.0	58.5	57.3	63.7	55.7	62.5
4	1	65.3	63.5	65.0	49.2	54.9	60.2	59.7
Mean		62.8	65.3	64.2	61.7	63.4	60.2	62.9