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Yields of the Field Experiments 2001

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Yields of the
Classical
and other
Long-term Experiments
2001

MACR - Rothamsted

01/W/RN/3 - Woburn Ley Arable

Rothamsted Research

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01/W/RN/3

LEY/ARABLE

Object: To compare the effects on soil fertility of rotations with or without leys - Woburn, Stackyard D.

Sponsor: P.R. Poulton.

The 64th year, leys, w. beans, w. wheat, w. rye, forage maize.

For previous years see 'Details' 1967 & 1973 and 74-00/W/RN/3.

Design: 5 series of 8 plots, split for treatments other than rotations.

Whole plot dimensions: 8.53 x 40.7.

Treatments: All phases of four five-course rotations were originally present:

ROTATION

LEY	Clover/grass ley:	L, L, L, P, W
CLO	All legume ley:	SA, SA, SA, P, W until 1971 then CL, CL, CL, P, W
A	Arable with roots:	P, R, C, P, W until 1971 then P, B, B, P, W
A H	Arable with hay:	P, R, H, P, W until 1971 then P, B, H, P, W

P = potatoes, R = w. rye, C = carrots, W = w. wheat, B = s. barley,
H = hay, L = clover/grass ley, SA = sainfoin ley, CL = red clover ley

Rotations themselves followed different cycles:

On four plots in each block the rotations were repeated

On four plots in each block arable rotations alternated each five years with ley rotations

From 1976 all the rotations were changed on all phases except for the first and second test crops in 1976:

LN 3	(Previous LEY) LN1, LN2, LN3, W, R
LC 3	(Previous CLO) LC1, LC2, LC3, W, R
AF	(Previous A) F, F, BE, W, R
AB	(Previous A H) B, B, BE, W, R

From 1998 rotations AF and AB are replaced by AM and ABe respectively. Phased in at the beginning of each treatment crop sequence.

AM	R, BE, M, W, R
ABe	R, M, BE, W, R

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ROTATION (continued)

LN1 to LN3 = three year grass ley with N, 1st year to 3rd year,
LC = clover/grass ley, no N, BE = beans (s. oats until 1980), F = fallow,
M = forage maize

Plots hitherto in alternating rotations were changed to
test eight-year leys and two test crops:

LLN LLN1, LLN2, LLN3, LLN4, LLN5, LLN6, LLN7, LLN8, W, R
LLC LLC1, LLC2, LLC3, LLC4, LLC5, LLC6, LLC7, LLC8, W, R

LLN1 to LLN8 = eight year grass ley with nitrogen, first year to eighth
year, similarly for LLC - clover/grass ley, no nitrogen

The new scheme started by sowing these new leys in spring 1976 on four
phases and in spring 1977 on the fifth phase (2nd test crop in 1976).

In 1992 w. rye (R) replaced s. barley (B) as the second test crop.

Yields are taken from the leys, arable treatment crops and the test crops.

Treatments to first test crop w. wheat, all combinations of:

Whole plots:

1. ROTATION Rotations before wheat:

LLN 8
LN 3
LLC 8
LC 3
AM
ABe

1/2 plots:

2. FYMRES66 Farmyard manure residues, last applied 1966:

NONE
FYM 38 t on each occasion

1/8 plots:

3. N Nitrogen fertilizer in spring 2001 (kg N) as 27% N for 1st
split dressing, as 33.5% N for second and single
dressings:

0
70)as a 40 + 30)split dressings
140)single OR 40 + 100)late Feb/early Mar
210)dressing 40 + 170)and GS31 or mid-Apr

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Treatments to second test crop w. rye, all combinations of:

Whole plots:

1. **ROTATION** Rotations before first test crop:

LLN 8
LN 3
LLC 8
LC 3
AF
AB

1/2 plots:

2. **FYMRES65** Farmyard manure residues, last applied 1965:

NONE
FYM 38 t on each occasion

1/8 plots:

3. **N** Nitrogen fertilizer in spring 2001 (kg N) as 33.5% N:

0
40
80
120

Treatments to leys:

FYM RES Farmyard manure residues:

NONE
FYM 38 t on each occasion, last applied 1964 to 1st and 6th year leys, 1963 to 2nd and 7th year leys, 1967 to 3rd and 8th year leys, 1966 to 4th year leys, 1965 to 5th year leys.

NOTE: Corrective K dressings (kg K₂O) as muriate of potash, applied to first test crop w. wheat and long-term leys in the wheat block, applied 5th October 2000.

Continuous rotations before wheat	No FYM half plots	FYM half plots
AM	260	260
ABe	280	260

None to other plots.

NOTE: Corrective K dressings (kg K₂O) as muriate of potash should have been applied to first test crop w. wheat and long-term leys in the wheat block for 2000. This was omitted in error and was applied 4th May 2001 to the second test crop, w. rye.

Continuous rotations before wheat	No FYM half plots	FYM half plots
AF	(265)	(245)
AB	(245)	(360)

None to other plots.

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Experimental diary:

Grass ley and clover/grass ley, 1st year (**ROTATION** LN1, LC1, LLN1 and LLC1)

01-Sep-00 : T : : Potassium sulphate at 140 kg, .
01-Sep-00 : T : : Triple superphosphate at 213 kg.
03-Sep-00 : T : : Azural at 4.0 l in 200 l, stubbles.
25-Sep-00 : T : : Ploughed, rotary harrowed, drilled grass/clover
mix and grass mix, at 30 kg with the 4.0 m
Accord Drill, rolled, to LC1, LN1, LLC1, LLN1
plots.
25-Sep-00 : T : : 33.5% N at 149 kg, LN1, LLN1 plots.
25-Sep-00 : T : : 33.5% N at 74 kg, LC1, LLC1 plots.
29-Mar-01 : T : : 33.5% N at 224 kg, grass leys.
19-Jun-01 : T : : First cut yield strips, weighed and sampled, mowed
discards.
20-Jun-01 : T : : Tedded hay.
22-Jun-01 : T : : Tedded hay.
23-Jun-01 : T : : Tedded hay.
24-Jun-01 : T : : Rowed up, round baled and carted hay.
04-Jul-01 : T : : Muriate of potash at 83 kg, grass and grass clover
leys.
: T : : 33.5% N at 224 kg, grass leys.
06-Jul-01 : T : : Topped.
...14-Nov-01 : T : : Second cut yield strips, weighed and sampled,
mowed discards

Grass leys 2nd to 8th year (**ROTATION** LN2-3 and LLN2-8)

29-Mar-01 : T : : Muriate of potash at 140 kg, all 2 - 8 year leys.
: T : : Sulphate of potash at 140 kg, all 2 - 8 year leys.
: T : : Triple superphosphate at 213 kg, all 2 - 8 year
leys.
: T : : 33.5% N at 224 kg.
19-Jun-01 : T : : First cut yield strips, weighed and sampled, mowed
discards.
20-Jun-01 : T : : Tedded hay.
22-Jun-01 : T : : Tedded hay.
23-Jun-01 : T : : Tedded hay.
24-Jun-01 : T : : Rowed up, round baled and carted hay.
04-Jul-01 : T : : Muriate of potash at 83 kg, all 2-8 year leys.
: T : : 33.5% N at 224 kg.
06-Jul-01 : T : : Topped.
10-Sep-01 : T : : Azural at 4.0 l in 200 l, ley plots 65, 66, 71,
72, 75, 76, 79, & 80.
17-Sep-01 : T : : Second cut, sampled and weighed yield strips and
discards, LNf and LLN8 only, baled and removed
grass.
14-Nov-01 : T : : Second cut remaining grass strips for yield,
weighed and sampled.
: T : : Mowed discard grass.

Clover/grass leys 2nd to 8th year (**ROTATION** LC2-3 and LLC2-8)

29-Mar-01 : T : : Muriate of potash at 140 kg, all 2 - 8 year leys.
: T : : Sulphate of potash at 140 kg, all 2 - 8 year leys.
: T : : Triple superphosphate at 213 kg, all 2 - 8 year
leys.
19-Jun-01 : T : : First cut yield strips, weighed and sampled, mowed
discards.
20-Jun-01 : T : : Tedded hay.
22-Jun-01 : T : : Tedded hay.
23-Jun-01 : T : : Tedded hay.

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Experimental diary:

Clover/grass leys 2nd to 8th year (**ROTATION** LC2-3 and LLC2-8), continued.

- 24-Jun-01 : T : : Rowed up, round baled and carted hay.
- 04-Jul-01 : T : : Muriate of potash at 83 kg, all 2-8 year leys.
- 06-Jul-01 : T : : Topped.
- 10-Sep-01 : T : : Azural at 4.0 l in 200 l, ley plots 65, 66, 71, 72, 75, 76, 79, & 80.
- 17-Sep-01 : T : : Second cut, sampled and weighed yield strips and discards, LC3 and LLC8 only, baled and removed grass.
- 14-Nov-01 : T : : Second cut remaining grass strips for yield, weighed and sampled.
- : T : : Mowed discard grass.

W. beans, 2nd and 3rd treatment crop (**ROTATION** AM and ABe)

- 01-Sep-00 : T : : Potassium sulphate at 140 kg, by hand, plots 63 & 64.
- 01-Sep-00 : T : : Triple superphosphate at 127 kg, by hand, plots 63 & 64.
- 05-Oct-00 : T : : Potassium sulphate at 140 kg, by hand, plots 67 & 68.
- 05-Oct-00 : T : : Triple superphosphate at 127 kg, by hand, plots 67 & 68.
- 13-Nov-00 : T : : Broadcast Clipper, recleaned, at 30 seeds/m² by hand, ploughed.
- 15-Dec-00 : B : : Alpha Simazine 50 SC at 2.0 l in 200 l.
- 26-May-01 : T : : Bravo 500 at 1.5 l in 200 l.
- 20-Aug-01 : T : : Combine harvested, plots for yield, swathed straw.
- 29-Aug-01 : T : : Baled and carted straw.

Forage maize, 2nd treatment crop (**ROTATION** ABe)

- 11-May-01 : T : : Flexitined.
- 22-May-01 : T : : Rotary harrowed, drilled Orient, tr. Mesuro1, at 10 seeds/m² with the Nodet drill.
- 06-Jun-01 : T : : 33.5% N at 298 kg.
- 05-Jul-01 : T : : Barclay Mutiny at 2.4 l in 200 l.
- 25-Sep-01 : T : : Cut sample areas, weighed and sampled.
- 26-Sep-01 : T : : Cut remaining maize.

W. wheat, 1st test crop (W)

- 01-Sep-00 : T : : Potassium sulphate at 140 kg, excluding plots 39 & 40, following maize.
- 01-Sep-00 : T : : Triple superphosphate at 127 kg, excluding plots 39 & 40, following maize.
- 03-Sep-00 : T : : Azural at 4.0 l in 200 l, stubbles and old grass plots.
- 05-Oct-00 : T : : Muriate of potash (corrective K) at 260 kg K₂O, by hand, plots 39, 40 & 46 and at 280 kg K₂O plot 45.
- 05-Oct-00 : T : : Potassium sulphate at 140 kg, by hand, plots 39, 40.
- 05-Oct-00 : T : : Triple superphosphate at 127 kg, by hand, plots 39, 40.
- 05-Oct-00 : T : : Ploughed.
- 14-Oct-00 : T : : Rotary harrowed, drilled Claire, tr. Sibutol at 350 seeds/m² with the 4.0 m Accord drill.
- 18-Jan-01 : T : : tm)Stomp 400 SC at 2.0 l in 200 l.
- : T : : tm)Tolkan liquid at 1.0 l in 200 l.
- 16-Mar-01 : T : : First N applied to split N sub-plots.

01/W/RN/3

Experimental diary:

- W. wheat, 1st test crop (W), continued.
- 08-May-01 : T : : Harmony M at 75 g in 200 l.
 - : T : : tm)Opus at 0.5 l in 200 l.
 - : T : : tm)BASF 3C Chlormequat 720 at 2.0 l in 200 l.
 - 18-May-01 : T : : Second N to split N sub-plots and single dose to others.
 - 25-May-01 : T : : Opus at 0.75 l in 200 l.
 - 22-Aug-01 : T : : Combine harvested, plots for yield, and discards, and swathed straw
 - 23-Aug-01 : B : : Sampled, baled and weighed straw.
 - 29-Aug-01 : T : : Baled and carted straw.
- W. rye, 2nd test crop (R) and 1st treatment crop (**ROTATION** ABe and AM)
- 01-Sep-00 : T : : Potassium sulphate at 140 kg.
 - 01-Sep-00 : T : : Triple superphosphate at 127 kg.
 - 03-Sep-00 : T : : Azural at 4.0 l in 200 l, stubbles.
 - 25-Sep-00 : T : : Ploughed, (ABE)R and (AM)R plots and WR plots and rolled.
 - 14-Oct-00 : T : : Rotary harrowed, drilled Esprit/Nikita blend, tr. Baytan at 310 seeds/m² with the 4.0 m Accord drill.
 - 15-Dec-00 : T : : Lexus class at 60 g in 200 l.
 - 04-May-01 : T : : Muriate of potash (delayed corrective application for 2000), at 245 kg K₂O to plots 2 & 5, 165 kg K₂O to plot 6 and 360 kg K₂O to plot 1.
 - 08-May-01 : T : : tm)Opus at 0.5 l in 200 l.
 - : T : : tm)BASF 3C Chlormequat 720 at 2.0 l in 200 l.
 - 18-May-01 : T : : Test N applied to 2nd test crop. 33.5% N at 238 kg applied to treatment crop.
 - 25-May-01 : T : : Opus at 0.75 l in 200 l.
 - 22-Aug-01 : T : : Combine harvested, plots for yield, and discards and swathed straw.
 - 23-Aug-01 : B : : Sampled, baled and weighed straw
 - 29-Aug-01 : T : : Baled and carted straw, wheat.

Note: Poor weather prevented timely applications of N.
Samples of grain, straw and forage maize were taken. For chemical analysis.

01/W/RN/3

LEYS

1ST CUT (19/6/01) DRY MATTER TONNES/HECTARE

***** Tables of means *****

FYM RES	NONE	FYM	Mean
LEY			
LC1	0.68	0.82	0.75
LC2	5.99	6.31	6.15
LC3	7.23	7.08	7.15
LN1	3.51	3.68	3.60
LN2	7.66	8.11	7.89
LN3	6.67	7.23	6.95
LLC1	1.29	1.13	1.21
LLC2	6.39	7.16	6.78
LLC3	7.48	7.00	7.24
LLC4	5.71	4.40	5.05
LLC5	4.39	3.40	3.90
LLC6	3.62	4.21	3.91
LLC7	6.47	7.27	6.87
LLC8	5.18	4.35	4.76
LLN1	3.60	3.89	3.75
LLN2	7.81	7.72	7.76
LLN3	7.51	7.15	7.33
LLN4	7.76	7.46	7.61
LLN5	7.15	7.33	7.24
LLN6	6.77	7.73	7.25
LLN7	7.32	7.07	7.20
LLN8	7.25	7.68	7.47
Mean	5.79	5.83	5.81

1ST CUT MEAN DM% 28.5

01/W/RN/3

LEYS

2ND CUT (17/09/01 OR 14/11/01) DRY MATTER TONNES/HECTARE

***** Tables of means *****

FYM RES	NONE	FYM	Mean
LEY			
LC1	0.43	0.60	0.51
LC2	2.33	2.15	2.24
LC3	2.17	2.38	2.27
LN1	2.57	2.52	2.55
LN2	3.06	3.26	3.16
LN3	3.02	3.28	3.15
LLC1	0.61	0.34	0.47
LLC2	2.63	3.10	2.87
LLC3	1.78	2.37	2.07
LLC4	1.56	1.64	1.60
LLC5	1.00	1.06	1.03
LLC6	0.72	1.28	1.00
LLC7	1.53	1.43	1.48
LLC8	2.67	1.00	1.83
LLN1	1.81	1.53	1.67
LLN2	2.90	3.10	3.00
LLN3	2.68	2.77	2.73
LLN4	3.34	3.61	3.48
LLN5	2.42	2.39	2.40
LLN6	2.87	3.89	3.38
LLN7	3.86	4.06	3.96
LLN8	3.98	3.21	3.60
Mean	2.27	2.32	2.29

2ND CUT MEAN DM% 25.1

01/W/RN/3

LEYS

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

***** Tables of means *****

FYM RES	NONE	FYM	Mean
LEY			
LC1	1.10	1.42	1.26
LC2	8.32	8.46	8.39
LC3	9.40	9.45	9.42
LN1	6.09	6.21	6.15
LN2	10.72	11.37	11.05
LN3	9.69	10.51	10.10
LLC1	1.90	1.47	1.69
LLC2	9.03	10.26	9.64
LLC3	9.26	9.37	9.31
LLC4	7.26	6.04	6.65
LLC5	5.40	4.46	4.93
LLC6	4.34	5.49	4.92
LLC7	8.00	8.70	8.35
LLC8	7.84	5.34	6.59
LLN1	5.42	5.42	5.42
LLN2	10.71	10.82	10.76
LLN3	10.19	9.92	10.05
LLN4	11.11	11.07	11.09
LLN5	9.57	9.71	9.64
LLN6	9.64	11.62	10.63
LLN7	11.19	11.13	11.16
LLN8	11.24	10.89	11.06
Mean	8.06	8.14	8.10

TOTAL OF 2 CUTS MEAN DM% 26.8

PLOT AREA HARVESTED 0.00200

01/W/RN/3

MAIZE

WHOLE CROP (100% DRY MATTER) TONNES/HECTARE

***** Tables of means *****

FYMRES	NONE	FYM	Mean
	13.55	13.15	13.35

GRAIN MEAN DM% 27.4

PLOT AREA HARVESTED 0.00108

BEANS

GRAIN (85% DRY MATTER) TONNES/HECTARE

***** Tables of means *****

FYMRES	NONE	FYM	Mean
	3.54	3.86	3.70

GRAIN MEAN DM% 82.0

PLOT AREA HARVESTED 0.00472

W.RYE (IN NON TEST YEAR)

GRAIN (85% DRY MATTER) TONNES/HECTARE

***** Tables of means *****

FYMRES	NONE	FYM	Mean
	3.17	3.30	3.23

GRAIN MEAN DM% 82.9

PLOT AREA HARVESTED 0.00472

01/W/RN/3

W. WHEAT

GRAIN TONNES/HECTARE

***** Tables of means *****

NSPLITFYM	Nsplit(noFYM)		Nsingle(FYM)		Mean
ROTATION					
LLN 8		4.71		4.68	4.69
LN 3		5.82		4.44	5.13
LLC 8		5.34		4.18	4.76
LC 3		5.52		4.63	5.08
AM		2.34		2.23	2.28
ABe		3.42		2.51	2.97
Mean		4.52		3.78	4.15
N	-	1	2	3	Mean
ROTATION					
LLN 8	3.38	4.46	5.81	5.12	4.69
LN 3	3.73	4.83	6.03	5.93	5.13
LLC 8	3.19	4.28	5.45	6.11	4.76
LC 3	4.20	4.93	5.96	5.22	5.08
AM	1.16	2.44	2.72	2.82	2.28
ABe	1.93	2.50	4.11	3.32	2.97
Mean	2.93	3.91	5.01	4.75	4.15
N	-	1	2	3	Mean
NSPLITFYM					
Nsplit(noFYM)	2.99	4.55	5.52	5.04	4.52
Nsingle(FYM)	2.87	3.27	4.51	4.46	3.78
Mean	2.93	3.91	5.01	4.75	4.15
ROTATION	N	-	1	2	3
LLN 8	NSPLITFYM				
	Nsplit(noFYM)	3.35	5.17	5.58	4.72
	Nsingle(FYM)	3.41	3.75	6.04	5.51
LN 3	Nsplit(noFYM)	3.82	5.49	6.76	7.22
	Nsingle(FYM)	3.64	4.16	5.31	4.64
LLC 8	Nsplit(noFYM)	3.78	6.12	5.91	5.53
	Nsingle(FYM)	2.60	2.44	4.99	6.69
LC 3	Nsplit(noFYM)	3.92	5.27	7.22	5.68
	Nsingle(FYM)	4.48	4.58	4.70	4.76
AM	Nsplit(noFYM)	1.05	2.54	2.76	3.01
	Nsingle(FYM)	1.26	2.35	2.68	2.63
ABe	Nsplit(noFYM)	2.04	2.67	4.86	4.09
	Nsingle(FYM)	1.82	2.33	3.36	2.56

GRAIN MEAN DM% 85.8

01/W/RN/3

W. WHEAT

STRAW TONNES/HECTARE

***** Tables of means *****

NSPLITFYM ROTATION	Nsplit (noFYM)	Nsingle (FYM)			Mean
LLN 8	3.20	3.22			3.21
LN 3	2.84	2.13			2.49
LLC 8	2.32	1.59			1.96
LC 3	2.68	1.83			2.25
AM	0.80	0.68			0.74
ABe	1.41	0.88			1.15
Mean	2.21	1.72			1.97
N	-	1	2	3	Mean
ROTATION					
LLN 8	2.21	3.92	3.02	3.70	3.21
LN 3	2.04	2.29	2.86	2.75	2.49
LLC 8	1.67	2.01	1.94	2.21	1.96
LC 3	1.89	2.36	2.77	2.00	2.25
AM	0.56	0.82	0.75	0.82	0.74
ABe	0.88	1.03	1.61	1.06	1.15
Mean	1.54	2.07	2.16	2.09	1.97
N	-	1	2	3	Mean
NSPLITFYM					
Nsplit (noFYM)	1.58	2.43	2.51	2.31	2.21
Nsingle (FYM)	1.50	1.71	1.81	1.87	1.72
Mean	1.54	2.07	2.16	2.09	1.97
ROTATION	N	-	1	2	3
LLN 8	Nsplit (noFYM)	1.92	3.84	2.77	4.26
	Nsingle (FYM)	2.49	4.00	3.26	3.15
LN 3	Nsplit (noFYM)	2.09	2.93	3.32	3.03
	Nsingle (FYM)	1.99	1.66	2.40	2.47
LLC 8	Nsplit (noFYM)	1.98	3.00	2.23	2.09
	Nsingle (FYM)	1.36	1.02	1.66	2.34
LC 3	Nsplit (noFYM)	2.02	2.55	3.74	2.41
	Nsingle (FYM)	1.75	2.17	1.80	1.59
AM	Nsplit (noFYM)	0.62	0.88	0.79	0.89
	Nsingle (FYM)	0.50	0.77	0.71	0.75
ABe	Nsplit (noFYM)	0.85	1.40	2.17	1.21
	Nsingle (FYM)	0.91	0.67	1.05	0.90

STRAW MEAN DM% 82.8

PLOT AREA HARVESTED 0.00183

01/W/RN/3

W. RYE

GRAIN TONNES/HECTARE

***** Tables of means *****

FYMRES64	NONE	FYM	Mean
ROTATION			
LLN 8	4.39	4.73	4.56
LN 3	4.44	4.32	4.38
LLC 8	4.23	3.92	4.08
LC 3	4.44	3.72	4.08
AF	2.48	2.80	2.64
AB	3.96	3.74	3.85
Mean	3.99	3.87	3.93

	N	1	2	3	Mean
ROTATION					
LLN 8	3.46	4.21	5.21	5.36	4.56
LN 3	3.23	4.16	4.98	5.15	4.38
LLC 8	2.50	3.96	4.66	5.19	4.08
LC 3	3.58	3.81	4.45	4.48	4.08
AF	1.15	2.48	2.88	4.05	2.64
AB	2.74	3.64	4.34	4.67	3.85
Mean	2.78	3.71	4.42	4.82	3.93

	N	1	2	3	Mean
FYMRES64					
NONE	2.77	3.78	4.41	5.02	3.99
FYM	2.79	3.65	4.44	4.62	3.87
Mean	2.78	3.71	4.42	4.82	3.93

		N	1	2	3
ROTATION					
LLN 8	NONE	3.57	4.39	4.86	4.75
	FYM	3.34	4.03	5.57	5.97
LN 3	NONE	3.30	4.19	4.96	5.33
	FYM	3.17	4.13	5.00	4.97
LLC 8	NONE	2.27	4.25	4.79	5.61
	FYM	2.73	3.66	4.53	4.76
LC 3	NONE	3.72	3.80	4.72	5.53
	FYM	3.44	3.82	4.18	3.44
AF	NONE	0.99	2.44	2.44	4.07
	FYM	1.32	2.52	3.33	4.03
AB	NONE	2.77	3.58	4.68	4.81
	FYM	2.72	3.71	4.01	4.53

GRAIN MEAN DM% 84.9

01/W/RN/3

W. RYE

STRAW TONNES/HECTARE

***** Tables of means *****

FYMRES64	NONE	FYM	Mean
ROTATION			
LLN 8	2.84	2.92	2.88
LN 3	2.67	2.55	2.61
LLC 8	2.87	3.05	2.96
LC 3	2.94	2.43	2.68
AF	1.72	1.69	1.70
AB	2.75	2.53	2.64
Mean	2.63	2.53	2.58

N	-	1	2	3	Mean
ROTATION					
LLN 8	2.32	2.96	2.93	3.31	2.88
LN 3	2.11	2.03	3.31	2.97	2.61
LLC 8	2.03	3.04	2.90	3.87	2.96
LC 3	2.52	2.15	3.08	2.99	2.68
AF	0.81	1.92	1.82	2.27	1.70
AB	1.73	2.74	2.75	3.33	2.64
Mean	1.92	2.47	2.80	3.12	2.58

N	-	1	2	3	Mean
FYMRES64					
NONE	1.95	2.55	2.73	3.31	2.63
FYM	1.89	2.40	2.87	2.94	2.53
Mean	1.92	2.47	2.80	3.12	2.58

ROTATION	N	-	1	2	3
	FYMRES64				
LLN 8	NONE	2.74	3.30	2.28	3.05
	FYM	1.89	2.61	3.59	3.57
LN 3	NONE	2.21	1.86	3.45	3.15
	FYM	2.02	2.20	3.17	2.80
LLC 8	NONE	1.81	3.19	2.64	3.83
	FYM	2.25	2.90	3.16	3.91
LC 3	NONE	2.56	2.28	3.15	3.77
	FYM	2.48	2.02	3.00	2.22
AF	NONE	0.66	1.97	1.71	2.55
	FYM	0.96	1.87	1.94	1.99
AB	NONE	1.69	2.68	3.14	3.48
	FYM	1.76	2.79	2.36	3.19

STRAW MEAN DM% 83.4

PLOT AREA HARVESTED 0.00183