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RESEARCH

Yields of the Field Experiments 1982

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82/R/RN/1 and 82/R/RN/2 Ley Arable - Old Grass, Leys, Potatoes, S. Beans. W. Wheat

Rothamsted Research

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82/R/RN/1 and 82/R/RN/2

LEY ARABLE

Object: To study the effects of three-year leys on the fertility of the soil as measured by a sequence of three arable test crops. From 1968, continuous w. wheat was grown on some blocks after the three test crops to study the build-up and decline of take-all (*Gaeumannomyces graminis*) after the different cropping sequences. From 1977 new crop sequences were introduced on these blocks - Highfield and Fosters.

Sponsors: A.E. Johnston, D.B. Slope.

The 34th year, old grass, leys, potatoes, s. beans, w. wheat.

For previous years see 'Details' 1967 and 1973 and 74-81/R/RN/1 and 2.

The experiment is duplicated on:-

HIGHFIELD A site with much organic matter initially (ploughed out from permanent grass) (82/R/RN/1)

FOSTERS A site with little organic matter initially (82/R/RN/2)

ROTATION Treatments: The experiment originally tested four six-course rotations, with all phases present each year. For many years these rotations were:-

	Treatment crops	Test crops
LUCERNE	LU, LU, LU	W, P, B
CLOGRA	LC, LC, LC	W, P, B
GRASS	LN, LN, LN	W, P, B
ARABLE	H, SB, O	W, P, B

LU = lucerne, LC = clover-grass ley, no nitrogen fertilizer,
LN = all-grass ley with much nitrogen fertilizer, H = 1-year seeds
hay, SB = sugar beet, O = s. oats, W = w. wheat, P = potatoes,
B = s. barley.

From 1968 the order of test crops was changed to P, W, B except for those phases that had already started the sequence W, P, B.

From 1975 the s. barley test crop was changed to w. wheat.

RESEDED On both fields in the first three years other plots were sown with long-term reseeded grass

OLDGRASS On Highfield plots of the old turf were left initially unploughed, for comparison with the three-year leys

In 1962 and 1963 some of the old and reseeded grass plots were divided for management identical to:-

C	Clover-grass ley
N	All-grass ley

82/R/RN/1 and 82/R/RN/2

From 1963 (reseeded) and 1968 (old grass) some grass plots were ploughed and cropped with the same test crops as above, thereafter these plots followed the ARABLE rotation. In 1973 some of these plots were returned to reseeded grass.

From 1968 only two phases on each field continued in the original six-course rotation (the museum blocks). The four other phases (the new sequence blocks) were sown to w. wheat every year at the end of the test-crop cycle. In 1977, 1978, 1979 and 1980 one phase, fallowed in the previous year started new sequences of treatment cropping:

SEQUENCE		Treatment crops	Test crops
LUCERNE	(previously LUCERNE)	LU, LU, LU	W, W, W, W
CLOGRA	(previously CLOGRA)	LC, LC, LC	W, W, W, W
GRASS/G	(previously GRASS)	R, R, R	W, W, W, W
ARABLE/A	(previously ARABLE)	O, P, BE	W, W, W, W
ARABLE/R	(previously RESEDED)	B, B, W	W, W, W, W
GRASS/OG	(previously OLDGRASS)	R, R, R	W, W, W, W

R = ryegrass, BE = s. beans. Other symbols as above. All ploughed at the end of the treatment crop cycle except GRASS/OG - direct drilled to w. wheat. Treatment crop cycles start after nine previous cereals followed by one fallow. In treatment years yields are taken only from s. barley and w. wheat.

Additional treatments to 1st test crop potatoes in the museum blocks:-

Sub plots

FYMRES70	Farmyard manure residues, last applied 1970:
NONE	None
FYM	30 tonnes on each occasion

Sub plots

N	Nitrogen fertilizer in 1982 (kg N as 'Nitro-Chalk'):
0	
80	
160	
240	

Additional treatments to 1st, 2nd and 3rd test crops w. wheat in the new sequence blocks:

Sub plots

N	Nitrogen fertilizer in 1982 (kg N as 'Nitro-Chalk'):
0	
50	
100	
150	

82/R/RN/1 and 82/R/RN/2

Standard applications:

Museum blocks:

1st Treatment crops:

Lucerne: Manures: (0:20:20) at 380 kg. Weedkiller: Glyphosate at 1.4 kg in 250 l.

All-grass ley, clover-grass ley and 1-year seeds hay: Manures: (0:14:28) at 540 kg. Weedkiller: Glyphosate at 1.4 kg in 250 l.

All-grass ley and 1-year seeds hay: Manures: 'Nitro-Chalk' at 290 kg to the seedbed. (25:0:16) at 300 kg after each cut except the last.

1st Test crop:

Potatoes: Manures: (0:20:20) at 1500 kg. Weedkillers: Linuron at 1.1 kg with paraquat at 0.5 kg ion in 250 l. Alloxydim-sodium at 1.9 kg in 900 l. Glyphosate at 1.4 kg in 250 l. Fungicides: Mancozeb at 1.4 kg in 250 l on four occasions, with pirimicarb on the last two. Ofurace at 0.12 kg and maneb at 1.2 kg in 250 l on two occasions, with pirimicarb on the first. Insecticide: Pirimicarb at 0.14 kg. Desiccant: BOV at 220 l.

Reseeded grass and old grass: (0:14:28) at 540 kg. All grass half plots: (25:0:16) at 300 kg in spring and after each cut except the last.

New sequence blocks:

3rd Treatment crops:

Lucerne: Manures: (0:14:28) at 720 kg.

Clover-grass ley and ryegrass: Manures: (0:14:28) at 720 kg, (25:0:16) at 300 kg in spring and, to ryegrass only, after each cut except the last.

W. wheat: Manures: (0:14:28) at 360 kg, combine drilled. 'Nitro-Chalk' at 380 kg. Weedkiller: Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with isoproturon at 2.1 kg in 250 l.

S. beans: Weedkiller: Trietazine at 1.0 kg and simazine at 0.14 kg in 250 l. Insecticide: Phorate at 2.2 kg, combine drilled.

1st Test crop:

W. wheat:

After all sequences: Manures: (0:14:28) at 360 kg, combine drilled. Weedkillers: Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with isoproturon at 2.1 kg in 250 l.

After GRASS/OG: Weedkiller: Glyphosate at 1.4 kg in 500 l.

2nd and 3rd Test crops:

W. wheat: Manures: (0:14:28) at 360 kg, combine drilled.

Weedkillers: Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with isoproturon at 2.1 kg in 250 l. Glyphosate at 1.4 kg in 250 l.

Seed:

Museum blocks:

Lucerne: Vertus, sown at 28 kg.

All-grass ley: Meadow fescue S215 (17 kg),

Climax timothy (17 kg), mixture sown at 34 kg.

Clover-grass ley: Meadow fescue S215 (15 kg),

Climax timothy (18 kg) and New Zealand white clover (4 kg), mixture sown at 37 kg.

1-year seeds hay: RVP Italian ryegrass, sown at 25 kg.

Potatoes: Pentland Crown.

82/R/RN/1 and 82/R/RN/2

New sequence blocks:

Beans: Minden, sown at 210 kg.

W. wheat: Flanders, sown at 200 kg.

Cultivations, etc.:-

Museum blocks:

1st Treatment crops:

Lucerne: Glyphosate applied: 16 Sept, 1981. Ploughed: 17 Nov.

Spring-tine cultivated: 14 Apr, 1982. PK applied: 26 Apr.

Rotary harrowed, rolled, seed sown: 27 Apr. Cut: 15 July, 25 Oct.

All-grass ley and clover-grass ley: Glyphosate applied: 16 Sept,

1981 (Highfield only), 23 Sept (Fosters only). Ploughed:

17 Nov. Spring-tine cultivated: 14 Apr, 1982. PK applied:

26 Apr. N applied (to all-grass ley only): 26 Apr. Rotary

harrowed, rolled, seed sown: 27 Apr. Topped: 17 June. Cut:

13 July. NK applied, to all-grass ley only: 19 July. Cut: 25 Oct.

Hay: Glyphosate applied: 23 Sept, 1981. Ploughed: 17 Nov.

Spring-tine cultivated: 14 Apr, 1982. PK and N applied:

26 Apr. Rotary harrowed, rolled, seed sown: 27 Apr. 1st cut:

13 July. NK applied: 19 July. 2nd cut: 25 Oct.

1st Test crop:

Potatoes: Glyphosate applied to ARABLE plots: 16 Sept, 1981

(Highfield), 23 Sept (Fosters). These plots ploughed: 17 Nov.

Glyphosate applied to remaining plots: 1 Dec. These plots

ploughed: 1 Feb, 1982. Spring-tine cultivated: 14 Apr. PK and

N applied, spike rotary cultivated: 21 Apr. Planted: 21 Apr

(Fosters), 22 Apr (Highfield). Rotary ridged: 8 May (Fosters),

10 May (Highfield). Linuron and paraquat applied: 17 May.

Mancozeb with pirimicarb applied: 14 June. Alloxym-sodium

applied: 15 June. Mancozeb with pirimicarb applied: 30 June.

Mancozeb applied: 12 July. Ofurace and maneb with pirimicarb

applied: 26 July. Ofurace and maneb applied: 9 Aug. Mancozeb

applied: 25 Aug. Haulm mechanically destroyed: 9 Sept. BOV

applied: 22 Sept. Lifted: 1 Oct.

Reseeded grass and old grass: PK applied: 2 Feb, 1982 (Fosters),

3 Feb (Highfield). NK applied to all-grass half-plots: 23 Mar,

7 June, 19 July. Cut: 1 June, 13 July, 25 Oct.

New sequence blocks:

3rd Treatment crops:

Lucerne: PK applied: 2 Feb, 1982. Cut: 1 June, 14 July.

Clover-grass ley: PK applied: 2 Feb, 1982. NK applied: 23 Mar.

Cut: 1 June, 14 July.

Ryegrass: PK applied: 3 Feb, 1982. NK applied: 23 Mar, 7 June.

Cut: 1 June, 15 July.

W. wheat: Ploughed: 9 Oct, 1981. Rotary harrowed: 16 Oct. Seed

sown: 17 Oct. Weedkillers applied: 14 Apr, 1982. N applied:

16 Apr. Combine harvested: 11 Aug (Fosters), 19 Aug

(Highfield).

S. beans: Chisel ploughed: 9 Oct, 1981. Rotary harrowed, phorate

applied and seed sown: 24 Mar, 1982. Weedkillers applied:

27 Mar. Combine harvested: 3 Sept (Fosters), 8 Sept

(Highfield).

82/R/RN/1 and 82/R/RN/2

1st Test crop:

W. wheat:

After lucerne, clover-grass ley and ryegrass (except GRASS/OG): Ploughed: 20 Aug, 1981. Disc harrowed: 24 Aug. Rotary harrowed: 16 Oct. Seed sown: 17 Oct.

After GRASS/OG: Glyphosate applied: 27 Aug, 1981. Seed direct drilled: 21 Oct.

After w. wheat and s. beans: Ploughed: 25 Sept, 1981. Rotary harrowed: 16 Oct. Seed sown: 17 Oct.

Subsequent operations to all sequences: Mecoprop, bromoxynil and ioxynil with isoproturon applied: 14 Apr, 1982. N applied: 16 Apr. Combine harvested: 11 Aug (Fosters), 19 Aug (Highfield).

2nd and 3rd Test crops:

W. wheat:

All sequences except GRASS/OG:

Glyphosate applied: 16 Sept, 1981 (Highfield), 23 Sept (Fosters). Ploughed: 25 Sept (Highfield), 9 Oct (Fosters). Rotary harrowed: 16 Oct. Seed sown: 17 Oct.

GRASS/OG only: Glyphosate applied: 16 Sept, 1981. Seed direct drilled and harrowed in: 21 Oct.

Subsequent operations to all sequences:

Mecoprop, bromoxynil and ioxynil with isoproturon applied: 14 Apr, 1982. N applied: 16 Apr. Combine harvested: 11 Aug (Fosters), 19 Aug (Highfield).

82/R/RN/1 AND 82/R/RN/2

MUSEUM BLOCKS

DRY MATTER: TONNES/HECTARE

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

	HIGHFIELD	FOSTERS
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CLOVER-GRASS LEY

TOTAL OF 2 CUTS	5.73	4.38
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MEAN DM%	16.1	13.6
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ALL GRASS LEY

TOTAL OF 2 CUTS	7.52	5.74
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MEAN DM%	17.7	17.1
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LUCERNE

TOTAL OF 3 CUTS	3.13	5.33
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MEAN DM%	22.1	22.5
----------	------	------

HAY

TOTAL OF 2 CUTS	7.27	6.41
-----------------	------	------

MEAN DM%	17.0	15.8
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OLD GRASS

TOTAL OF 3 CUTS

	C	HIGHFIELD	N
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34TH EXPTL YEAR

BLOCKS 1 & 4	6.38		9.91
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BLOCK 2	5.48		9.45
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MEAN DM%	20.7		20.6
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RESEEDED GRASS

TOTAL OF 3 CUTS

		HIGHFIELD		FOSTERS		
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	BLOCKS	C	N	BLOCKS	C	N
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34TH EXPTL						
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YEAR	1 & 4	6.03	10.04	1 & 3	5.83	10.12
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34TH EXPTL	2 & 3	6.86	11.40	2 & 4	6.52	9.64
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YEAR						
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(SEEDED 1949						
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RESEDED 1973)						
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MEAN DM%		20.3	21.9		18.8	20.8
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82/R/RN/1 AND 82/R/RN/2

POTATOES 1ST TEST CROP

TOTAL TUBERS TONNES/HECTARE

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

SEQUENCE	LUCERNE	CLOGRA	GRASS	ARABLE	MEAN
FYMRES70					
NONE	56.3	53.1	51.7	42.2	50.8
FYM	54.9	47.9	47.8	44.3	48.8
MEAN	55.6	50.5	49.8	43.3	49.8
N	0	80	160	240	MEAN
FYMRES70					
NONE	41.4	50.7	56.0	55.3	50.8
FYM	38.2	47.6	55.9	53.3	48.8
MEAN	39.8	49.1	55.9	54.3	49.8
N	0	80	160	240	MEAN
SEQUENCE					
LUCERNE	47.8	57.1	63.6	54.1	55.6
CLOGRA	43.2	48.7	56.2	53.8	50.5
GRASS	37.9	49.4	53.5	58.4	49.8
ARABLE	30.3	41.3	50.5	51.0	43.3
MEAN	39.8	49.1	55.9	54.3	49.8
N	0	80	160	240	
FYMRES70	SEQUENCE				
NONE	LUCERNE	49.8	58.9	62.1	54.5
	CLOGRA	46.7	50.6	60.4	54.6
	GRASS	40.1	49.1	55.3	62.4
	ARABLE	28.8	44.2	45.9	50.0
FYM	LUCERNE	45.7	55.3	65.0	53.8
	CLOGRA	39.7	46.9	52.0	53.1
	GRASS	35.6	49.8	51.6	54.4
	ARABLE	31.8	38.4	55.0	52.0

82/R/RN/1 HIGHFIELD

POTATOES 1ST TEST CROP

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

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

SEQUENCE	LUCERNE	CLOGRA	GRASS	ARABLE	MEAN
FYMRES70					
NONE	96.3	96.8	95.2	93.6	95.5
FYM	96.3	95.5	95.8	92.9	95.1
MEAN	96.3	96.2	95.5	93.2	95.3
N	0	80	160	240	MEAN
FYMRES70					
NONE	94.2	95.4	95.9	96.4	95.5
FYM	94.2	95.1	95.8	95.5	95.1
MEAN	94.2	95.2	95.8	95.9	95.3
N	0	80	160	240	MEAN
SEQUENCE					
LUCERNE	95.4	96.6	96.8	96.2	96.3
CLOGRA	95.8	96.2	96.6	96.0	96.2
GRASS	93.8	95.8	95.8	96.8	95.5
ARABLE	91.6	92.4	94.2	94.8	93.2
MEAN	94.2	95.2	95.8	95.9	95.3
N	0	80	160	240	
FYMRES70	SEQUENCE				
NONE	LUCERNE	95.7	96.1	97.2	96.0
	CLOGRA	96.7	96.0	97.2	97.3
	GRASS	93.3	95.6	95.6	96.4
	ARABLE	90.9	93.9	93.5	95.8
FYM	LUCERNE	95.1	97.1	96.5	96.4
	CLOGRA	95.0	96.4	95.9	94.6
	GRASS	94.3	96.0	95.9	97.1
	ARABLE	92.3	90.8	94.8	93.7

PLOT AREA HARVESTED 0.00373

82/R/RN/2 FOSTERS

POTATOES 1ST TEST CROP

TOTAL TUBERS TONNES/HECTARE

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

SEQUENCE	LUCERNE	CLOGRA	GRASS	ARABLE	MEAN
FYMRES70					
NONE	50.0	45.6	42.5	40.0	44.5
FYM	51.0	45.9	46.2	39.7	45.7
MEAN	50.5	45.7	44.3	39.8	45.1
N	0	80	160	240	MEAN
FYMRES70					
NONE	32.5	43.5	49.4	52.6	44.5
FYM	35.7	44.0	50.6	52.5	45.7
MEAN	34.1	43.8	50.0	52.5	45.1
N	0	80	160	240	MEAN
SEQUENCE					
LUCERNE	44.2	51.6	52.3	53.8	50.5
CLOGRA	34.6	43.7	51.6	53.0	45.7
GRASS	33.2	42.0	50.1	52.0	44.3
ARABLE	24.4	37.8	46.0	51.2	39.8
MEAN	34.1	43.8	50.0	52.5	45.1
N	0	80	160	240	
FYMRES70	SEQUENCE				
NONE	LUCERNE	41.4	53.2	49.2	56.0
	CLOGRA	31.0	46.1	48.2	57.1
	GRASS	33.6	37.8	50.3	48.3
	ARABLE	23.9	37.1	49.9	49.0
FYM	LUCERNE	46.9	50.0	55.3	51.6
	CLOGRA	38.1	41.3	55.1	49.0
	GRASS	32.8	46.3	50.0	55.8
	ARABLE	24.9	38.5	42.0	53.4

82/R/RN/2 FOSTERS

POTATOES 1ST TEST CROP

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

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

SEQUENCE	LUCERNE	CLOGRA	GRASS	ARABLE	MEAN
FYMRES70					
NONE	94.5	93.5	94.2	93.0	93.8
FYM	95.0	94.6	95.2	92.8	94.4
MEAN	94.8	94.1	94.7	92.9	94.1
N	0	80	160	240	MEAN
FYMRES70					
NONE	91.4	93.4	95.2	95.1	93.8
FYM	93.2	93.7	95.0	95.8	94.4
MEAN	92.3	93.6	95.1	95.5	94.1
N	0	80	160	240	MEAN
SEQUENCE					
LUCERNE	93.2	94.7	95.0	96.1	94.8
CLOGRA	92.5	94.0	95.2	94.6	94.1
GRASS	92.6	94.6	95.9	95.7	94.7
ARABLE	90.8	91.0	94.2	95.5	92.9
MEAN	92.3	93.6	95.1	95.5	94.1
N	0	80	160	240	
FYMRES70	SEQUENCE				
NONE	LUCERNE	92.1	95.3	94.0	96.5
	CLOGRA	90.2	94.2	94.4	95.2
	GRASS	92.2	94.7	96.2	93.6
	ARABLE	91.2	89.4	96.0	95.2
FYM	LUCERNE	94.3	94.1	96.0	95.7
	CLOGRA	94.8	93.8	96.0	93.9
	GRASS	93.0	94.4	95.5	97.8
	ARABLE	90.5	92.6	92.4	95.7

PLOT AREA HARVESTED 0.00373

82/R/RN/1 HIGHFIELD

WHEAT 1ST TEST CROP

GRAIN TONNES/HECTARE

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

	N	0	50	100	150	MEAN
SEQUENCE						
LUCERNE		6.63	7.52	7.57	7.68	7.35
CLOGRA		3.88	6.11	5.85	6.15	5.50
GRASS/G		4.52	6.12	6.87	6.64	6.04
ARABLE/A		5.88	6.98	7.84	7.73	7.11
ARABLE/R		4.54	5.86	6.76	7.09	6.06
GRASS/OG		3.25	5.57	6.47	6.89	5.55
MEAN		4.78	6.36	6.89	7.03	6.27

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.231	0.145	0.385
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: SEQUENCE			0.356

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

STRATUM	DF	SE	CV%
BLOCK.WP	5	0.231	3.7
BLOCK.WP.SP	18	0.356	5.7

GRAIN MEAN DM% 82.1

SUB PLOT AREA HARVESTED 0.00322

82/R/RN/1 HIGHFIELD

WHEAT 2ND TEST CROP

GRAIN TONNES/HECTARE

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

	N	0	50	100	150	MEAN
SEQUENCE						
LUCERNE		4.15	6.49	6.80	6.49	5.98
CLOGRA		4.02	6.11	6.64	6.94	5.93
GRASS/G		3.78	5.90	6.74	6.36	5.69
ARABLE/A		3.80	5.93	6.98	7.23	5.99
ARABLE/R		4.06	5.11	5.83	6.53	5.38
GRASS/OG		4.39	5.41	6.09	5.60	5.37
MEAN		4.03	5.82	6.51	6.53	5.72

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.264	0.170	0.447
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
SEQUENCE			0.417

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

STRATUM	DF	SE	CV%
BLOCK.WP	5	0.264	4.6
BLOCK.WP.SP	18	0.417	7.3

GRAIN MEAN DM% 81.6

SUB PLOT AREA HARVESTED 0.00322

82/R/RN/1 HIGHFIELD

WHEAT 3RD TEST CROP

GRAIN TONNES/HECTARE

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

SEQUENCE	N	0	50	100	150	MEAN
LUCERNE		3.01	4.85	5.96	6.53	5.09
CLOGRA		3.27	5.31	6.04	6.90	5.38
GRASS/G		4.15	5.71	6.70	6.94	5.88
ARABLE/A		3.33	5.32	6.30	7.12	5.52
ARABLE/R		4.01	5.46	5.92	6.71	5.52
GRASS/OG		4.16	4.76	6.18	5.97	5.27
MEAN		3.66	5.24	6.18	6.70	5.44

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.412	0.171	0.549
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: SEQUENCE			0.418

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

STRATUM	DF	SE	CV%
BLOCK.WP	5	0.412	7.6
BLOCK.WP.SP	18	0.418	7.7

GRAIN MEAN DM% 81.6

SUB PLOT AREA HARVESTED 0.00322

82/R/RN/2 FOSTERS

WHEAT 1ST TEST CROP

GRAIN TONNES/HECTARE

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

	N	0	50	100	150	MEAN
SEQUENCE						
LUCERNE		6.47	7.90	8.07	8.98	7.85
CLOGRA		4.14	6.08	6.61	7.55	6.10
GRASS/G		4.09	5.82	6.95	7.58	6.11
ARABLE/A		4.98	6.58	7.06	7.41	6.51
ARABLE/R		3.26	5.40	5.95	6.83	5.36
MEAN		4.59	6.36	6.93	7.67	6.39

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.169	0.157	0.348
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: SEQUENCE			0.351

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.169	2.6
BLOCK.WP.SP	15	0.351	5.5

GRAIN MEAN DM% 84.7

SUB PLOT AREA HARVESTED 0.00322

82/R/RN/2 FOSTERS

WHEAT 2ND TEST CROP

GRAIN TONNES/HECTARE

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

	N	0	50	100	150	MEAN
SEQUENCE						
LUCERNE		4.44	5.88	7.26	7.63	6.30
CLOGRA		3.73	5.99	7.03	7.41	6.04
GRASS/G		4.48	5.70	6.50	7.61	6.07
ARABLE/A		3.15	4.60	5.32	6.34	4.85
ARABLE/R		4.24	4.90	4.77	5.56	4.87
MEAN		4.01	5.41	6.18	6.91	5.63

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.427	0.135	0.500
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
SEQUENCE			0.301

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.427	7.6
BLOCK.WP.SP	15	0.301	5.4

GRAIN MEAN DM% 85.7

SUB PLOT AREA HARVESTED 0.00322

82/R/RN/2 FOSTERS

WHEAT 3RD TEST CROP

GRAIN TONNES/HECTARE

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

	N	0	50	100	150	MEAN
SEQUENCE						
LUCERNE		2.60	4.22	5.56	6.02	4.60
CLOGRA		3.61	5.08	6.40	6.99	5.52
GRASS/G		3.54	5.15	5.96	7.05	5.43
ARABLE/A		2.52	3.50	4.99	5.73	4.19
ARABLE/R		2.82	3.14	4.78	5.47	4.05
MEAN		3.02	4.22	5.54	6.25	4.76

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

TABLE	SEQUENCE	N	SEQUENCE N
SED	0.195	0.106	0.282
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: SEQUENCE			0.236

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.195	4.1
BLOCK.WP.SP	15	0.236	5.0

GRAIN MEAN DM% 84.9

SUB PLOT AREA HARVESTED 0.00322