ROTHAMSTED RESEARCH

Yields of the Field Experiments 1979

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Experiments - Classicals

Rothamsted Research

Rothamsted Research (1980) *Experiments - Classicals ;* Yields Of The Field Experiments 1979, pp 9 - 44 **- DOI: https://doi.org/10.23637/ERADOC-1-45**

79/R/BK/1

BROADBALK

Object: To study the effects of organic and inorganic manures on continuous winter wheat. From 1968 two three-year rotations were included: potatoes, beans, wheat and fallow, wheat, wheat. In 1979 the first rotation was changed to fallow, potatoes, wheat.

The 136th year, wheat, fallow, potatoes. The 12th year of the rotations.

For previous years see 'Details' 1967 & 1973, Station Report for 1966, pp. 229-231, Station Report for 1968, Part 2, and 74-78/R/BK/1.

Areas harvested:

	Section	
Wheat:	0	0.00434
	1	0.00798
	5, 6 & 7	0.00659
	8 & 9	0.00694
Potatoes:	4	0.00659

Treatments:

Whole plots

PLOT	Plot	Fertilisers and organic manures:- Treatments until 1967	Treatments from 1968
01DN2PK	01	-	D N2 P K
21DN2	21	D	D N2
22D	22	D	D
030	03	None	None
05MIN	05	P K Na Mg	P K (Na) Mg
06N1MIN	06	N1 P K Na Mg	N1 P K (Na) Mg
07N2MIN	07	N2 P K Na Mg	N2 P K (Na) Mg
08N3MIN	08	N3 P K Na Mg	N3 P K (Na) Mg
09N4MIN	09	N*1 P K Na Mg	N4 P K (Na) Mg
10N2	10	N2	N2
11N2P	11	N2 P	N2 P
12N2PNA	12	N2 P Na	N2 P Na
13N2PK	13	N2 P K	N2 P K
14N2PKMG	14	N2 P Mg	N2 P K Mg
15N3MIN	15	N2 P K Na Mg	N3 P K (Na) Mg
16N2MIN	16	N*2 P K Na Mg	N2 P K (Na) Mg
17N2MINH	17	+N2	N2 1/2(P K (Na) Mg)
18N2MINH	18	+ P K Na Mg	N2 1/2(P K (Na) Mg)
19C	19	C	C
20NKMG	20	N2 K Na Mg	N2 K (Na) Mg

+ Alternating

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N1,N2,N3,N4: 48, 96, 144, 192 kg N (as sulphate of ammonia until 1967, except N* which was nitrate of soda. All as 'Nitro-Chalk' from 1968).
P: 35 kg P as single superphosphate (triple superphosphate in 1974)
K: 90 kg K as sulphate of potash
Na: 55 kg Na as sulphate of soda
(Na): 16 kg Na as sulphate of soda until 1973
Mg: 30 kg Mg annually to Plot 14, 35 kg Mg every third year to other plots since 1974. All as kieserite since 1974, previously as sulphate of magnesia annually
D: Farmyard manure at 35 tonnes
C: Castor meal to supply 96 kg N
MIN: P K (Na) Mg

Strips of sub-plots: Until 1967 wheat alone was grown on the experiment, with some bare fallowing on strips of sub-plots. From 1968, ten sub-plots were started with the following cropping:-

SECTION		1968	69	70	71	72	73	74	75	76	77	78	79
SC0/W28	Section 0	W (F 1951)	W	W	W	W	W	W	W	W	W	W	W
SC1/W13	Section 1	W (F 1966)	W	W	W	W	W	W	W	W	W	W	W
-	Section 2	BE	W	P	BE	W	P	BE	W	P	BE	W	F
-	Section 3	W (F 1967)	W	F	W	W	F	W	W	F	W	W	F
POTATOES	Section 4	W (F 1965)	P	BE	W	P	BE	W	P	BE	W	P	P
SC5/W1F	Section 5	W (F 1965)	F	W	W	F	W	W	F	W	W	F	W
SC6/W2F	Section 6	F	W	W	F	W	W	F	W	W	F	W	W
SC7/W1BE	Section 7	P	BE	W	P	BE	W	P	BE	W	P	BE	W
SC8/W7	Section 8*	W (F 1963)	W	W	W	F	W	W	W	W	W	W	W
SC9/W21	Section 9	W (F 1958)	W	W	W	W	W	W	W	W	W	W	W

W = wheat, P = potatoes, BE = beans, F = fallow

* No weedkillers

NOTE: For a fuller record of treatments see 'Details' etc.

Standard applications:
Winter wheat: Manures: Section 1 only: Chalk at 2.9 t. Weedkillers: Glyphosate at 1.5 kg in 220 l (applied to sections 0, 1, 6 and 9 only). Chlortoluron at 3.6 kg in 220 l to all wheat sections except 8. Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.2 kg in 220 l) to all wheat sections except 8. Fungicide: Triadimefon at 0.13 kg in 220 l.
Potatoes: Paraquat at 0.42 kg ion with linuron at 1.1 kg in 220 l. Fungicide: Mancozeb at 1.4 kg in 220 l applied on five occasions, with insecticide on the first three. Insecticide: Pirimicarb at 0.14 kg.
Fallow: Sections 2 & 3: Chalk at 2.9 t. Weedkillers: Glyphosate at 1.5 kg in 220 l.

NOTE: Since autumn 1975 chalk is applied at 2.9 t each autumn to sets of Sections on a three-year cycle. Year 1: Sections 1, 2, 3. Year 2: Sections 6, 7, 8 & 9. Year 3: Sections 0, 4, 5. Chalk is applied to all plots of each section.

Seed: Wheat: Flanders, sown at 200 kg.
Potatoes: Pentland Crown.

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Cultivations, etc.:-

ALL SECTIONS: Sulphate of potash, sulphate of soda, kieserite and castor meal applied: 2 Oct, 1978. Superphosphate applied: 3 Oct. FYM applied: 4 Oct. Ploughed: 5 Oct.

CROPPED SECTIONS: Wheat: Glyphosate applied: 22 Sept, 1978. Chalk applied: 3 Oct. Disc harrowed and rotary harrowed: 9 Oct. Seed sown: 10 Oct. Chlortoluron applied: 12 Oct. N applied: 3 May, 1979. 'Banlene Plus' applied: 9 May. Triadimefon applied: 27 June. Combine harvested: 28 Aug.

Potatoes: Spring-tine cultivated: 1 May. N applied, spike rotary cultivated, potatoes planted: 14 May. Grubbed twice: 18 May and 3 July. Weedkillers applied: 30 May. Insecticide and fungicide applied: 26 June, 5 July, 20 July. Fungicide applied: 3 Aug and 15 Aug. Haulm pulverized: 4 Sept. Lifted: 14 Sept.

FALLOW SECTION: Chalk applied: 3 Oct. Spring-tine cultivated: 1 May. Ploughed twice: 23 May, 10 July. Heavy spring-tine cultivated twice: 14 June and 31 July.

POTATOES

***** TABLES OF MEANS *****

PLOT	TOTAL TUBERS TONNES/ HECTARE	% WARE 3.81 CM(1.5 INCH) RIDDLE
01DN2PK	25.6	92.8
21DN2	29.7	95.6
22D	24.0	95.2
030	6.1	84.7
05MIN	9.8	89.7
06N1MIN	18.7	86.5
07N2MIN	25.7	92.7
08N3MIN	30.0	91.4
09N4MIN	31.1	94.7
10N2	7.7	90.8
11N2P	7.9	80.3
12N2PNA	8.8	78.2
13N2PK	15.9	84.3
14N2PKMG	22.9	92.4
15N3MIN	30.0	93.8
16N2MIN	23.4	92.1
17N2MINH	20.6	93.7
18N2MINH	20.9	91.9
19C	13.5	93.5

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79/R/BK/1 WHEAT

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SECTION PLOT	SC7/W1BE	SC5/W1F	SC6/W2F	SC1/W13	SC9/W21	SC0/W28	SC8/W7	MEAN
01DN2PK	8.70	7.96	8.34	*	*	*	*	8.34
21DN2	8.27	8.31	8.34	7.31	7.92	6.64	4.06	7.26
22D	6.91	7.68	5.55	5.76	5.72	5.31	3.02	5.71
030	2.65	2.43	0.83	1.15	1.04	1.05	1.26	1.49
05MIN	3.58	2.33	0.83	1.03	1.35	1.54	1.99	1.81
06N1MIN	5.83	5.15	3.85	3.67	3.96	3.91	2.18	4.08
07N2MIN	7.08	7.22	6.35	5.83	6.04	5.94	3.13	5.94
08N3MIN	7.33	7.63	7.36	6.33	6.60	6.28	4.05	6.51
09N4MIN	7.60	7.41	7.77	7.02	7.31	6.63	5.07	6.97
10N2	4.63	4.61	4.18	2.28	2.04	2.80	2.09	3.23
11N2P	5.82	5.30	5.44	3.94	2.98	4.64	2.59	4.39
12N2PNA	6.28	5.87	6.04	5.14	4.61	5.49	2.55	5.14
13N2PK	6.70	6.30	6.12	6.13	6.04	5.77	3.89	5.85
14N2PKMG	6.99	6.70	6.43	6.67	6.27	6.25	3.60	6.13
15N3MIN	6.96	7.46	6.99	6.92	6.69	6.54	4.61	6.60
16N2MIN	6.74	6.74	6.04	5.84	6.34	5.72	4.07	5.93
17N2MINH	7.00	6.74	6.10	5.13	6.37	5.28	4.86	5.93
18N2MINH	7.21	6.94	6.37	5.34	6.54	5.58	4.52	6.07
19C	4.47	4.94	3.13	2.88	3.25	2.71	2.24	3.37
20NKMG	*	*	*	1.58	*	2.35	*	1.96

GRAIN MEAN DM% 83.4

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

SECTION PLOT	SC7/W1BE	SC5/W1F	SC61/W2F	SC1/W13	SC9/W21	SC0/W28	SC8/W7	MEAN
01DN2PK	6.03	5.62	5.66	*	*	*	*	5.77
21DN2	6.55	6.18	5.73	5.20	5.71	4.17	5.17	5.53
22D	3.74	5.10	3.35	3.86	3.64	3.69	3.27	3.81
030	1.13	1.22	0.33	0.60	0.47	0.61	0.92	0.75
05MIN	1.78	1.31	0.33	0.53	0.62	0.49	1.94	1.00
06N1MIN	2.01	3.11	2.22	1.74	2.17	2.23	4.38	2.55
07N2MIN	4.60	4.58	3.80	3.40	3.91	3.70	3.97	4.00
08N3MIN	4.55	4.35	4.51	3.32	4.60	3.67	4.31	4.19
09N4MIN	5.10	4.36	5.24	4.45	4.42	4.74	4.28	4.66
10N2	2.02	2.04	2.07	1.19	1.02	1.48	2.40	1.75
11N2P	2.63	2.63	2.65	1.61	1.10	2.30	2.59	2.22
12N2PNA	2.93	3.13	3.21	2.05	2.26	3.43	3.05	2.87
13N2PK	4.26	4.56	3.90	3.97	4.35	4.38	4.62	4.29
14N2PKMG	3.93	4.30	4.13	3.76	4.19	3.92	4.18	4.06
15N3MIN	4.08	4.83	5.03	3.74	4.72	4.13	4.69	4.46
16N2MIN	4.30	4.30	3.86	3.62	4.09	3.42	4.09	3.95
17N2MINH	4.35	3.85	3.85	3.12	4.26	3.66	4.22	3.90
18N2MINH	4.86	4.68	3.98	3.24	4.07	3.66	4.22	4.10
19C	2.34	2.67	1.54	1.19	1.70	1.58	2.26	1.90
20NKMG	*	*	*	0.86	*	1.24	*	1.05

STRAW MEAN DM% 91.0

https://doi.org/10.23637/ERADOC-1-45

79/R/HB/2

HOOSFIELD

Object: To study the effects of organic and inorganic manures on continuous spring barley. From 1968 to 1978 a rotation of potatoes, beans and barley was practised. In 1979 the rotation was discontinued and the experiment reverted to continuous barley.

The 128th year, barley.

For previous years see 'Details' 1967 & 1973, Station Report for 1966 and 74-78/R/HB/2.

Treatments: All combinations of:-

1. MANURE — Fertilisers, organic manures and frequency of barley cropping:

	Form of N 1852-1966	Additional treatments 1852-1979	Frequency of barley cropping since last non-cereal
---B12F	None	-	12th after fallow 1967
-P-B12F	None	P	12th after fallow 1967
--KB12F	None	K (Na) Mg	12th after fallow 1967
-PKB12F	None	P K (Na) Mg	12th after fallow 1967
A--B12F	A	-	12th after fallow 1967
AP-B12F	A	P	12th after fallow 1967
A-KB12F	A	K (Na) Mg	12th after fallow 1967
APKB12F	A	P K (Na) Mg	12th after fallow 1967
N--B12F	N	-	12th after fallow 1967
NP-B12F	N	P	12th after fallow 1967
N-KB12F	N	K (Na) Mg	12th after fallow 1967
NPKB12F	N	P K (Na) Mg	12th after fallow 1967
N--SB12F	N	Si	12th after fallow 1967
NP-SB12F	N	P Si	12th after fallow 1967
N-KSB12F	N	K (Na) Mg Si	12th after fallow 1967
NPKSB12F	N	P K (Na) Mg Si	12th after fallow 1967
N--B1BE	N	-	1st after beans 1978
NP-B1BE	N	P	1st after beans 1978
N-KB1BE	N	K (Na) Mg	1st after beans 1978
NPKB1BE	N	P K (Na) Mg	1st after beans 1978
N--SB1BE	N	Si	1st after beans 1978
NP-SB1BE	N	P Si	1st after beans 1978
N-KSB1BE	N	K (Na) Mg Si	1st after beans 1978
NPKSB1BE	N	P K (Na) Mg Si	1st after beans 1978
C--B12F	C	-	12th after fallow 1967
CP-B12F	C	P	12th after fallow 1967
C-KB12F	C	K (Na) Mg	12th after fallow 1967
CPKB12F	C	P K (Na) Mg	12th after fallow 1967
C--B2BE	C	-	2nd after beans 1977
CP-B2BE	C	P	2nd after beans 1977
C-KB2BE	C	K (Na) Mg	2nd after beans 1977
CPKB2BE	C	P K (Na) Mg	2nd after beans 1977
C--B1BE	C	-	1st after beans 1978
CP-B1BE	C	P	1st after beans 1978
C-KB1BE	C	K (Na) Mg	1st after beans 1978
CPKB1BE	C	P K (Na) Mg	1st after beans 1978

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C--B1PO	C	-	1st after potatoes 1978
CP-B1PO	C	P	1st after potatoes 1978
C-KB1PO	C	K (Na) Mg	1st after potatoes 1978
CPKB1PO	C	P K (Na) Mg	1st after potatoes 1978
D B12	None	D	12th after fallow 1967
(D) B12	(D)	-	12th after fallow 1967
(A) B12	(Ashes)	-	12th after fallow 1967
- B12	None	-	12th after fallow 1967

Form of N: A, sulphate of ammonia: N, nitrate of soda - each to supply 48 kg N
C, castor meal to supply 96 kg N
P: 35 kg P as single superphosphate (triple superphosphate in 1974)
K: 90 kg K as sulphate of potash
(Na): 16 kg Na as sulphate of soda until 1973
Mg: 35 kg Mg, as kieserite every third year, since 1974 (sulphate of magnesia annually until 1973)
Si: Silicate of soda at 450 kg
D: Farmyard manure at 35 tonnes. (D): until 1871 only
(Ashes): Weed ash 1852-1916, furnace ash 1917-1932, none since

2. N — Nitrogen fertiliser (kg N), as 'Nitro-Chalk', since 1968 (cumulative N applications until 1973, on a cyclic system since 1974):

0
48
96
144

There are four extra plots testing all combinations of:-

1. MANURE — Fertilisers other than magnesium:

551AN2PK	Plot 551 AN2PK	12th barley after fallow 1967
561--PK	Plot 561 --PK	12th barley after fallow 1967
571NN2--	Plot 571 NN2	12th barley after fallow 1967
581NN2--	Plot 581 NN2	12th barley after fallow 1967

N2: 96 kg N as 'Nitro-Chalk' since 1968. Other symbols as above.

2. MGNESIUM — Magnesium fertiliser (kg Mg) as kieserite every third year since 1974:

0
35

NOTE: For a fuller record see 'Details' etc.

Basal applications: Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 kg) in 220 l. Fungicide: Tridemorph at 0.53 kg in 220 l.

Seed: Julia, sown at 160 kg.

Cultivations, etc.:- P, K and Na applied: 13 Nov, 1978. Chalk applied: 20 Nov. FYM applied: 23 Nov. Ploughed: 24 Nov. Spring-tine cultivated, seed sown: 6 Apr, 1979. N applied: 18 May. Weedkillers applied: 19 May. Fungicide applied: 18 June. Combine harvested: 27 Aug.

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79/R/HB/2

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N / MANURE	0	48	96	144	MEAN
---B12F	0.87	1.54	1.49	1.98	1.47
-P-B12F	1.18	3.16	4.25	4.76	3.34
--KB12F	0.55	2.44	2.48	2.80	2.07
-PKB12F	0.65	2.28	4.42	4.51	2.96
A--B12F	0.92	0.84	1.91	1.77	1.36
AP-B12F	1.52	3.44	3.70	3.38	3.01
A-KB12F	0.47	1.20	1.50	2.04	1.30
APKB12F	1.04	2.92	4.19	4.75	3.23
N--B12F	0.65	1.22	1.77	1.27	1.23
NP-B12F	1.89	4.00	4.45	4.58	3.73
N-KB12F	0.99	2.00	2.16	2.60	1.94
NPKB12F	0.40	3.81	4.47	4.63	3.33
N--SB12F	1.56	2.16	2.60	3.81	2.53
NP-SB12F	1.25	4.31	4.64	5.29	3.87
N-KSB12F	0.73	2.42	4.07	4.74	2.99
NPKSB12F	0.96	3.81	5.24	5.43	3.86
N--B1BE	1.69	2.93	4.45	3.74	3.20
NP-B1BE	2.25	5.07	5.86	5.70	4.72
N-KB1BE	2.11	3.70	4.41	4.36	3.64
NPKB1BE	1.87	4.81	6.00	6.46	4.78
N--SB1BE	3.09	3.81	4.55	5.30	4.19
NP-SB1BE	2.47	4.82	5.70	5.90	4.72
N-KSB1BE	1.91	4.38	5.28	5.17	4.18
NPKSB1BE	3.55	4.96	5.57	6.00	5.02
C--B12F	0.92	3.06	4.30	4.61	3.22
CP-B12F	1.42	3.81	5.29	5.18	3.92
C-KB12F	1.31	2.69	4.07	4.07	3.03
CPKB12F	1.77	3.97	5.01	5.24	4.00
C--B2BE	2.01	3.21	4.04	4.54	3.45
CP-B2BE	1.13	3.16	4.76	5.14	3.55
C-KB2BE	1.06	2.70	3.74	4.91	3.10
CPKB2BE	2.58	3.72	5.46	4.67	4.10
C--B1BE	1.68	3.35	4.97	5.18	3.79
CP-B1BE	2.19	4.39	5.74	5.35	4.42
C-KB1BE	2.05	3.55	4.85	4.96	3.85
CPKB1BE	3.16	5.15	4.74	5.57	4.65
C--B1PO	1.73	4.10	4.69	4.69	3.80
CP-B1PO	2.26	4.28	5.82	5.18	4.38
C-KB1PO	1.49	3.36	4.47	4.41	3.43
CPKB1PO	2.16	4.43	5.67	5.71	4.49
D B12	3.31	3.99	5.78	5.18	4.56
(D) B12	1.28	2.27	2.61	3.49	2.41
(A) B12	1.08	2.04	2.85	4.13	2.53
- B12	0.72	1.32	2.21	1.84	1.52
MEAN	1.59	3.29	4.23	4.43	3.38

GRAIN MEAN DM% 78.6

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79/R/HB/2

BARLEY

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

N / MANURE	0	48	96	144	MEAN
---B12F	0.40	0.60	0.80	0.96	0.69
-P-B12F	0.61	1.42	1.96	2.42	1.60
--KB12F	0.39	1.19	1.37	1.55	1.12
-PKB12F	0.39	1.19	2.77	2.61	1.74
A--B12F	0.40	0.40	0.81	0.82	0.61
AP-B12F	0.81	1.42	1.62	1.82	1.42
A-KB12F	0.40	0.59	0.80	1.18	0.74
APKB12F	0.40	1.43	2.44	3.41	1.92
D B12	1.31	2.39	3.42	4.25	2.84
(D) B12	0.52	1.04	1.54	1.81	1.23
(A) B12	0.26	0.80	1.08	2.16	1.08
- B12	0.26	0.80	1.05	1.05	0.79
MEAN	0.51	1.11	1.64	2.00	1.32

STRAW MEAN DM% 88.0

PLOT AREA HARVESTED 0.00007

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

MANURE / MGNESIUM	551AN2PK	561--PK	571NN2--	581NN2--	MEAN
0	3.89	0.36	2.60	0.91	1.94
35	4.18	0.52	1.96	1.59	2.06
MEAN	4.04	0.44	2.28	1.25	2.00

GRAIN MEAN DM% 75.6

PLOT AREA HARVESTED 0.00306

https://doi.org/10.23637/ERADOC-1-45

79/R/WF/3

WHEAT AND FALLOW

Object: To study the effects of fallowing for one or three years on unmanured winter wheat - Hoosfield.

The 124th year, winter wheat.

For previous years see 'Details' 1967, 1973 and 74-78/R/WF/3.

Whole plot dimensions: 9.60 x 52.1.

Treatments:

PLOT	Plot number and phase of fallowing cycle (up to 1979):-									
-	Plot 1	F	F	F	W	F	W	F	W	F
2 FALL 3	Plot 2	W	F	W	F	W	F	F	F	W
-	Plot 3	F	W	F	F	F	W	F	W	F
-	Plot 4	F	F	W	F	W	F	W	F	F
-	Plot 5	F	W	F	W	F	F	F	W	F
6 FALL 1	Plot 6	W	F	F	F	W	F	W	F	W
-	Plot 7	F	W	F	W	F	W	F	F	F
8 FALL 1	Plot 8	W	F	W	F	F	F	W	F	W

W = wheat, F = fallow.

Basal applications: Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 kg in 220 l).

Seed: Flanders, seed dressed chlorfenvinphos, sown at 200 kg.

Cultivations, etc.:-
Wheat plots: Ploughed: 9 Oct, 1978. Rotary harrowed: 10 Oct. Seed sown: 11 Oct. Weedkillers applied: 9 May, 1979. Combine harvested: 28 Aug.
Fallow plots: Ploughed: 9 Oct, 1978. Spring-tine cultivated: 1 May, 1979. Ploughed: 24 May. Heavy spring-tine cultivated: 14 June. Ploughed: 11 July. Heavy spring-tine cultivated: 31 July.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

PLOT	6 FALL 1	8 FALL 1	2 FALL 3	MEAN
	1.31	1.16	1.12	1.20

GRAIN MEAN DM% 82.8

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

PLOT	6 FALL 1	8 FALL 1	2 FALL 3	MEAN
	0.37	0.36	0.25	0.33

STRAW MEAN DM% 91.7

PLOT AREA HARVESTED 0.01483

https://doi.org/10.23637/ERADOC-1-45

79/R/EX/4

EXHAUSTION LAND

Object: To study the residual effects of manures, applied 1856-1901, on the yield of continuous barley - Hoosfield.

The 124th year, barley.

For previous years see 'Details' 1967, 1973 and 74-78/R/EX/4.

Treatments: All combinations of:-

Whole plots

1. PLOTFERT(01) Plot numbers and manuring 1876-1901:

1-	Plot 1 None
2-	Plot 2 None
3D	Plot 3 D
4D	Plot 4 D
5N	Plot 5 N
6N*	Plot 6 N*
7NMIN	Plot 7 N P K Na Mg
8N*MIN	Plot 8 N* P K Na Mg
9P	Plot 9 P
10MIN	Plot 10 P K Na Mg

N - 96 kg N as ammonium salts
N* - 96 kg N as nitrate of soda
P - 34 kg P as superphosphate
K - 137 kg K as sulphate of potash
Na - 16 kg Na as sulphate of soda
Mg - 11 kg Mg as sulphate of magnesia
D - Farmyard manure at 35 tonnes
MIN - P K Na Mg

Sub plots

2. N Nitrogen fertiliser (kg N) (basal until 1975, on a cyclic system since 1976):

0
48
96
144

For a fuller record of treatments see 'Details' 1967 etc.

Basal applications: Weedkillers: Bromoxynil and ioxynil (as 'Oxytril CM' at 1.4 kg) and mecoprop at 1.7 kg in 220 l. Fungicide: Tridemorph at 0.53 kg in 220 l.

Seed: Julia, sown at 160 kg.

Cultivations, etc.:- Ploughed: 15 Dec, 1978. Spring-tine cultivated, seed sown: 18 Apr, 1979. N applied: 17 May. Weedkillers applied: 15 June. Fungicide applied: 18 June. Combine harvested: 1 Sept.

https://doi.org/10.23637/ERADOC-1-45 *pp 11*

79/R/EX/4

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N PLOTFERT(01)	0	48	96	144	MEAN
1-	0.44	0.86	1.28	1.22	0.95
2-	0.31	0.63	0.73	1.03	0.67
3D	1.50	3.54	4.57	4.62	3.56
4D	1.00	3.15	2.80	4.08	2.76
5N	0.51	0.95	1.19	1.60	1.06
6N*	0.40	0.57	0.33	0.65	0.49
7NMIN	1.37	2.71	3.93	4.27	3.07
8N*MIN	0.59	2.29	1.05	1.96	1.47
9P	1.29	3.17	4.15	3.89	3.12
10MIN	0.50	2.08	1.32	2.33	1.56
MEAN	0.79	2.00	2.13	2.57	1.87

GRAIN MEAN DM% 81.6

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

N PLOTFERT(01)	0	48	96	144	MEAN
1-	0.37	0.22	0.51	0.51	0.40
2-	0.14	0.15	0.22	0.37	0.22
3D	0.30	1.76	2.64	2.73	1.86
4D	0.15	1.33	1.17	2.05	1.18
5N	0.15	0.44	0.52	0.74	0.46
6N*	0.15	0.15	0.15	0.22	0.17
7NMIN	0.29	1.25	1.97	2.76	1.57
8N*MIN	0.29	0.88	0.36	0.73	0.57
9P	0.30	1.24	2.04	2.44	1.50
10MIN	0.22	0.81	0.43	1.02	0.62
MEAN	0.23	0.82	1.00	1.36	0.85

STRAW MEAN DM% 90.9

SUB PLOT AREA HARVESTED 0.00728

https://doi.org/10.23637/ERADOC-1-45

79/R/PG/5

PARK GRASS

Object: To study the effects of organic and inorganic manures and lime on old grass (for hay).

The 124th year, hay.

For previous years see 'Details' 1967 and 1973 and 74-78/R/PG/5.

Treatments:

Whole plots

MANURE	Fertilisers and organic manures:-	
N1	Plot 1	N1
0(D)	Plot 2	None (D until 1863)
0/PLOT3	Plot 3	None
P	Plot 4-1	P
N2P	Plot 4-2	N2 P
N1MIN	Plot 6	N1 P K Na Mg
MIN	Plot 7	P K Na Mg
PNAMG	Plot 8	P Na Mg
N2MIN	Plot 9	N2 P K Na Mg
N2PNAMG	Plot 10	N2 P Na Mg
N3MIN	Plot 11-1	N3 P K Na Mg
N3MINSI	Plot 11-2	N3 P K Na Mg Si
0/PLOT12	Plot 12	None
D/F	Plot 13	D/F
N2*MIN	Plot 14	N2* P K Na Mg
MIN(N2*)	Plot 15	P K Na Mg (N2* until 1875)
N1*MIN	Plot 16	N1* P K Na Mg
N1*	Plot 17	N1*
N2KNAMG	Plot 18	N2 K Na Mg
D	Plot 19	D
D/N*PK	Plot 20	D/N*P K

N1, N2, N3:	48, 96, 144 kg N as sulphate of ammonia
N1*, N2*:	48, 96 kg N as nitrate of soda (30 kg N to Plot 20, only in years with no farmyard manure)
P:	35 kg P (15 kg P to Plot 20, only in years with no farmyard manure) as single superphosphate (triple superphosphate in 1974)
K:	225 kg K (45 kg K to Plot 20, only in years with no farmyard manure) as sulphate of potash
Na:	15 kg Na as sulphate of soda
Mg:	10 kg Mg as sulphate of magnesia
Si:	Silicate of soda at 450 kg
D:	Farmyard manure at 35 tonnes every fourth year
F:	Fish meal every fourth year to supply 63 kg N
MIN:	P K Na Mg

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79/R/PG/5

Sub plots

LIME	Liming:-
A	a Ground chalk applied as necessary to achieve pH7
B	b Ground chalk applied as necessary to achieve pH6
C	c Ground chalk applied as necessary to achieve pH5
D	d None

NOTE: Lime was applied regularly, and at the same rate, to all a and b sub plots of Plots 1 to 17 (except 12) from 1924. Differential liming started in 1965 on certain b and c sub plots (except on Plot 12) and in 1976 on certain a sub plots (including Plot 12) and 12b.

Additional sub plots (Plots 18, 19 and 20 only) (tonnes $CaCO_3$ applied every fourth year 1920-1964):-

N2KNAMG0	18-1	None
N2KNAMG2	18-2	13.5
N2KNAMG1	18-3	7.9
D0	19-1	None
D2	19-2	6.3
D1	19-3	1.1
D/N*PK0	20-1	None
D/N*PK2	20-2	5.6
D/N*PK1	20-3	1.1

Since 1965 Plot 18-1 has been split into two for treatments 'c' and 'd' above and Plot 18-3 split into two for treatments 'a' and 'b'. The remaining sub-plots of Plots 18, 19 and 20 are treated as 'a'.

NOTE: For a fuller record of treatments see 'Details' etc.

Cultivations, etc.:- Superphosphate applied: 17 Nov, 1978. Remaining mineral fertilisers applied: 20 Nov. Fish meal applied: 21 Nov. First N dressing applied: 15 May, 1979. Second N dressing applied: 12 June. Cut twice: 20 June and 2 Oct.

https://doi.org/10.23637/ERADOC-1-45

79/R/PG/5

1ST CUT (20/6/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

LIME / MANURE	A	B	C	D	MEAN
N1	2.11	2.68	2.17	0.45	1.85
O(D)	2.00	2.15	1.63	1.37	1.79
O/PLOT3	2.13	2.34	1.25	1.26	1.74
P	2.51	3.24	2.14	2.07	2.49
N2P	2.58	2.52	2.77	1.29	2.29
N1MIN	4.55	4.08			4.31
MIN	4.02	4.59	2.71	1.99	3.33
PNAMG	2.83	2.76	2.92	2.49	2.75
N2MIN	4.60	4.46	4.23	3.07	4.09
N2PNAMG	3.44	3.31	3.44	2.32	3.13
N3MIN	4.16	5.14	4.16	2.01	3.87
N3MINSI	4.77	4.75	4.91	3.04	4.37
O/PLOT12	2.94	2.65	2.16	2.27	2.51
D/F	4.35	5.35	4.50	4.45	4.66
N2*MIN	3.77	4.58	4.36	3.65	4.09
MIN(N2*)	3.90	3.42	1.40	1.69	2.60
N1*MIN	4.62	4.10	3.81	3.32	3.96
N1*	2.28	2.59	2.23	1.88	2.25
N2KNAMG0			1.21	1.18	1.19
N2KNAMG2	2.45				2.45
N2KNAMG1	2.41	2.53			2.47
D0	4.16				4.16
D2	4.13				4.13
D1	4.40				4.40
D/N*PK0	4.86				4.86
D/N*PK2	4.89				4.89
D/N*PK1	4.41				4.41

1ST CUT MEAN DM% 23.0

https://doi.org/10.23637/ERADOC-1-45

79/R/PG/5

2ND CUT (2/10/78) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

LIME / MANURE	A	B	C	D	MEAN
N1	1.54	2.00	0.72	0.45	1.18
O(D)	1.41	1.63	0.90	1.25	1.30
O/PLOT3	1.43	1.70	1.06	1.07	1.32
P	1.55	1.80	1.60	1.40	1.59
N2P	1.37	1.50	0.98	1.52	1.34
N1MIN	2.35	2.33			2.34
MIN	2.70	2.90	1.68	1.23	2.13
PNAMG	1.80	1.65	1.72	1.51	1.67
N2MIN	2.09	2.64	1.26	0.86	1.71
N2PNAMG	1.37	1.40	1.18	0.89	1.21
N3MIN	2.79	2.53	1.82	3.52	2.66
N3MINSI	3.59	2.55	2.23	3.97	3.08
O/PLOT12	2.81	1.23	1.36	1.35	1.69
D/F	2.76	3.04	2.33	1.99	2.53
N2*MIN	2.19	2.77	2.76	2.25	2.49
MIN(N2*)	2.29	2.72	1.12	1.45	1.89
N1*MIN	1.98	2.12	1.87	1.71	1.92
N1*	1.63	2.22	1.87	1.94	1.92
N2KNAMG0			0.52	0.55	0.54
N2KNAMG2	1.57				1.57
N2KNAMG1	1.60	1.71			1.66
D0	2.01				2.01
D2	2.39				2.39
D1	2.15				2.15
D/N*PK0	2.37				2.37
D/N*PK2	2.78				2.78
D/N*PK1	2.75				2.75

2ND CUT MEAN DM% 31.2

https://doi.org/10.23637/ERADOC-1-45

79/R/PG/5

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

LIME / MANURE	A	B	C	D	MEAN
N1	3.64	4.67	2.89	0.89	3.02
O(D)	3.41	3.78	2.54	2.62	3.09
O/PLOT3	3.56	4.04	2.31	2.33	3.06
P	4.06	5.04	3.75	3.47	4.08
N2P	3.95	4.02	3.75	2.81	3.63
N1MIN	6.90	6.41			6.66
MIN	6.72	7.49	4.39	3.23	5.46
PNAMG	4.63	4.41	4.64	4.00	4.42
N2MIN	6.69	7.10	5.48	3.93	5.80
N2PNAMG	4.81	4.71	4.62	3.21	4.34
N3MIN	6.95	7.67	5.98	5.53	6.53
N3MINSI	8.36	7.30	7.14	7.01	7.45
O/PLOT12	5.75	3.88	3.52	3.63	4.20
D/F	7.11	8.40	6.82	6.44	7.19
N2*MIN	5.96	7.35	7.11	5.91	6.58
MIN(N2*)	6.19	6.14	2.52	3.14	4.50
N1*MIN	6.60	6.22	5.68	5.03	5.88
N1*	3.91	4.81	4.10	3.82	4.16
N2KNAMG0			1.73	1.73	1.73
N2KNAMG2	4.02				4.02
N2KNAMG1	4.02	4.24			4.13
D0	6.17				6.17
D2	6.53				6.53
D1	6.54				6.54
D/N*PK0	7.23				7.23
D/N*PK2	7.67				7.67
D/N*PK1	7.16				7.16

TOTAL OF 2 CUTS MEAN DM% 27.1

https://doi.org/10.23637/ERADOC-1-45

79/R/AG/6

AGDELL

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

The tenth year of revised scheme, ryegrass and beans.

For previous yers see 'Details' 1967 and 1973, and 74-78/R/AG/6.

Treatments: All combinations of:-

Whole plots

1. OLDRESD — Fertilisers and organic manures applied to roots every fourth year, in the period 1848-1948:

NONE	None
PKNAMG	P K Na Mg
NPKNAMGC	N P K Na Mg C

N:	48 kg N as sulphate of ammonia
P:	41 kg P as superphosphate
K:	224 kg K as sulphate of potash
Na:	16 kg Na as sulphate of soda
Mg:	11 kg Mg as sulphate of magnesia
C:	Castor meal at 2240 kg supplying about 112 kg N

2. RN CROP — Rotation 1848-1951 and crop:

F/BEANS	With fallow: Roots (turnips or swedes), barley, fallow, wheat 1848-1951. Beans (after grass/clover 1977 & 1978)
L/GRASS	With legume: Roots, barley, legume (clover or beans), wheat 1848-1951. Grass 1977-1979.

Half plots

3. 1964RESD — Residues of 1964 treatments:

P
K

Quarter plots

4. PREVCROP — Previous cropping 1958-69 on P-test half plots, 1958-70 on K-test half plots:

ARABLE	Arable or fallow
GRASS	Grass

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79/R/AG/6

Sixteenth plots

5. P_2O_5 64 K_2O 64

Rates of 1964 treatments (kg):

P_2O_5 to P-test half plots	K_2O to K-test half plots
0	0
500	315
1000	630
2000	1260

Thirty second plots

6.

On P-test half plots:
To RN CROP F/BEANS. Residues of P_2O_5 applied 1970-72 (total, kg) and a fresh dressing in 1979 (kg):

P_2O_5 729

(0)0
(375)150

To RN CROP L/GRASS. Residues of P_2O_5 applied 1970-72 (total, kg):

P_2O_5 72

0
375

On K-test half plots:
To RN CROP F/BEANS. Residues of K_2O applied 1973-76 (total, kg) and a fresh dressing in 1979 (kg):

K_2O 769

(0)0
(870)300

To RN CROP L/GRASS. Residues of K_2O applied 1973-76 (total, kg):

K_2O 76

0
870

NOTE: L/GRASS plots were ploughed on 18 July. Yields were not taken.

Standard applications: Beans: Manures: P at 65 kg as superphosphate to K-test half plots. K at 250 kg as muriate of potash to P-test half plots.
Weedkiller: Trietazine with simazine (as 'Remtal SC' at 2.8 kg) in 340 l.
Insecticide: Pirimicarb at 0.14 kg in 340 l applied twice.
Grass: Manures: 'Nitro-Chalk' at 380 kg. Weedkiller: Glyphosate at 1.5 kg in 220 l.

Seed: Minden, sown at 220 kg.

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79/R/AG/6

Cultivations, etc.:- Beans: Basal P and K applied: 28 Nov, 1978. Test P and K applied: 7 Dec. Ploughed: 23 Jan, 1979. Rotary harrowed, seed sown: 23 Apr. Weedkiller applied: 13 May. Insecticide applied: 22 June and 12 July. Combine harvested: 14 Sept.
Grass: N applied: 7 Mar, 1979. Weedkiller applied: 12 June. Cut: 28 June.

BEANS

P - TEST PLOTS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

	OLDRESD	NONE		PKNAMG		NPKNAMGC	
	P205 729	(0)0	(375)150	(0)0	(375)150	(0)0	(375)150
PREVCROP	P205 64						
ARABLE	0	2.06	2.55	3.36	3.22	2.63	3.03
	500	2.67	3.21	2.54	2.25	3.38	2.91
	1000	2.25	4.40	2.50	2.25	2.62	3.12
	2000	1.69	2.32	2.73	2.56	2.01	2.49
GRASS	0	1.69	2.67	2.17	1.66	1.69	2.09
	500	2.48	3.14	2.14	3.05	2.34	2.90
	1000	3.20	3.03	2.14	1.44	2.26	2.09
	2000	3.57	3.22	3.42	3.52	2.50	2.66

GRAIN MEAN DM% 86.7

PLOT AREA HARVESTED 0.00128

BEANS

K - TEST PLOTS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

	OLDRESD	NONE		PKNAMG		NPKNAMGC	
	K20 769	(0)0	(870)300	(0)0	(870)300	(0)0	(870)300
PREVCROP	K20 64						
ARABLE	0	0.89	1.25	2.23	2.38	2.17	2.49
	315	1.16	0.99	2.31	2.55	3.28	2.48
	630	2.44	3.40	2.79	2.89	2.08	2.49
	1260	2.58	3.05	3.05	3.03	1.69	2.40
GRASS	0	1.52	2.16	1.58	3.11	2.01	2.10
	315	1.44	2.94	3.03	3.03	1.52	2.24
	630	2.48	2.94	2.23	2.91	1.93	3.15
	1260	1.78	2.29	2.86	2.92	1.93	2.58

GRAIN MEAN DM% 86.6

PLOT AREA HARVESTED 0.00128

https://doi.org/10.23637/ERADOC-1-45

79/R/BN/7

BARNFIELD

Object: The experiment was designed to study the effects of organic and inorganic manures on continuous root crops. It has been progressively modified to study effects on other crops.

Sections 1 and 2 fallow. The fifth year of Italian ryegrass on the rest of the experiment.

For previous years see 'Details' 1967 & 1973 and 74-78/R/BN/7.

Plot dimensions: Ryegrass: 10.7 x 55.9.

Treatments to ryegrass: All combinations of:-

Whole plots

1. MANURE — Fertilisers and organic manures:

DN	D N
DNPK	D N P K
NPKMG	N P K (Na) Mg
NP	N P
NPK	N P K
NPMG	N P (Na) Mg
N	N

N: 100 kg N before first cut, 75 kg N after first and second cuts. All as 'Nitro-Chalk'.
P: 35 kg P as single superphosphate (triple superphosphate in 1974).
K: 225 kg K as sulphate of potash
(Na): 90 kg Na as sodium chloride until 1973
Mg: 90 kg Mg as kieserite every fourth year since 1974 (sulphate of magnesia until 1973).
D: Farmyard manure at 35 tonnes (until 1975).

Quarter plots

2. NFORMRES — Residues of forms of N (each supplying 96 kg N):

NS	Nitrate of soda
SA	Sulphate of ammonia
SA/CM	Sulphate of ammonia + castor meal
CM	Castor meal

Castor meal last applied 1961, others until 1959.

Plus one plot MANURE NKMG

NOTES: (1) Yields were taken only from half plots cropped with sugar beet in 1973.
(2) P K and D treatments were applied to Sections 1 and 2, fallow in 1979.

Standard applications: Fallow: Weedkiller: Paraquat at 0.84 kg ion in 220 l.

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79/R/BN/7

Cultivations, etc.:- Ryegrass and fallow: P applied: 7 Nov, 1978. K applied: 8 Nov.
Ryegrass: N applied: 6 Mar, 1979, 13 June and 27 July. Cut: 30 May, 25 July and 1 Oct.
Fallow: FYM applied: 9 Nov, 1978. Spring-tine cultivated: 1 May, 1979 and 3 Oct. Rotary harrowed: 7 June. Cultivated with thistle bar: 3 July. Heavy spring-tine harrowed: 9 July. Weedkiller applied: 14 Sept.

1ST CUT (30/5/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

NFORMRES MANURE	NS	SA	SA/CM	CM	MEAN
DN	4.03	3.34	3.18	2.79	3.33
DNPK	4.21	3.54	3.35	3.21	3.58
NPKMG	2.76	2.34	2.31	2.23	2.41
NP	2.54	1.65	1.88	1.85	1.98
NPK	2.81	1.97	2.09	1.82	2.17
NPMG	2.17	1.53	1.77	1.93	1.85
N	1.15	2.05	1.81	2.30	1.83
MEAN	2.81	2.35	2.34	2.30	2.45

MANURE NKMG 2.26

GRAND MEAN 2.44

1ST CUT MEAN DM% 23.4

2ND CUT (25/7/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

NFORMRES MANURE	NS	SA	SA/CM	CM	MEAN
DN	2.69	2.70	2.55	2.70	2.66
DNPK	2.60	2.50	2.45	3.00	2.64
NPKMG	1.42	1.50	1.67	1.60	1.55
NP	0.90	0.88	1.10	1.10	1.00
NPK	1.27	1.33	1.79	1.31	1.42
NPMG	1.02	0.68	1.11	1.23	1.01
N	1.10	0.72	0.88	1.10	0.95
MEAN	1.57	1.47	1.65	1.72	1.60

MANURE NKMG 0.92

GRAND MEAN 1.58

2ND CUT MEAN DM% 32.1

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79/R/BN/7

3RD CUT (1/10/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

NFORMRES MANURE	NS	SA	SA/CM	CM	MEAN
DN	2.95	3.00	3.54	3.35	3.21
DNPK	2.78	3.03	3.34	3.24	3.10
NPKMG	2.79	2.75	2.88	2.72	2.78
NP	2.35	2.13	2.19	2.14	2.20
NPK	2.97	2.92	2.99	2.93	2.95
NPMG	2.48	2.07	2.58	2.30	2.36
N	2.26	2.54	2.31	2.10	2.30
MEAN	2.66	2.63	2.83	2.68	2.70

MANURE NKMG 2.72

GRAND MEAN 2.70

3RD CUT MEAN DM% 28.2

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

NFORMRES MANURE	NS	SA	SA/CM	CM	MEAN
DN	9.67	9.04	9.28	8.83	9.21
DNPK	9.59	9.07	9.14	9.45	9.31
NPKMG	6.97	6.59	6.85	6.54	6.74
NP	5.79	4.67	5.17	5.09	5.18
NPK	7.05	6.21	6.87	6.06	6.55
NPMG	5.67	4.29	5.46	5.47	5.22
N	4.51	5.31	5.00	5.50	5.08
MEAN	7.04	6.45	6.83	6.71	6.75

MANURE NKMG 5.90

GRAND MEAN 6.73

TOTAL OF 3 CUTS MEAN DM% 27.9

SUB PLOT AREA HARVESTED 0.00568

https://doi.org/10.23637/ERADOC-1-45 *pp 23*

79/R/GC/8

GARDEN CLOVER

Object: To study yields and pathogens of red clover grown continuously - Manor Garden.

The 126th year, red clover.

For previous years see 'Details' 1967 & 1973, and 74-78/R/GC/8.

Whole plot dimensions: 2.13 x 3.05.

Treatments: All combinations of:-

1. VARIETY	Varieties:	
	H(H)	Hungaropoly (resistant to Sclerotinia trifoliorum) in 1979 after Hungaropoly in 1976-78
	H(S)	Hungaropoly in 1979 after S.123 (susceptible to S. trifoliorum) in 1976-78
2. ALDICARB	Aldicarb to seedbed:	
	10(0)	10 kg in 1979 after none in 1976-78
	10(10)	10 kg in 1979 after 10 kg in 1976-78

Basal applications: Manures: Chalk at 7.5 t. (0:14:28) at 540 kg. Mg at 50 kg, as Epsom salts. N at 130 kg, as 'Nitro-Chalk', in seedbed and after each cut except the last.

Seed: Hungaropoly, sown at 34 kg.

Cultivations, etc.:- Hand dug, root stumps carted: 12 Oct, 1978. Chalk applied: 26 Feb, 1979. PK and Mg applied: 17 Apr. Sown, aldicarb and N applied: 20 Apr. Cut and N applied: 25 July, 28 August. Cut: 24 September.

NOTE: Samples of herbage were analysed for percentage N, P, K, Ca and Mg.

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79/R/GC/8

1ST CUT (25/7/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

ALDICARB VARIETY	10(0)	10(10)	MEAN
H(H)	2.50	2.32	2.41
H(S)	2.67	2.24	2.45
MEAN	2.58	2.28	2.43

1ST CUT MEAN DM% 23.0

2ND CUT (28/8/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

ALDICARB VARIETY	10(0)	10(10)	MEAN
H(H)	3.30	3.31	3.30
H(S)	3.21	3.13	3.17
MEAN	3.26	3.22	3.24

2ND CUT MEAN DM% 12.3

3RD CUT (24/9/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

ALDICARB VARIETY	10(0)	10(10)	MEAN
H(H)	1.22	1.26	1.24
H(S)	1.29	1.20	1.25
MEAN	1.26	1.23	1.24

3RD CUT MEAN DM% 15.9

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

ALDICARB VARIETY	10(0)	10(10)	MEAN
H(H)	7.01	6.89	6.95
H(S)	7.18	6.57	6.87
MEAN	7.09	6.73	6.91

TOTAL OF 3 CUTS MEAN DM% 17.1

PLOT AREA HARVESTED 0.00010

https://doi.org/10.23637/ERADOC-1-45

79/S/RN/1

ROTATION I

Object: To compare nutrient cycles, uptakes of nutrients and responses to fresh P and K. To obtain an estimate of the rate of release of nutrients, particularly K, from Saxmundham soil - Saxmundham.

Sponsor: A.E. Johnston.

The 81st year, grass, grass/clover, winter beans, winter wheat, winter barley.

For previous years see 'Details' 1967 & 1973, and 74-78/S/RN/1.

Whole plot dimensions (new treatments): 5.49 x 17.1.

Treatments: From 1899 to 1969 the experiment followed a four-course rotation of wheat, roots, barley, legumes. Each phase of the rotation was present each year on a separate block. From 1966 each plot was divided, a small area at the south end being continued under the original treatment (OLDTREAT), modified treatments (NEWTREAT) being applied on the larger sub-plots (see below).

In 1970 the rotation was stopped and each pair of blocks was divided for lucerne and grass. In 1978 lucerne was replaced by a grass/clover mixture (the OLDTREAT sub-plots form a part of the Grass area).

TREATMENT 1899-1965	OLDTREAT Grass	NEWTREAT Grass/Clover	NEWTREAT Grass
	MANURE	MANURE	MANURE
D	(D)	(D)	(D)N
B	B	B	BN
N	N	(N)P2	(N)P2N
P	P	(P)P1	(P)P1N
K	K	(K)P2K	(K)P2KN
-	-	(-)P2	(-)P2N
PK	PK	(PK)P1K	(PK)P1KN
NK	NK	(NK)P2K	(NK)P2KN
NP	NP	(NP)P1	(NP)P1N
NPK	NPK	(NPK)P1K	(NPK)P1KN

D: Farmyard manure at 15 tonnes
(D): Farmyard manure at 30 tonnes (1966-1969 15 tonnes on OLDTREAT), 60 tonnes in autumn 1969, none since
B: Bone meal at 0.5 tonnes
N: 1899-1965 - 38 kg N as nitrate of soda. Since 1970 - 100 kg N (38 kg N on OLDTREAT) per cut as 'Nitro-Chalk'
P: 1899-1965 40 kg P205 as single superphosphate. Since 1966 50 kg P205 as triple superphosphate
P1,P2: 50, 100 kg P205 as triple superphosphate
K: 1899-1965 63 kg K20 as muriate of potash. Since 1966 - 126 kg K20 (75 kg K20 on OLDTREAT)

NOTES: (1) For a fuller record of treatments see 'Details' etc.
(2) On OLDTREAT grass, clover appeared naturally on some plots in 1975. To unify the plots white clover was sown on all at 33 kg.
(3) Yields were not taken from OLDTREAT grass. NEWTREAT grass/clover was ploughed on 24 May, 1979, yields were not taken.

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In 1977 lucerne was ploughed on one pair of blocks and the area divided into three for three phases of the arable four-course rotation barley, potatoes, winter beans, wheat. Whole plot treatments are continued on the ploughed area as for NEWTREAT grass/clover except all crops, except beans, are given N and plots previously given farmyard manure now receive phosphate fertiliser. Plots on this area are randomly subdivided for each crop for a test of potash fertiliser. All combinations of the following are present:

1. MANURE

Winter beans	Winter wheat and winter barley
(D)P2	(D)P2N
B	BN
(N)P2	(N)P2N
(P)P1	(P)P1N
(K)P2K	(K)P2KN
(-)P2	(-)P2N
(PK)P1K	(PK)P1KN
(NK)P2K	(NK)P2KN
(NP)P1	(NP)P1N
(NPK)P1K	(NPK)P1KN

Symbols as above except N = 148 kg - 50 kg in autumn 98 kg in spring.

2. POTASH Additional potash fertiliser, as muriate of potash (kg K20):

0
63

NOTE: Bone meal to arable crops was omitted in 1978. Two dressings were applied for 1979 crops.

Standard applications:
Wheat: Weedkillers: Autumn: Isoproturon at 3.1 kg in 220 l. Spring: Ioxynil at 0.42 kg and mecoprop at 1.3 kg in 280 l applied with tridemorph and chlormequat. Fungicide: Tridemorph at 0.53 kg. Growth regulator: Chlormequat at 1.7 kg.
Barley: Weedkillers: Autumn: Isoproturon at 3.1 kg in 220 l. Spring: Ioxynil at 0.42 kg and mecoprop at 1.3 kg in 280 l applied with the fungicides. Fungicides: Carbendazim (as 'Bavistin' at 0.51 kg), and tridemorph at 0.53 kg.
Beans: Weedkillers: Simazine at 1.1 kg in 220 l. Fungicide: Benomyl at 0.28 kg in 280 l.

Seed: Wheat: Maris Huntsman, sown at 210 kg.
Barley: Sonja, sown at 160 kg.
Beans: Throws MS, sown at 250 kg.
Grass/Clover: Blanca white clover and S23 PRG sown at 40 kg.

Cultivations, etc.:
Wheat and Barley: PK and bone meal applied: 19 Sept, 1978. N applied, seed sown: 4 Oct. Isoproturon applied: 5 Oct. Bone meal and N applied: 10 Apr, 1979.
Wheat: Ploughed: 3 Oct, 1978. Spring weedkiller, fungicide and growth regulator applied: 15 May, 1979. Combine harvested: 21 Aug.

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Barley: Spring weedkiller and fungicides applied: 15 May, 1979. Combine harvested: 8 Aug.
Beans: P, K and bone meal applied, seed sown: 13 Oct, 1978. Weedkiller applied: 14 Oct. Bone meal applied: 10 Apr, 1979. Fungicide applied: 16 May. Combine harvested: 22 Aug.
OLDTREAT Grass: N, P and K applied: 6 Mar, 1979. Bone meal applied: 10 Apr.
NEWTREAT Grass: P and K applied: 6 Mar, 1979. Bone meal applied: 10 Apr. N applied twice: 18 Apr, 9 July. Cut twice: 12 June and 11 Sept.
NEWTREAT Grass/Clover (after lucerne 1978): Ploughed: 23 June, 1978. Seed sown: 15 Aug. P and K applied: 6 Mar, 1979. Bone meal applied: 10 Apr.

79/S/RN/1 GRASS NEW TREAT

DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

	1ST CUT(12/6/79)	2ND CUT(11/9/79)	TOTAL OF 2 CUTS
MANURE			
(D)N	5.91	1.87	7.78
BN	5.11	1.71	6.82
(N)P2N	5.40	1.51	6.90
(P)P1N	5.71	1.61	7.32
(K)P2KN	6.24	1.98	8.22
(-)P2N	5.60	1.59	7.19
(PK)P1KN	6.11	1.76	7.87
(NK)P2KN	6.18	1.94	8.12
(NP)P1N	5.65	1.59	7.23
(NPK)P1KN	5.72	1.75	7.47
MEAN	5.76	1.73	7.49
MEAN DM%	21.9	35.4	28.7

1ST CUT PLOT AREA HARVESTED 0.00089

2ND CUT PLOT AREA HARVESTED 0.00084

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WINTER BEANS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

POTASH MANURE	0	63	MEAN
(D)P2	3.31	4.02	3.67
B	2.33	3.26	2.79
(N)P2	1.33	3.00	2.16
(P)P1	2.87	2.67	2.77
(K)P2K	4.34	4.27	4.31
(-)P2	3.03	3.88	3.45
(PK)P1K	4.31	4.00	4.15
(NK)P2K	3.96	4.24	4.10
(NP)P1	2.26	3.29	2.78
(NPK)P1K	3.50	3.65	3.57
MEAN	3.12	3.63	3.38

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	POTASH	MANURE* POTASH
SED	0.070	0.222

* WITHIN SAME LEVEL OF MANURE ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.251	7.4
BLOCK.WP.SP	10	0.222	6.6

SUB PLOT AREA HARVESTED 0.00075

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WINTER WHEAT

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

POTASH MANURE	0	63	MEAN
(D)P2N	8.63	8.52	8.57
BN	7.83	7.99	7.91
(N)P2N	7.96	8.51	8.24
(P)P1N	7.95	8.36	8.16
(K)P2KN	8.44	8.53	8.49
(-)P2N	8.60	8.08	8.34
(PK)P1KN	8.39	8.23	8.31
(NK)P2KN	8.21	8.20	8.20
(NP)P1N	7.84	8.00	7.92
(NPK)P1KN	7.87	7.98	7.92
MEAN	8.17	8.24	8.21

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	POTASH	MANURE* POTASH
SED	0.117	0.371

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.283	3.4
BLOCK.WP.SP	10	0.371	4.5

GRAIN MEAN DM% 81.0

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

POTASH MANURE	0	63	MEAN
(D)P2N	4.95	5.33	5.14
BN	4.78	4.78	4.78
(N)P2N	4.61	4.98	4.79
(P)P1N	4.89	5.14	5.02
(K)P2KN	5.06	5.23	5.14
(-)P2N	4.95	4.84	4.90
(PK)P1KN	5.29	5.00	5.14
(NK)P2KN	4.73	5.18	4.96
(NP)P1N	4.42	4.72	4.57
(NPK)P1KN	5.12	4.94	5.03
MEAN	4.88	5.01	4.95

STRAW MEAN DM% 84.5

SUB PLOT AREA HARVESTED 0.00075

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WINTER BARLEY

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

POTASH MANURE	0	63	MEAN
(D)P2N	7.84	7.27	7.55
BN	7.00	6.92	6.96
(N)P2N	7.06	6.62	6.84
(P)P1N	7.05	6.83	6.94
(K)P2KN	6.95	6.91	6.93
(-)P2N	5.74	7.11	6.42
(PK)P1KN	7.17	5.64	6.40
(NK)P2KN	6.79	7.24	7.02
(NP)P1N	6.25	6.93	6.59
(NPK)P1KN	6.43	7.26	6.84
MEAN	6.83	6.87	6.85

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	POTASH	MANURE* POTASH
SED	0.278	0.879

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.392	5.7
BLOCK.WP.SP	10	0.879	12.8

GRAIN MEAN DM% 81.8

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

POTASH MANURE	0	63	MEAN
(D)P2N	4.59	3.72	4.16
BN	3.22	3.83	3.53
(N)P2N	3.52	3.43	3.48
(P)P1N	3.70	3.23	3.46
(K)P2KN	3.58	3.86	3.72
(-)P2N	3.32	3.76	3.54
(PK)P1KN	4.16	3.04	3.60
(NK)P2KN	4.12	3.39	3.76
(NP)P1N	2.60	3.47	3.04
(NPK)P1KN	3.59	4.45	4.02
MEAN	3.64	3.62	3.63

STRAW MEAN DM% 88.3

SUB PLOT AREA HARVESTED 0.00075

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79/S/RN/2

ROTATION II

Object: To measure, by crop yields and soil analysis, the residual value of P applied as FYM or superphosphate in the periods 1899-1964 and 1965-1967 and of fresh dressings since - Saxmundham.

Sponsors: G.E.G. Mattingly, A.E. Johnston.

The tenth year of revised scheme, wheat, barley.

For previous years see 'Details' 1967 & 1973, and 74-78/S/RN/2.

Whole plot dimensions: 5.49 x 39.8.

Treatments: From 1899-1964 the experiment tested farmyard manure and nitrogen and phosphate fertilisers applied to a rotation of crops. Since 1965 the treatments have been changed to evaluate old residues of P (from FYM and superphosphate) and new residues from treatments applied 1965-1967. All crops of the rotation - potatoes, barley, sugar beet, barley - were grown until 1974. The whole experiment was sown to barley in 1975 and 1976, wheat and barley since 1977, and tests combinations of:

Whole plots

1. RESIDUE — Residues of previous treatments:-

		Approximate total dressing 1899-1964	Total dressing 1965-1967
(0)0	Plot 1	None	None
(D)0	Plot 2	400 tonnes FYM	None
(DP)0	Plot 3	400 tonnes FYM, 2.7 tonnes P205	None
(DP)D2	Plot 4	400 tonnes FYM, 2.7 tonnes P205	100 tonnes FYM
(DP)D2P1	Plot 5	400 tonnes FYM, 2.7 tonnes P205	100 tonnes FYM, 0.56 tonnes P205
(DP)P1	Plot 6	400 tonnes FYM, 2.7 tonnes P205	0.56 tonnes P205
(DP)P2	Plot 7	400 tonnes FYM, 2.7 tonnes P205	1.13 tonnes P205
(DP52)0	Plot 8	326 tonnes FYM, 4.3 tonnes P205 (until 1952 only)	None

Wheat in 1979 (after barley 1978) tests in addition to 1:-

Sub plots

2. P — Phosphate (total P205 applied in each period (kg)):

	1969-71	1973-75	1978 (to preceding wheat stubble)
(0)(0)0	0	0	0
(0)(3)0	0	378	0
(1)(3)1	126	378	120
(2)(3)1	252	378	120
(3)(3)0	378	378	0

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and some of the combinations of 2 with:-

3. N Nitrogen fertiliser (kg N as 'Nitro-Chalk') (in addition to autumn basal N):

40
80
120
160

Barley in 1979 (after wheat 1978) tests in addition to 1:

Sub plots

2. P Phosphate (total P205 applied in each period (kg)):

	1969-71	1973-75	1979 (to preceding wheat stubble)
(0)(0)0	0	0	0
(0)(3)0	0	378	0
(1)(3)1	126	378	120
(2)(3)1	252	378	120
(3)(3)0	378	378	0

and some of the combinations of 2 with:-

3. N Nitrogen fertiliser (kg N as 'Nitro-Chalk'):

30
60
90
120

Standard applications:
Both crops: Manures: K20 at 150 kg as muriate of potash. Spring weedkillers: Ioxynil at 0.42 kg and mecoprop at 1.3 kg in 220 l applied with the fungicide. Fungicide: Tridemorph at 0.53 kg.
Wheat: Manures: N at 50 kg at drilling as 'Nitro-Chalk 25' combine drilled. Autumn weedkiller: Isoproturon at 3.1 kg in 220 l. Growth regulator: Chlormequat at 1.7 kg, applied with the spring weedkiller.

Seed: Wheat: Maris Huntsman, sown at 210 kg.
Barley: Julia, sown at 190 kg.

Cultivations, etc.:-
Both crops: K applied: 20 Sept, 1978. Ploughed: 22 Sept. Test N applied: 18 Apr, 1979. Combine harvested: 21 Aug.
Wheat: Seed sown: 4 Oct, 1978. Isoproturon applied: 5 Oct. Spring weedkiller, fungicide and growth regulator applied: 15 May, 1979.
Barley: Test P applied: 20 Sept, 1978. Seed sown: 18 Apr, 1979. Weedkiller and fungicide applied: 23 May.

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WHEAT

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

RESIDUE	N P	40	80	120	160
(0)0	(0)(0)0			3.23	3.34
(0)0	(0)(3)0	3.46	3.94		
(0)0	(1)(3)1	4.15		5.38	
(0)0	(2)(3)1		5.15		6.37
(0)0	(3)(3)0		4.80		5.11
(D)0	(0)(0)0	2.71	4.61		
(D)0	(0)(3)0			4.93	6.09
(D)0	(1)(3)1		5.77		6.11
(D)0	(2)(3)1	3.91		6.20	
(D)0	(3)(3)0	3.45		5.32	
(DP)0	(0)(0)0			6.12	6.03
(DP)0	(0)(3)0	3.84	5.85		
(DP)0	(1)(3)1	4.52		6.37	
(DP)0	(2)(3)1		5.50		6.86
(DP)0	(3)(3)0		5.74		6.53
(DP)D2	(0)(0)0	4.27	4.70		
(DP)D2	(0)(3)0			5.69	6.32
(DP)D2	(1)(3)1	4.38		6.43	
(DP)D2	(2)(3)1		6.20		6.49
(DP)D2	(3)(3)0		5.64		5.86
(DP)D2P1	(0)(0)0			6.16	6.96
(DP)D2P1	(0)(3)0	4.63	5.28		
(DP)D2P1	(1)(3)1	3.96		7.14	
(DP)D2P1	(2)(3)1		6.30		6.73
(DP)D2P1	(3)(3)0		6.49		6.80
(DP)P1	(0)(0)0			6.22	6.50
(DP)P1	(0)(3)0	5.18	5.16		
(DP)P1	(1)(3)1		5.85		7.39
(DP)P1	(2)(3)1	4.30		6.56	
(DP)P1	(3)(3)0	4.18		7.19	
(DP)P2	(0)(0)0	4.05	5.66		
(DP)P2	(0)(3)0			6.38	6.38
(DP)P2	(1)(3)1		5.70		7.10
(DP)P2	(2)(3)1	4.92		6.67	
(DP)P2	(3)(3)0	4.94		6.94	
(DP52)0	(0)(0)0	4.13	5.32		
(DP52)0	(0)(3)0			5.70	6.82
(DP52)0	(1)(3)1		5.53		6.36
(DP52)0	(2)(3)1	3.39		6.71	
(DP52)0	(3)(3)0	4.13		6.20	

GRAIN MEAN DM% 79.4

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WHEAT

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

RESIDUE	N P	40	80	120	160
(0)0	(0)(0)0			1.87	1.99
(0)0	(0)(3)0	2.31	2.04		
(0)0	(1)(3)1	2.78		3.46	
(0)0	(2)(3)1		3.27		3.89
(0)0	(3)(3)0		3.17		2.93
(D)0	(0)(0)0	1.96	2.59		
(D)0	(0)(3)0			2.91	3.45
(D)0	(1)(3)1		3.55		4.02
(D)0	(2)(3)1	1.91		4.31	
(D)0	(3)(3)0	1.89		3.73	
(DP)0	(0)(0)0			3.61	4.03
(DP)0	(0)(3)0	2.18	3.69		
(DP)0	(1)(3)1	2.67		3.92	
(DP)0	(2)(3)1		3.44		3.94
(DP)0	(3)(3)0		3.61		4.59
(DP)D2	(0)(0)0	2.56	2.85		
(DP)D2	(0)(3)0			3.03	4.11
(DP)D2	(1)(3)1	2.82		4.15	
(DP)D2	(2)(3)1		3.61		4.10
(DP)D2	(3)(3)0		3.46		3.59
(DP)D2P1	(0)(0)0			4.25	4.06
(DP)D2P1	(0)(3)0	2.94	3.44		
(DP)D2P1	(1)(3)1	2.72		4.65	
(DP)D2P1	(2)(3)1		3.27		4.44
(DP)D2P1	(3)(3)0		4.37		4.67
(DP)P1	(0)(0)0			3.86	3.68
(DP)P1	(0)(3)0	3.12	3.15		
(DP)P1	(1)(3)1		3.42		5.34
(DP)P1	(2)(3)1	3.12		4.16	
(DP)P1	(3)(3)0	2.19		4.27	
(DP)P2	(0)(0)0	2.31	3.68		
(DP)P2	(0)(3)0			4.09	4.19
(DP)P2	(1)(3)1		3.31		4.21
(DP)P2	(2)(3)1	2.79		4.14	
(DP)P2	(3)(3)0	2.88		4.59	
(DP52)0	(0)(0)0	2.64	3.25		
(DP52)0	(0)(3)0			3.55	4.38
(DP52)0	(1)(3)1		3.55		4.02
(DP52)0	(2)(3)1	2.00		3.95	
(DP52)0	(3)(3)0	2.81		3.85	

STRAW MEAN DM% 89.5

SUB PLOT AREA HARVESTED 0.00075

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BARLEY

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

RESIDUE	N P	30	60	90	120
(0)0	(0)(0)0	1.54	1.69		
(0)0	(0)(3)0			1.85	3.53
(0)0	(1)(3)1		3.62		4.65
(0)0	(2)(3)1	2.02		3.62	
(0)0	(3)(3)0	1.80		3.91	
(D)0	(0)(0)0			3.03	3.40
(D)0	(0)(3)0	2.59	3.21		
(D)0	(1)(3)1	2.85		4.85	
(D)0	(2)(3)1		3.65		5.20
(D)0	(3)(3)0		4.05		4.61
(DP)0	(0)(0)0	1.91	3.12		
(DP)0	(0)(3)0			4.60	4.27
(DP)0	(1)(3)1		3.49		4.40
(DP)0	(2)(3)1	2.75		4.66	
(DP)0	(3)(3)0	2.20		4.11	
(DP)D2	(0)(0)0			5.02	4.92
(DP)D2	(0)(3)0	2.67	3.85		
(DP)D2	(1)(3)1		3.71		4.94
(DP)D2	(2)(3)1	2.37		5.32	
(DP)D2	(3)(3)0	2.21		4.53	
(DP)D2P1	(0)(0)0	2.09	4.25		
(DP)D2P1	(0)(3)0			4.10	5.13
(DP)D2P1	(1)(3)1		3.55		4.88
(DP)D2P1	(2)(3)1	2.36		4.96	
(DP)D2P1	(3)(3)0	3.01		4.99	
(DP)P1	(0)(0)0	1.77	4.25		
(DP)P1	(0)(3)0			5.09	4.77
(DP)P1	(1)(3)1	2.52		5.12	
(DP)P1	(2)(3)1		4.01		5.40
(DP)P1	(3)(3)0		3.71		5.08
(DP)P2	(0)(0)0			4.39	4.78
(DP)P2	(0)(3)0	2.37	2.67		
(DP)P2	(1)(3)1	2.09		4.36	
(DP)P2	(2)(3)1		4.14		5.75
(DP)P2	(3)(3)0		3.83		4.32
(DP52)0	(0)(0)0			3.71	3.60
(DP52)0	(0)(3)0	2.05	3.74		
(DP52)0	(1)(3)1	1.83		3.45	
(DP52)0	(2)(3)1		3.70		4.94
(DP52)0	(3)(3)0		2.94		4.37

GRAIN MEAN DM% 78.0

https://doi.org/10.23637/ERADOC-1-45

79/S/RN/2

BARLEY

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

RESIDUE	N P	30	60	90	120
(0)0	(0)(0)0	1.07	1.27		
(0)0	(0)(3)0			1.44	2.55
(0)0	(1)(3)1		2.28		3.00
(0)0	(2)(3)1	1.40		2.56	
(0)0	(3)(3)0	0.76		2.84	
(D)0	(0)(0)0			2.39	2.76
(D)0	(0)(3)0	1.98	1.90		
(D)0	(1)(3)1	1.68		3.36	
(D)0	(2)(3)1		2.21		3.50
(D)0	(3)(3)0		2.58		3.39
(DP)0	(0)(0)0	1.15	1.86		
(DP)0	(0)(3)0			3.23	3.21
(DP)0	(1)(3)1		2.35		3.04
(DP)0	(2)(3)1	1.28		3.50	
(DP)0	(3)(3)0	1.31		2.63	
(DP)D2	(0)(0)0			3.24	3.82
(DP)D2	(0)(3)0	1.36	2.60		
(DP)D2	(1)(3)1		2.43		3.60
(DP)D2	(2)(3)1	1.47		3.82	
(DP)D2	(3)(3)0	1.26		3.53	
(DP)D2P1	(0)(0)0	1.49	2.88		
(DP)D2P1	(0)(3)0			2.81	3.62
(DP)D2P1	(1)(3)1		2.44		3.54
(DP)D2P1	(2)(3)1	1.44		3.97	
(DP)D2P1	(3)(3)0	1.22		3.44	
(DP)P1	(0)(0)0	1.20	3.09		
(DP)P1	(0)(3)0			3.68	3.56
(DP)P1	(1)(3)1	0.89		3.56	
(DP)P1	(2)(3)1		2.87		3.83
(DP)P1	(3)(3)0		2.20		3.87
(DP)P2	(0)(0)0			2.93	3.52
(DP)P2	(0)(3)0	2.06	1.67		
(DP)P2	(1)(3)1	1.40		3.20	
(DP)P2	(2)(3)1		2.78		3.84
(DP)P2	(3)(3)0		2.63		3.26
(DP52)0	(0)(0)0			2.62	2.99
(DP52)0	(0)(3)0	1.24	2.43		
(DP52)0	(1)(3)1	1.11		2.23	
(DP52)0	(2)(3)1		2.54		3.36
(DP52)0	(3)(3)0		1.78		3.45

STRAW MEAN DM% 78.3

SUB PLOT AREA HARVESTED 0.00075

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