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ROTHAMSTED
RESEARCH

Collection of Plans for the Woburn Organic Manuring Experiment

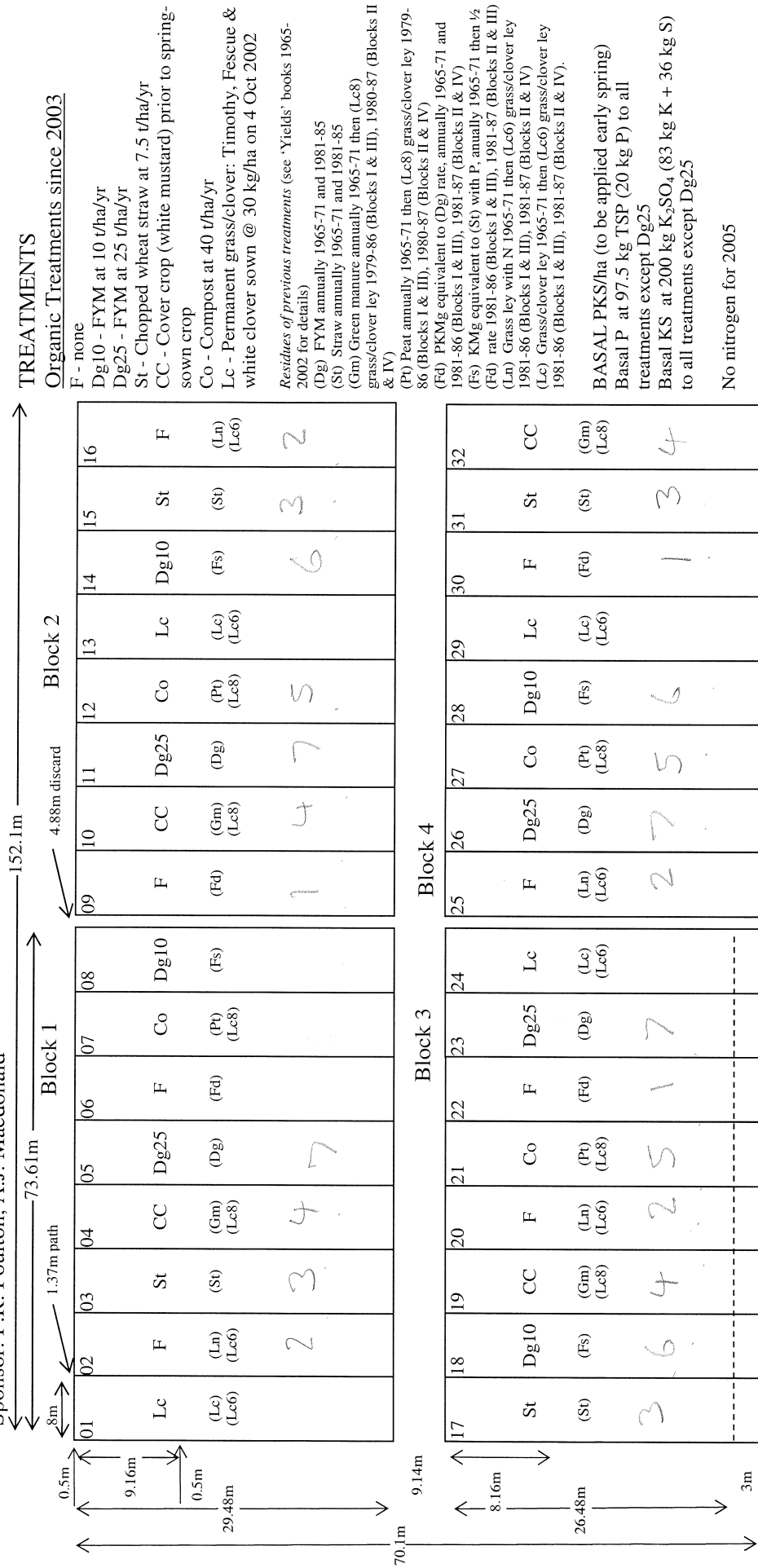
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W/RN/12 - Woburn Organic Manuring 2005 - 2009

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



ROTATION

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

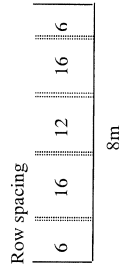
// Straw yields NOT required; straw baled and removed

// 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

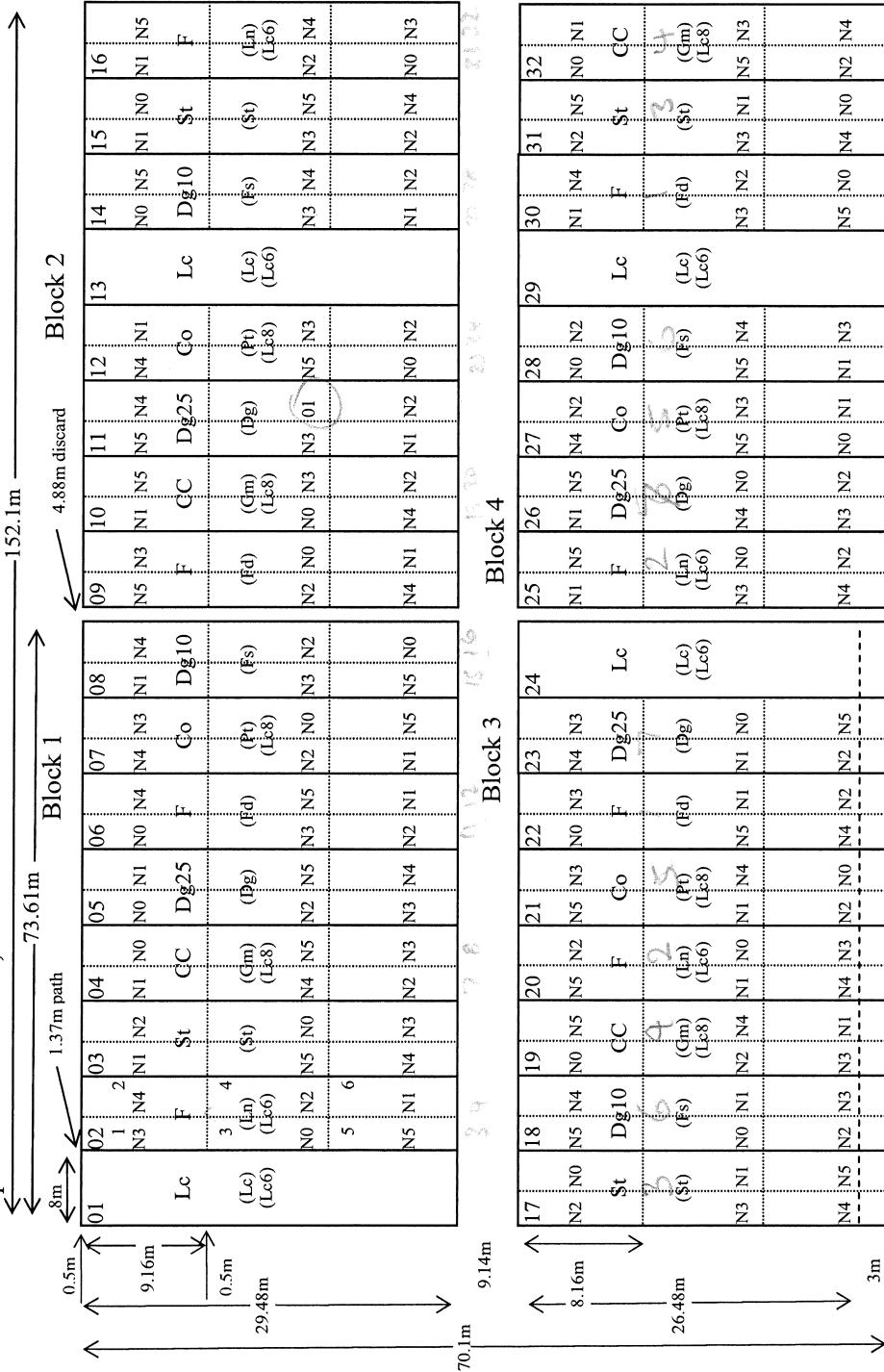
N

42nd 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).

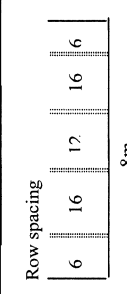
BASAL PKS/ha (to be applied early spring)
Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25
Basal KS at 200 kg K₂SO₄ (83 kg K + 36 kg S) to all treatments except Dg25

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

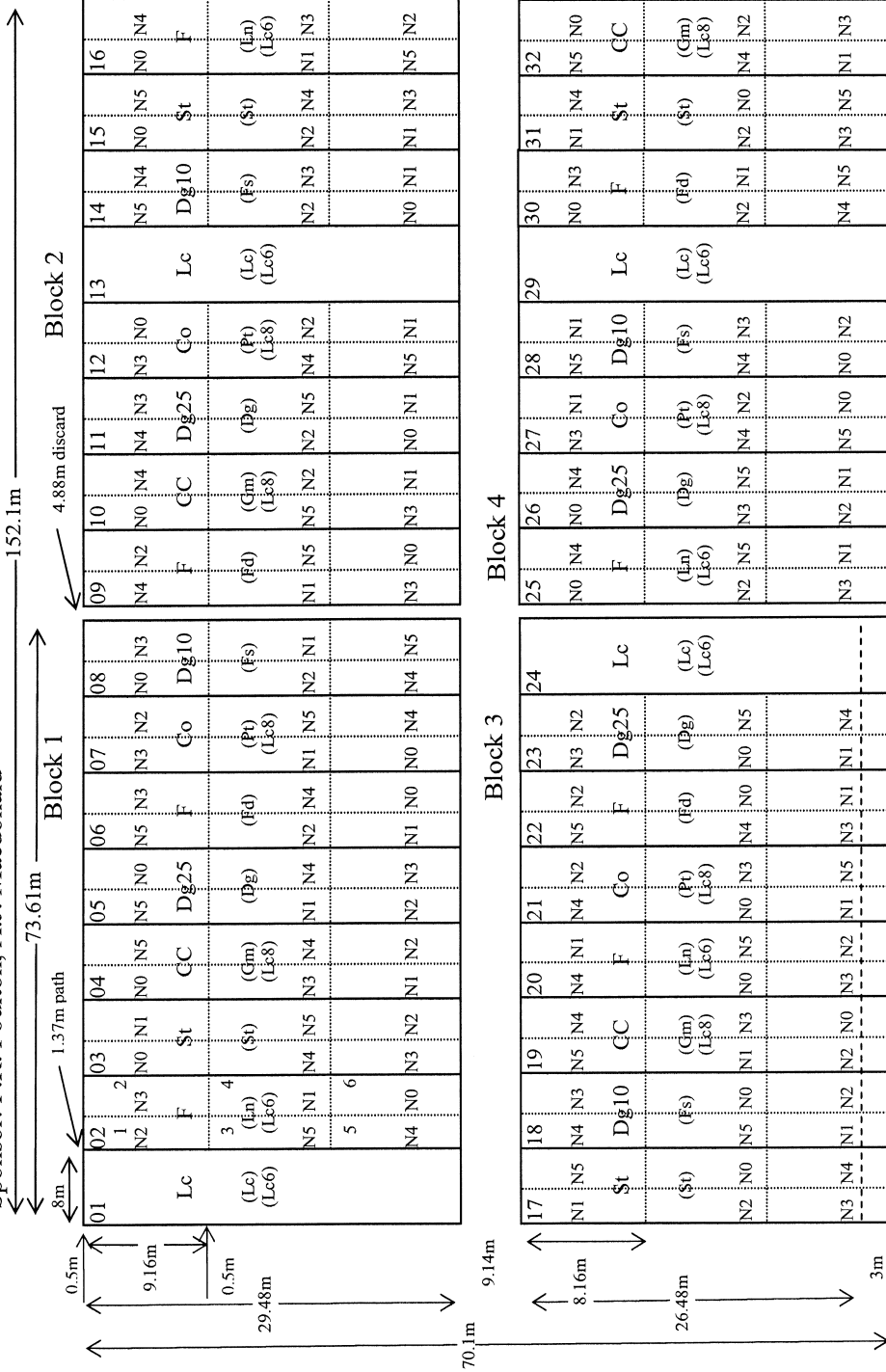
D.P. Yeoman, 5.9.05



// 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. wheat, Hereward tr.
@ s/m² on

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



N

TREATMENTS

Organic Treatments since 2003

- F - none
- Dg10 - FYM at 10 t/ha/yr
- Dg25 - FYM at 25 t/ha/yr
- \$t - 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)
- (F) 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 K₂SO₄ (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/m² 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

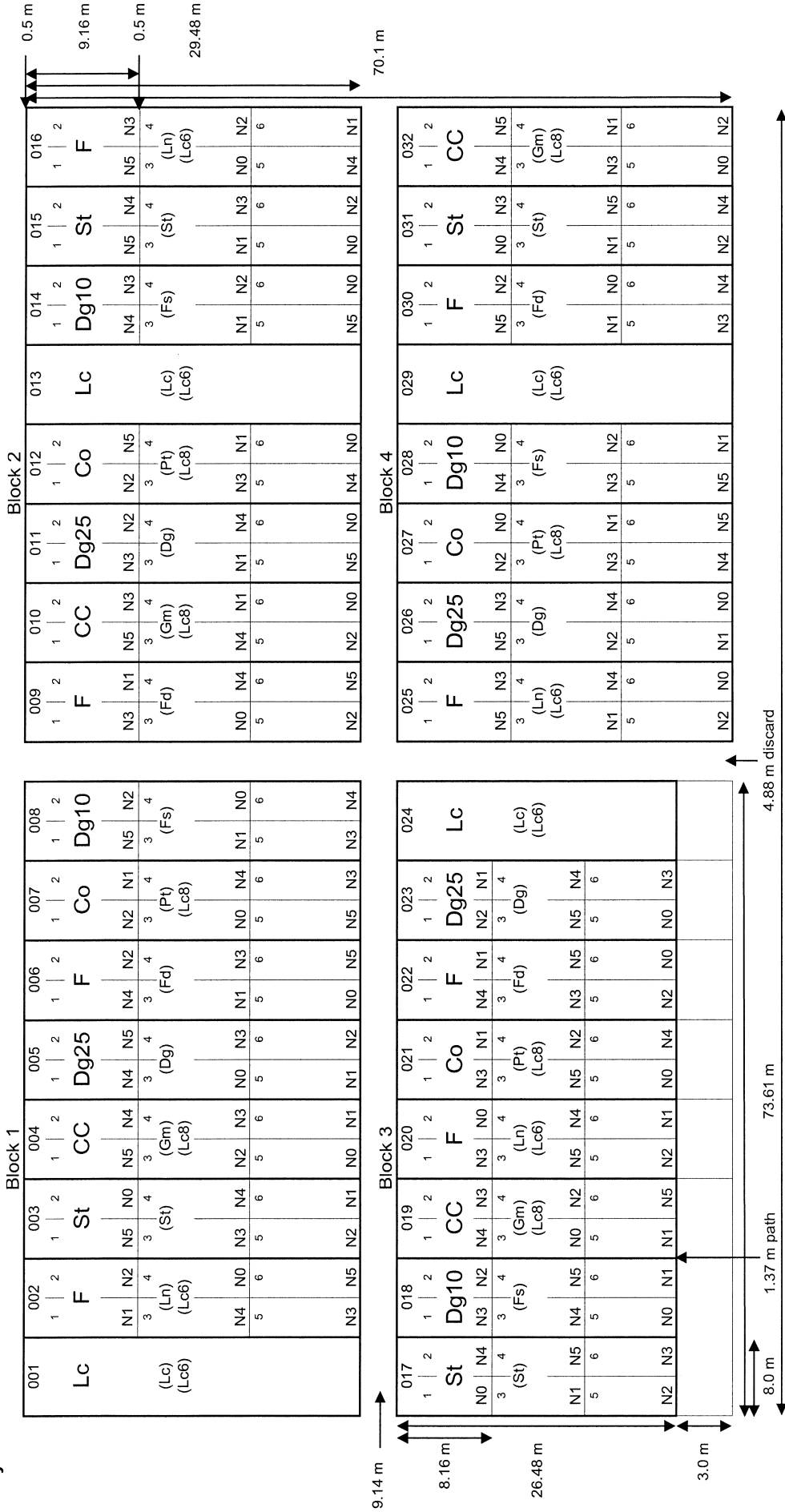
2003 W. Rye
 2004 S. Barley and Mustard
 2005 W. Beans
 2006 W. Wheat
 2007 F Maize and Mustard
 2008 W. Rye
 2009 S. Barley and Mustard
 2010 W. Beans

Variety

W. Rye
 Matador re-cleaned at 350 seeds/m², 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

2008/W/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

