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# Collection of Plans for the Woburn Organic Manuring Experiment

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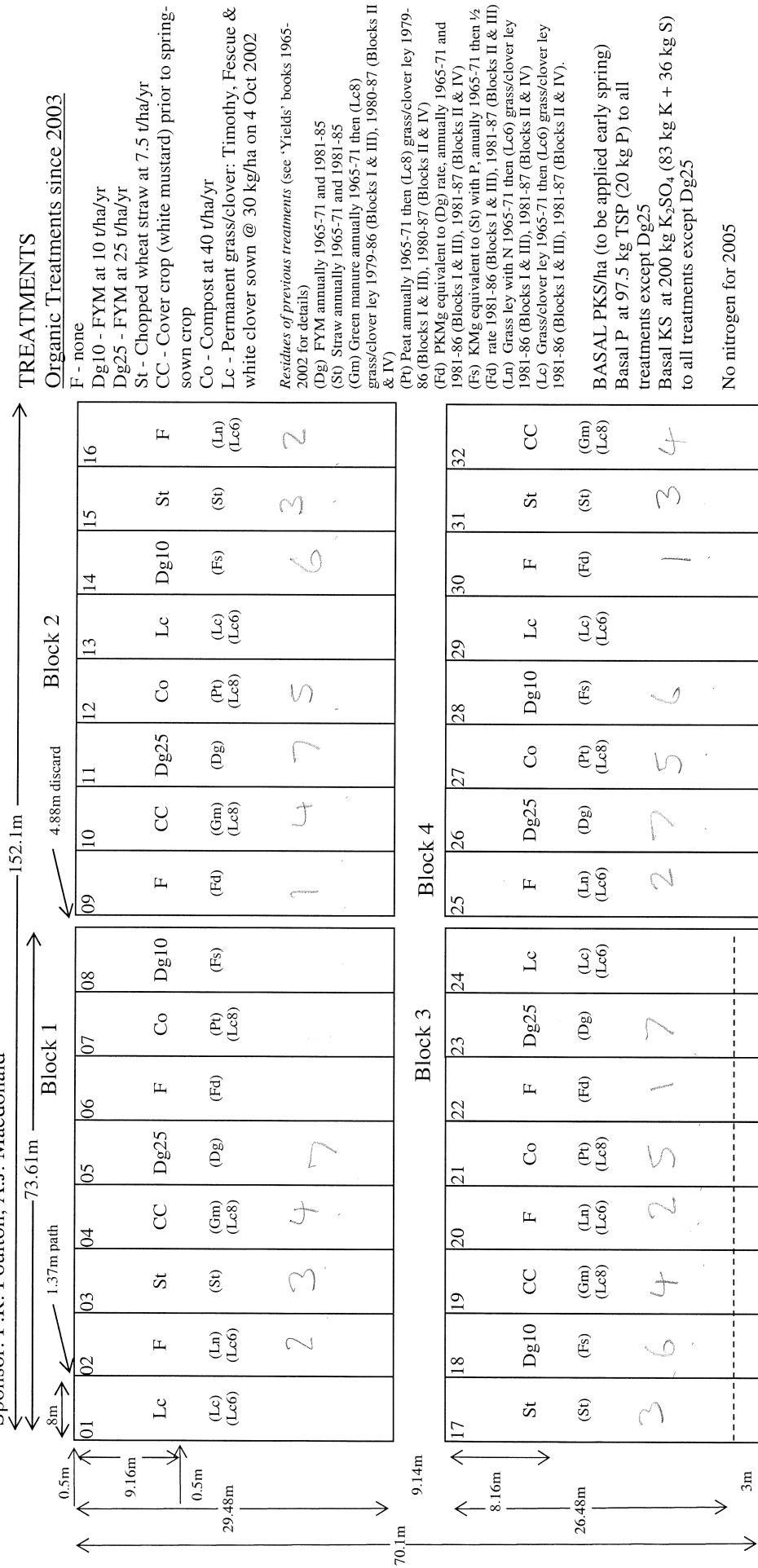


## W/RN/12 - Woburn Organic Manuring 2005 - 2009

### Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 2005 - 2009* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 40 - 46

Sponsor: P.R. Poulton, A.J. Macdonald



TREATMENTS

Organic Treatments since 2003

- F - none
  - Dg10 - FYM at 10 t/ha/yr
  - Dg25 - FYM at 25 t/ha/yr
  - St - Chopped wheat straw at 7.5 t/ha/yr
  - CC - Cover crop (white mustard) prior to spring-sown crop
  - Co - Compost at 4 t/ha/yr
  - Lc - Permanent grass/clover: Timothy, Fescue & white clover sown @ 30 kg/ha on 4 Oct 2002
- Residues of previous treatments (see 'Yields' books 1965-2002 for details)
- (Dg) FYM annually 1965-71 and 1981-85
  - (St) Straw annually 1965-71 and 1981-85
  - (Gm) Green manure annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)
  - (Pt) Peat annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)
  - (Fd) PKMg equivalent to (Dg) rate, annually 1965-71 and 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)
  - (Fs) KMg equivalent to (St) with P, annually 1965-71 then ½ (Lc) rate 1981-86 (Blocks I & III), 1981-87 (Blocks II & III)
  - (Ln) Grass ley with N 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)
  - (Lc) Grass/clover ley 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV).

BASAL PKS/ha (to be applied early spring)  
 Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25  
 Basal KS at 200 kg K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25

No nitrogen for 2005

ROTATION

W. rye, s. barley, w. beans, w. wheat, f. maize

// Straw yields NOT required; straw baled and removed

// From 1999 Block III has 3m discard at the NE end following severe erosion in winter 1998/99; sub-plots are therefore shorter

VARIETY  
W. beans

Stackyard B

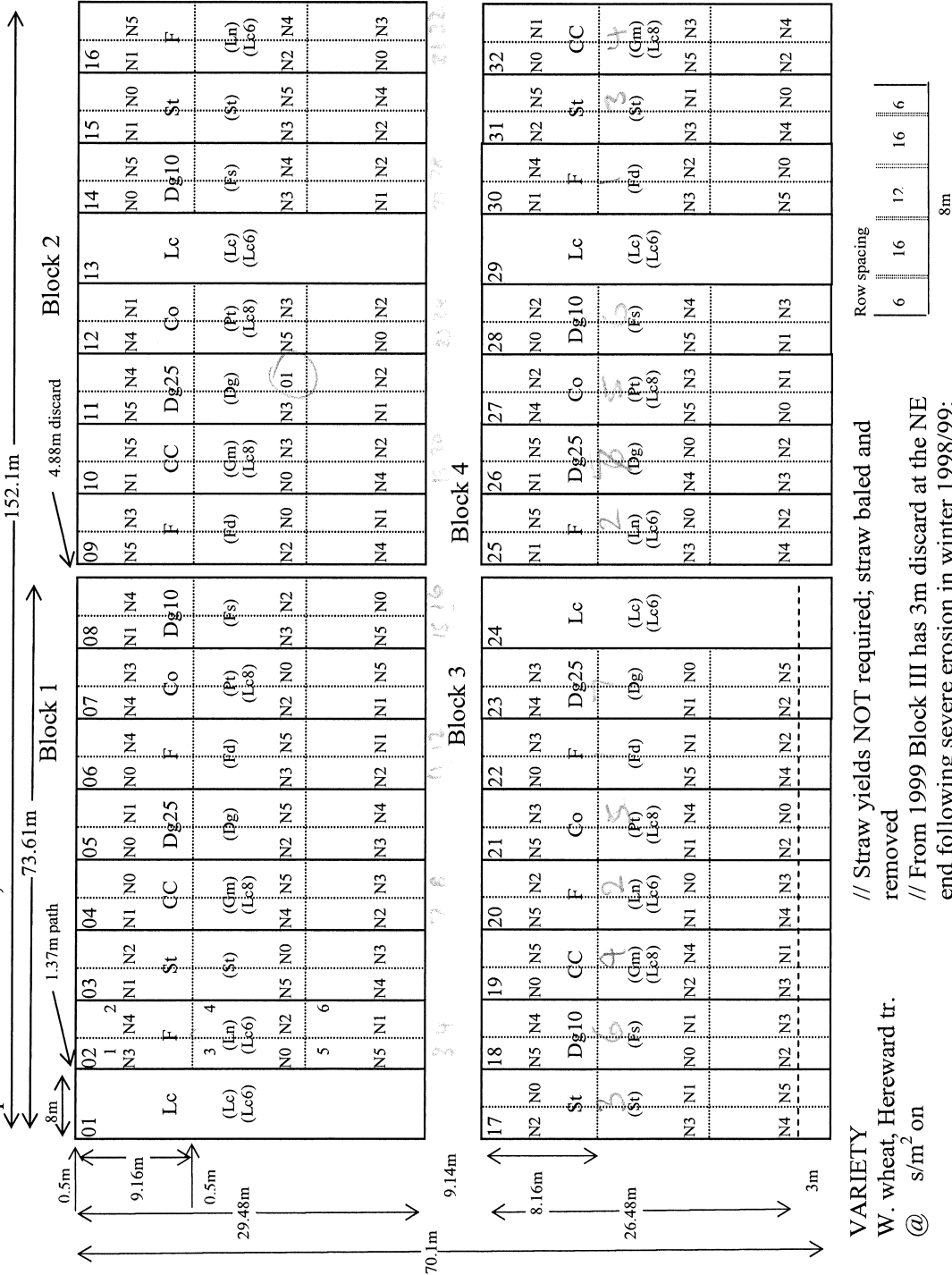


42<sup>nd</sup> year

W. wheat

06/W/RN/12 – Organic Manuring

Sponsor: P.R. Poulton, A.J. Macdonald



TREATMENTS

Organic Treatments since 2003

- F - none
- Dg10 - FYM at 10 t/ha/yr
- Dg25 - FYM at 25 t/ha/yr
- St - Chopped wheat straw at 7.5 t/ha/yr
- CC - Cover crop (white mustard) prior to spring-sown crop
- Co - Compost at 40 t/ha/yr
- Lc - Permanent grass/clover: Timothy, Fescue & white clover sown @ 30 kg/ha on 4 Oct 2002
- Residues of previous treatments (see 'Yields' books 1965-2002 for details)
- (Dg) FYM annually 1965-71 and 1981-85
- (St) Straw annually 1965-71 and 1981-85
- (Gm) Green manure annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)
- (Pt) Peat annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)
- (Fd) PKMg equivalent to (Dg) rate, annually 1965-71 and 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)
- (Fs) KMG equivalent to (St) with P, annually 1965-71 then 1/2 (Fd) rate 1981-86 (Blocks I & III), 1981-87 (Blocks II & III)
- (Ln) Grass ley with N 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)
- (Lc) Grass/clover ley 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV).

BASAL PKS/ha (to be applied early spring)  
 Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25  
 Basal KS at 200 kg K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25

Nitrogen for 2006, /ha N0-5  
 0, 50, 100, 150, 200, 250 kg N/ha as Nitrochalk split 50 kg N late-Feb/early March remainder mid-April

ROTATION

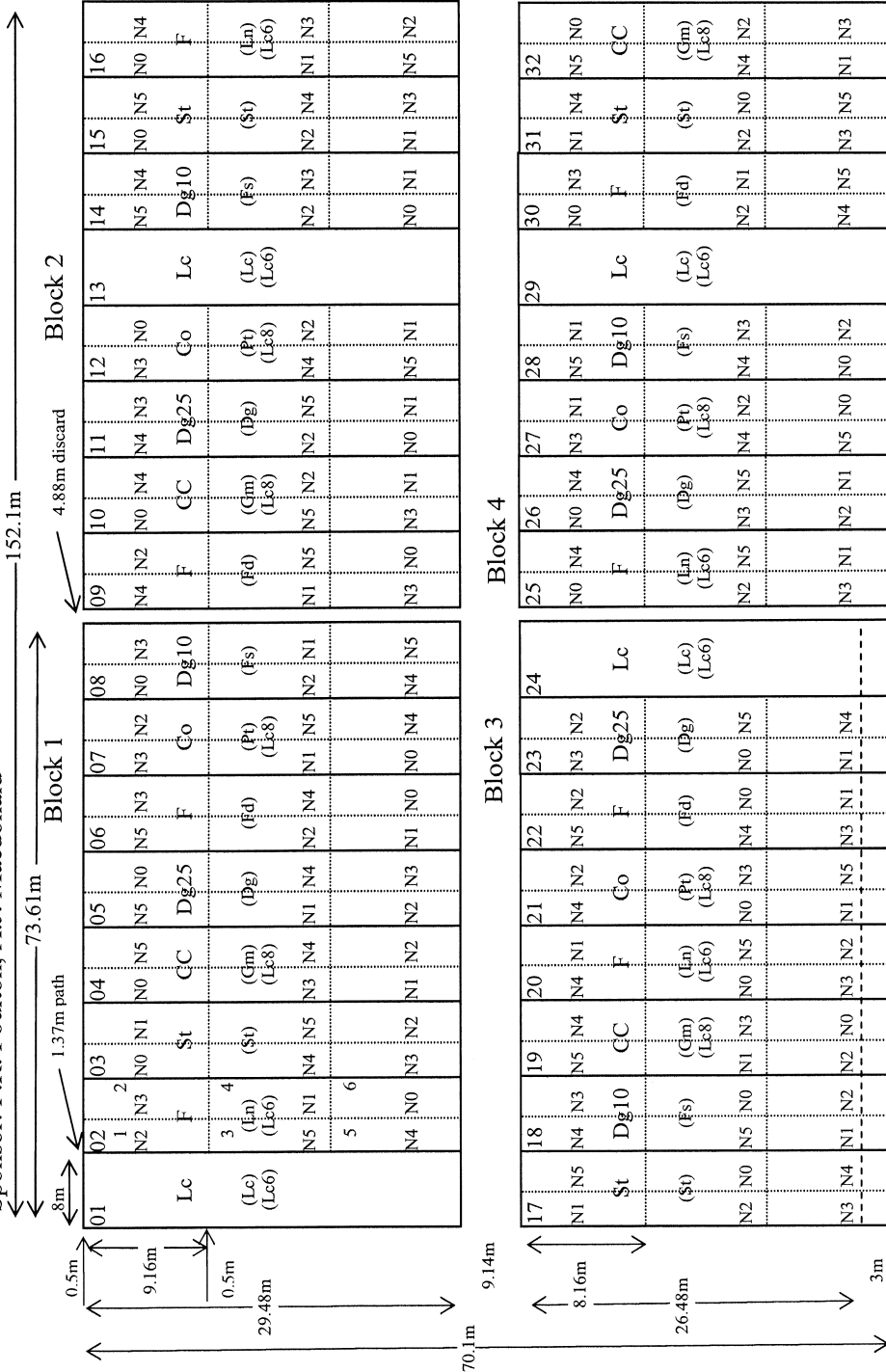
W. rye, s. barley, w. beans, w. wheat, f. maize

D.P. Yeoman, 5.9.05

VARIETY  
 W. wheat, Hereward tr.  
 @ s/m<sup>2</sup> on

// Straw yields NOT required; straw baled and removed  
 // From 1999 Block III has 3m discard at the NE end following severe erosion in winter 1998/99; sub-plots are therefore shorter

Sponsor: P.R. Poulton, A.J. Macdonald



TREATMENTS

Organic Treatments since 2003

- F - none
- Dg10 - FYM at 10 t/ha/yr
- Dg25 - FYM at 25 t/ha/yr
- St - Chopped wheat straw at 7.5 t/ha/yr
- CC - Cover crop (white mustard) prior to spring-sown crop
- Co - Compost at 40 t/ha/yr
- Lc - Permanent grass/clover: Timothy, Fescue & white clover sown @ 30 kg/ha on 4 Oct 2002

Residues of previous treatments (see 'Yields' books 1965-2002 for details)  
 (Dg) FYM annually 1965-71 and 1981-85  
 (St) Straw annually 1965-71 and 1981-85  
 (Gm) Green manure annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)

(Pt) Peat annually 1965-71 then (Lc8) grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)  
 (Fd) PKMg equivalent to (Dg) rate, annually 1965-71 and 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)  
 (Fs) K/Mg equivalent to (St) with P, annually 1965-71 then 1/2 (Fd) rate 1981-86 (Blocks I & III), 1981-87 (Blocks II & III)  
 (Ln) Grass ley with N 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV)  
 (Lc) Grass/clover ley 1965-71 then (Lc6) grass/clover ley 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV).

BASAL PKS/ha (to be applied early spring)  
 Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25  
 Basal K at 200 kg K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25

Nitrogen for 2007, /ha N0-5  
 0, 50, 100, 150, 200, 250 kg N/ha as Nitrochalk split 50 kg N to the seedbed (except N0); remainder post-emergence

CROP ROTATION

W. rye, s. barley, w. beans, w. wheat, f. maize  
 NITROGEN ROTATION  
 N5 > N4 > N3 > N2 > N1 > N0 > N5

D.P. Yeoman, 22.11.06

VARIETY  
 W. mustard, Rivona @ 350 s/m<sup>2</sup> on 29 Sep 2006  
 F. maize, Hudson  
 // From 1999 Block III has 3m discard at the NE end following severe erosion in winter 1998/99; sub-plots are therefore shorter

Plan 203

Code: 2008/W/RN/12  
 Title: Organic Manuring  
 Field: Stackyard B

**Sponsors:**

P Poulton  
 2490  
 A Macdonald  
 2479

**Treatments:**

Organic Treatments since 2003

F None  
 Dg10 FYM at 10 t/ha annually  
 Dg25 FYM at 25 t/ha annually  
 St Chopped wheat straw at 7.5 t/ha annually  
 CC Cover crop (white mustard) prior to spring sown crop  
 Co Compost at 40 t/ha annually  
 Lc Permanent grass/clover: Timothy, Fescue & white clover sown @ 30 kg/ha, 4-Oct-2002

**Basal PKS/ha (to be applied early spring)**

Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25  
 Basal KS at 200 kg K2SO4 (83 kg K + 36 kg S) to all treatments except Dg25

**Nitrogen for 2008 /ha N0-N5**

0, 30, 60, 90, 120, 150 kg N/ha as Nitrochalk

**Nitrogen rotation**

N5>N4>N3>N2>N1>N0>N5

**Residues of previous treatments (see 'Yields' books 1965-2002 for details)**

(Dg) FYM annually 1965-71, and 1981-85  
 (St) Straw annually 1965-71, and 1981-85  
 (Gm) Green manure annually 1965-71, then (Lc8) grass/clover ley 1979-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
 (Pt) Peat annually 1965-71, then (Lc8) grass/clover ley 1979-86 (blocks 1 & 3), 1980-87 (blocks 2 & 4)  
 (Fd) PKMg equivalent to (Dg) rate, annually 1965-71, and 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
 (Fs) KMg equivalent to (St) with P, annually 1965-71, then half (Fd) rate 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
 (Ln) Grass ley with N 1965-71, then (Lc6) grass/clover ley 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
 (Lc) Grass /clover ley 1965-71, then (Lc6) grass/clover ley 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)

**Crop rotation**

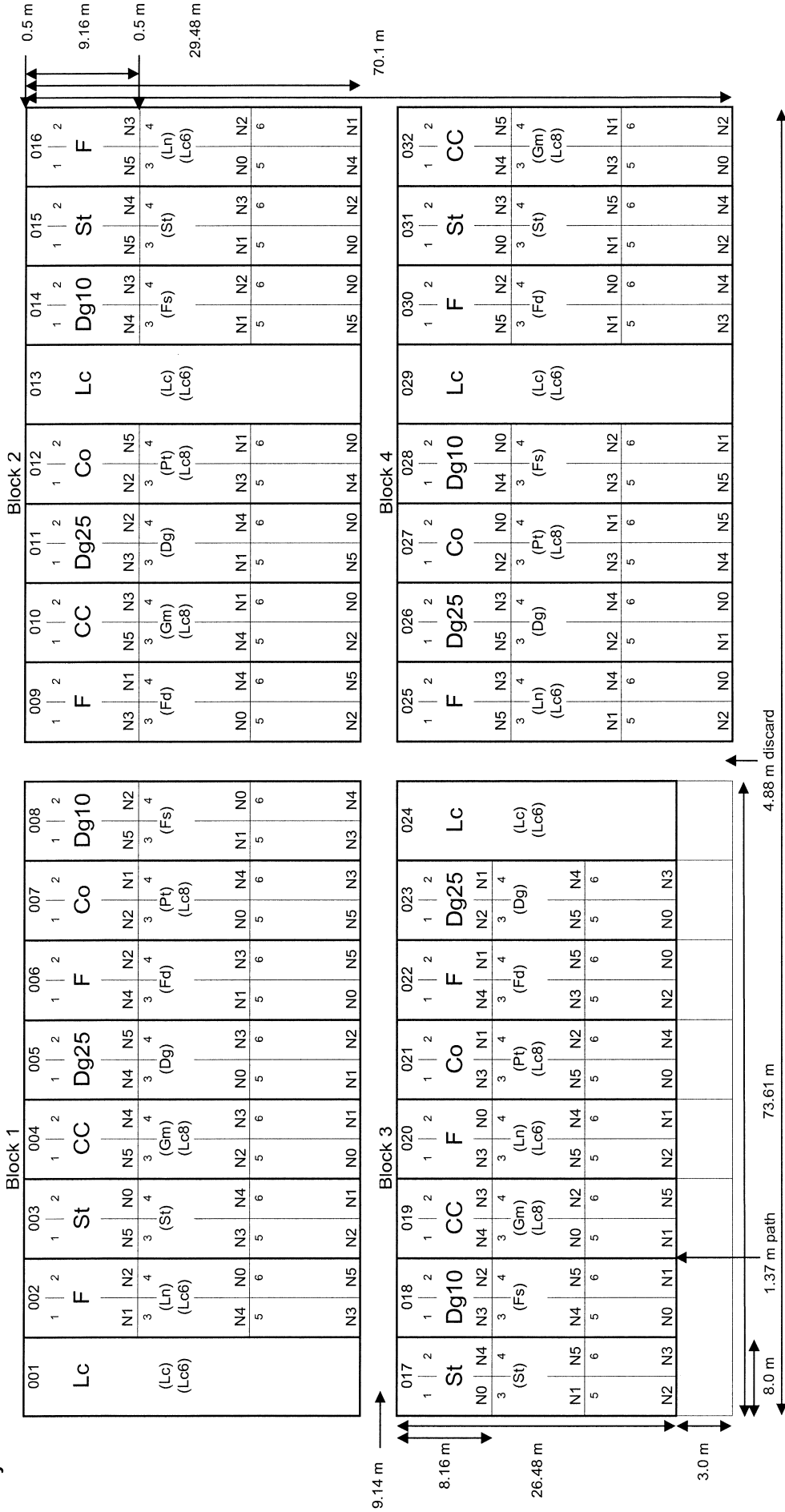
2003 W. Rye  
 2004 S. Barley and Mustard  
 2005 W. Beans  
 2006 W. Wheat  
 2007 F Maize and Mustard  
 2008 W. Rye  
 2009 S. Barley and Mustard  
 2010 W. Beans

**Variety**

W. Rye  
 Matador reclenched at 350 seeds/m<sup>2</sup>, on 23-Oct-2007

// From 1999 block 3 has a 3.0 m discard at the NE end following severe erosion in winter 1998-99; sub-plots are therefore shorter

2008W/RN/12 Stackyard B      Organic Manuring      Winter Rye      44th year      Stackyard B      203



1 2 4 0 3 5  
5 0 3 4 2 1

Code: 2009/W/RN/12

Title: Organic Manuring

Field: Stackyard B

45th year

Plan 203

**Sponsors:**

P Poulton  
2490  
A Macdonald  
2479

**Treatments:**

Organic Treatments since 2003

F None  
Dg10 FYM at 10 t/ha annually  
Dg25 FYM at 25 t/ha annually  
St Chopped wheat straw at 7.5 t/ha annually  
CC Cover crop (white mustard) prior to spring sown crop (sown 30-Sep-08)  
Co Compost at 40 t/ha annually  
Lc Permanent grass/clover: Timothy, Fescue & white clover sown @ 30 kg/ha, 4-Oct-2002

**Basal PKS/ha (to be applied early spring)**

Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25  
Basal KS at 200 kg K2SO4 (83 kg K + 36 kg S) to all treatments except Dg25

**Nitrogen for 2009 /ha N0-N5**

0, 35, 70, 105, 140, 175 kg N/ha as Nitro-Chalk 27.0% N

**Nitrogen rotation**

N5>N4>N3>N2>N1>N0>N5

**Residues of previous treatments (see 'Yields' books 1965-2002 for details)**

(Dg) FYM annually 1965-71, and 1981-85  
(St) Straw annually 1965-71, and 1981-85  
(Gm) Green manure annually 1965-71, then (Lc8) grass/clover ley 1979-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
(Pt) Peat annually 1965-71, then (Lc8) grass/clover ley 1979-86 (blocks 1 & 3), 1980-87 (blocks 2 & 4)  
(Fd) PKMg equivalent to (Dg) rate, annually 1965-71, and 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
(Fs) KMg equivalent to (St) with P, annually 1965-71, then half (Fd) rate 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
(Ln) Grass ley with N 1965-71, then (Lc6) grass/clover ley 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)  
(Lc) Grass /clover ley 1965-71, then (Lc6) grass/clover ley 1981-86 (blocks 1 & 3), 1981-87 (blocks 2 & 4)

**Crop rotation**

2003 W. Rye  
2004 S. Barley and Mustard  
2005 W. Beans  
2006 W. Wheat  
2007 F Maize and Mustard  
2008 W. Rye  
2009 S. Barley and Mustard  
2010 W. Beans

**Variety**

Mustard: Zlata (to be sown as early as possible, Mid August)  
Sp. Barley: Tipple

// From 1999 block 3 has a 3.0 m discard at the NE end following severe erosion in winter 1998-99; sub-plots are therefore shorter  
// Paths widened to 1.0 m in 2009, measurements corrected and detailed on layout sheet, including reference posts

2009/W/RN/12  
Stackyard B

Organic Manuring

Spring Barley

45th year

Stackyard B

203

