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RESEARCH

# Collection of Plans for the Woburn Organic Manuring Experiment

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## W/RN/12 - Woburn Organic Manuring 2015 - 2019

### Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 2015 - 2019* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 57 - 66

51st year Plan 203

Code: 2015/W/RN/12

Title: Organic Manuring

Field: Stackyard B

**Sponsors:**

A Macdonald K Goulding  
2479 2627

**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 K at 200 kg K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25

**No Nitrogen to W Beans for 2015.**

**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)

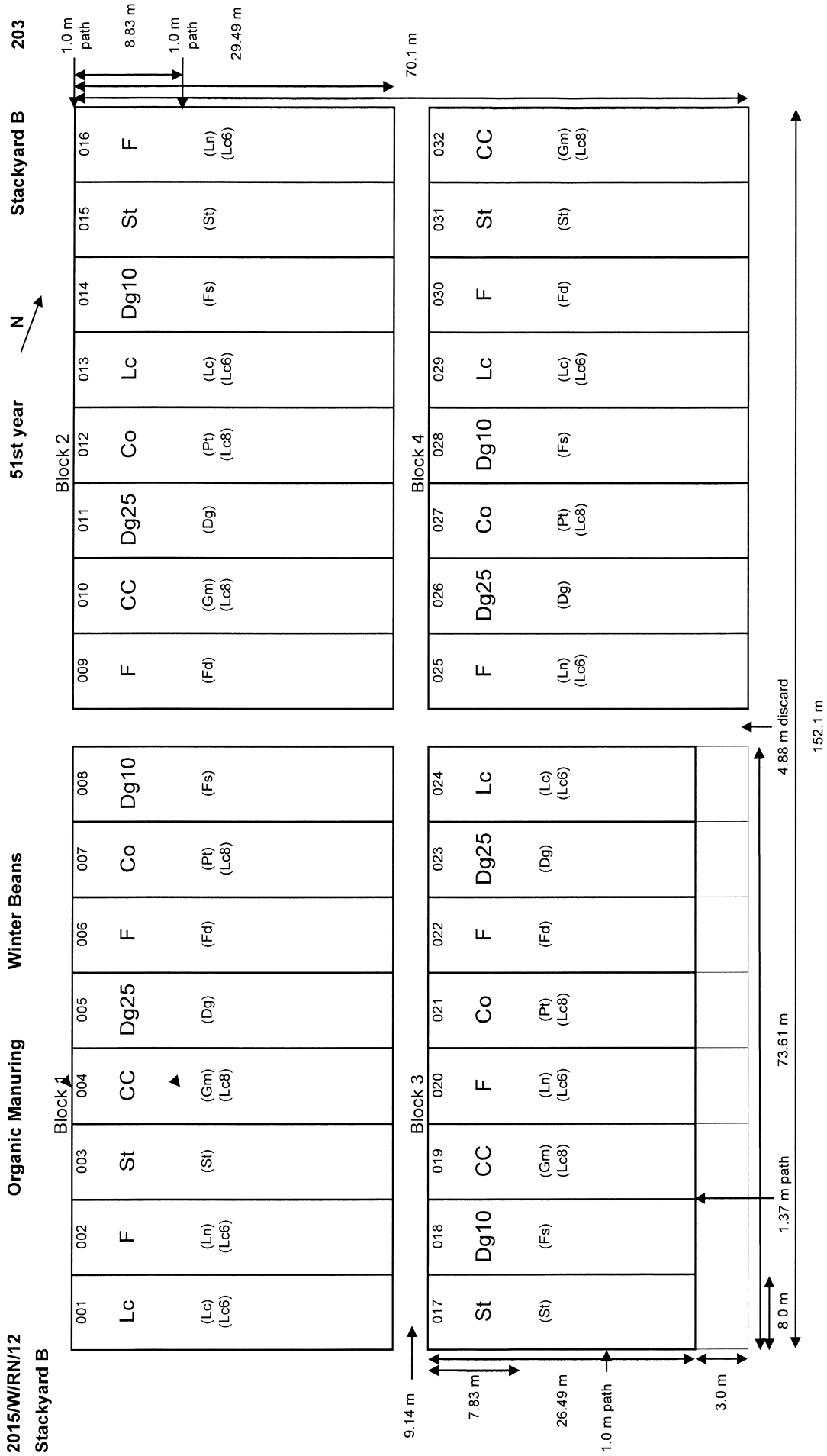
**Crop rotation**

2008 W. Rye  
2009 S. Barley and Mustard  
2010 W. Beans  
2011 W. Wheat  
2012 F Maize and Mustard  
2013 W. Rye  
2014 S. Barley and Mustard  
2015 W. Beans

**Variety**

W Beans: Wizard

//Straw yields not required. Straw baled and removed  
// 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



52nd year

Plan 203

Code: 2016/W/RN/12

Title: Organic Manuring

Field: Stackyard B

**Sponsors:**

A Macdonald  
2479  
K Goulding  
2646

**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 K at 200 kg K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25

**Nitrogen to Winter Wheat for 2016, kg N/ha, N0-N5.**

0, 50, 100, 150, 200 and 250 as Nitrochalk @ 27%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**

2009 S. Barley and Mustard  
2010 W. Beans  
2011 W. Wheat  
2012 F Maize and Mustard  
2013 W. Rye  
2014 S. Barley and Mustard  
2015 W. Beans  
2016 W. Wheat

**Variety**

W Wheat: Gallant

//Straw yields not required. Straw baled and removed  
// 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

2016/W/RN/12

Stackyard B

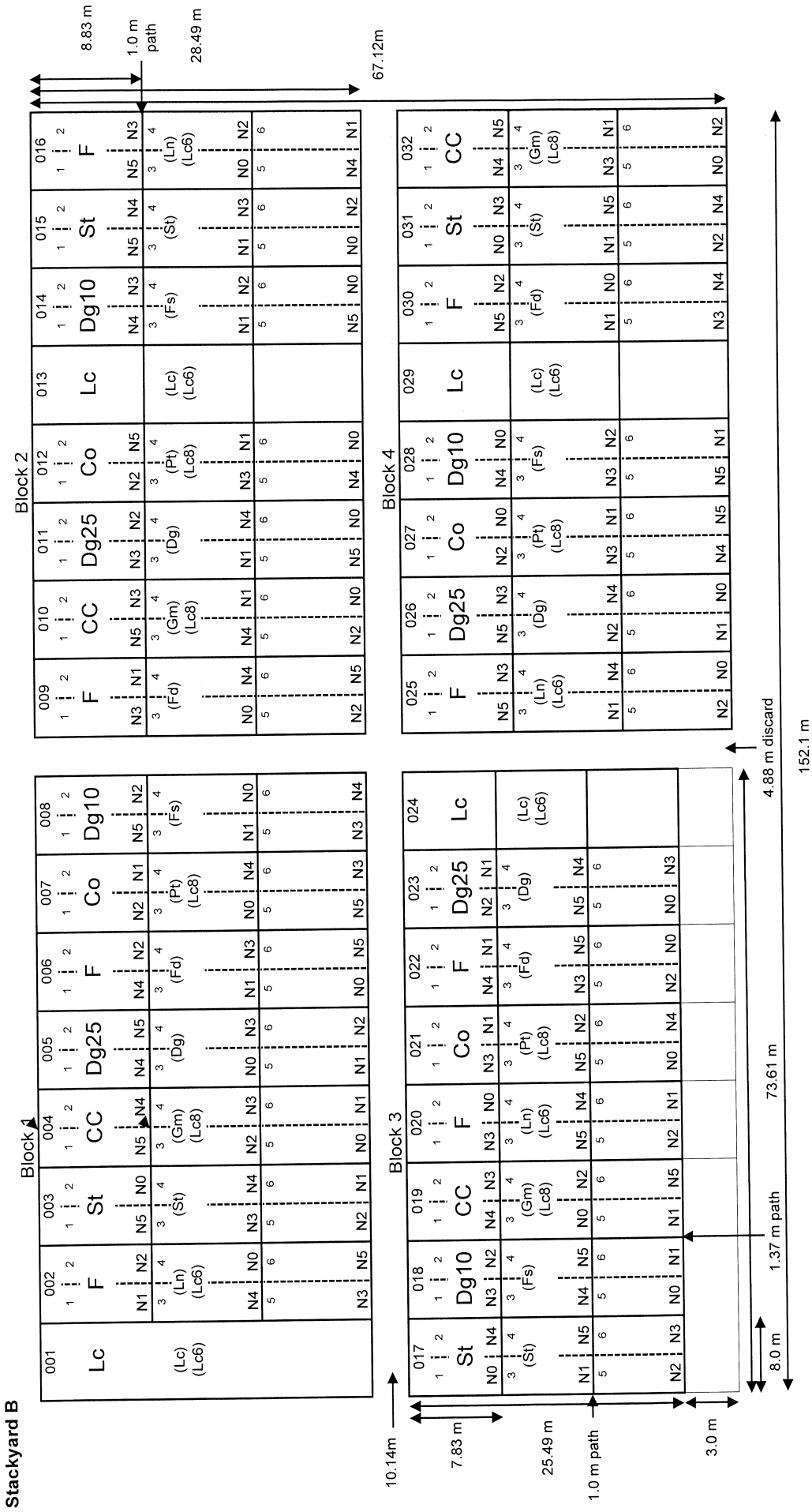
Organic Manuring

Winter Wheat

52nd year

Stackyard B

203



53rd year

Code: 2017/W/RN/12

Title: Organic Manuring

Field: Stackyard B

**Sponsors:**

A Macdonald  
2479

K Goulding  
2646

**Treatments:**

Organic Treatments since 2003

**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

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

**Nitrogen to F Maize for 2017, kg N/ha, N0-N5.**  
0, 50, 100, 150, 200 and 250 as Nitrochalk @ 27%N  
Split 50 kg N to seedbed (except N0); remainder post emergent

**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) PKMg 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**

2009 S. Barley and Mustard  
2010 W. Beans  
2011 W. Wheat  
2012 F. Maize and Mustard  
2013 W. Rye  
2014 S. Barley and Mustard  
2015 W. Beans  
2016 W. Wheat  
2017 F. Maize and Mustard

**Variety**

F. Maize (var. Severus) and W. Mustard (var. Zlata)

//Straw yields not required. Straw baled and removed  
// 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

203

Stackyard B

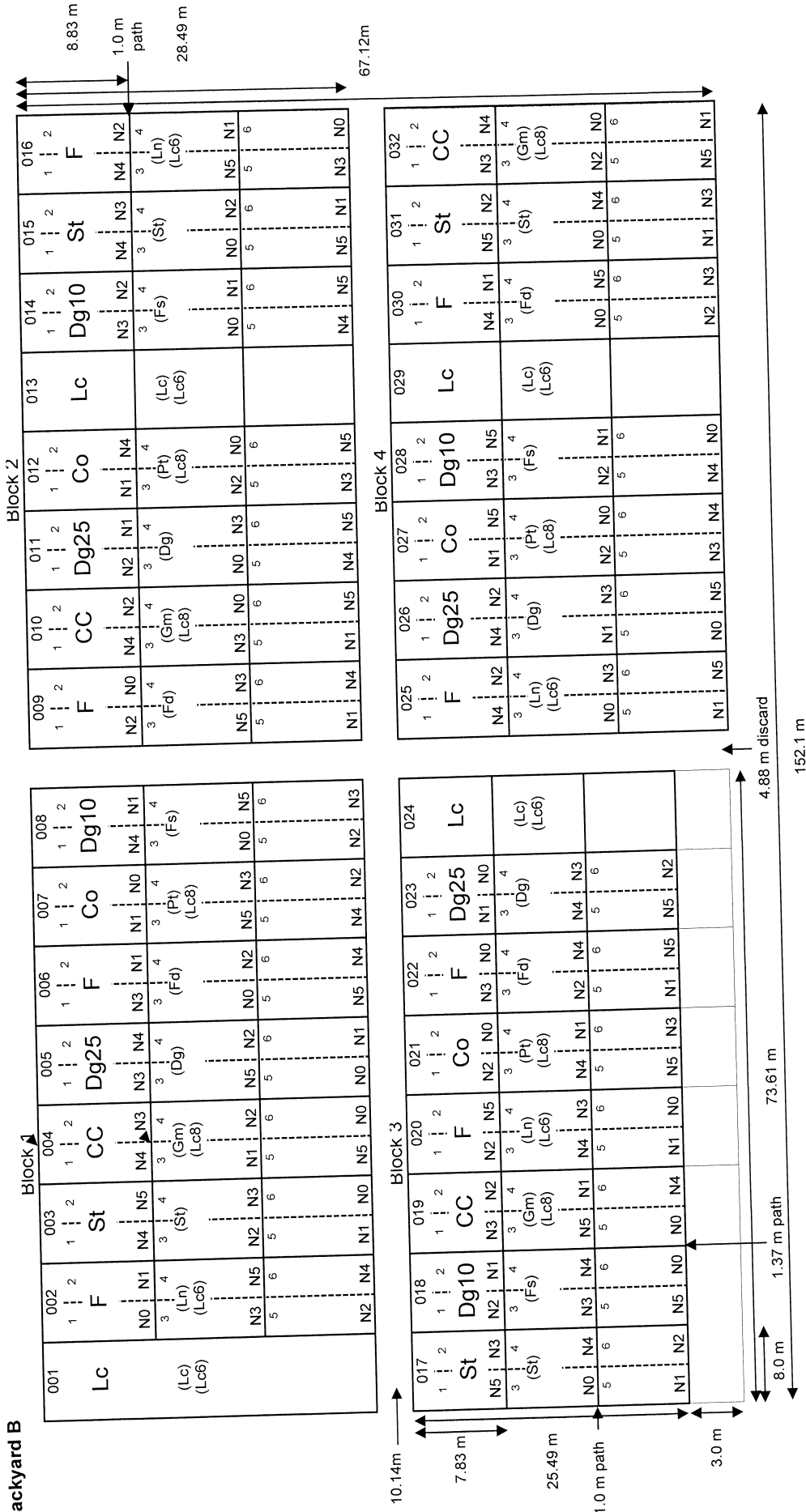
53rd year

Forage Maize & White Mustard

Organic Manuring

2017/W/RN/12

Stackyard B



Code: 2018/W/RN/12

Title: Organic Manuring

Field: Stackyard B

54th year

Plan 203

**Sponsors:**

A Macdonald 2479 S McGrath 2631 A Gregory 2482

**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 K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25  
**Liming:** Chalk to be applied to all plots every five years @ 5t/ha. Next due Spring 2022.

**Nitrogen to W Rye for 2018, kg N/ha, N0-N5.**

0, 30, 60, 90, 120 and 150 as Nitrochalk @ 27%N  
 Split 50 kg N to seedbed (except N0); remainder post emergent

**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**

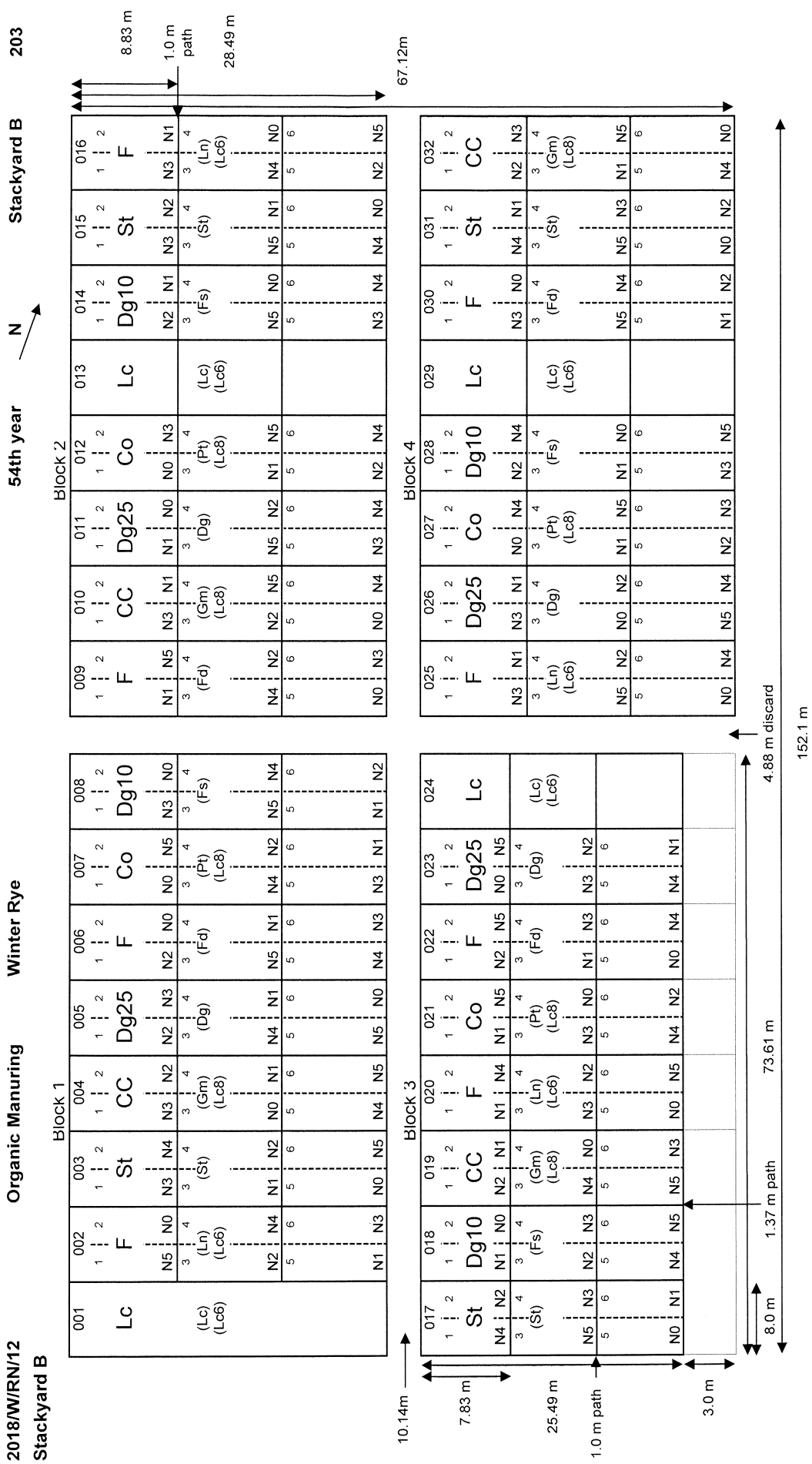
2011 W.Wheat  
 2012 F.Maize and Mustard  
 2013 W.Rye  
 2014 S. Barley and Mustard  
 2015 W. Beans  
 2016 W. Wheat  
 2017 F.Maize and Mustard  
 2018 W. Rye

**Variety**

W Rye - Mephisto?

//Straw yields not required. Straw baled and removed  
 // 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





Code: 2019/W/RN/12

Title: Organic Manuring

Field: Stackyard B

55th year

Plan 203

**Sponsors:**

A Macdonald 2479      S McGrath 2631      A Gregory 2482

**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 K<sub>2</sub>SO<sub>4</sub> (83 kg K + 36 kg S) to all treatments except Dg25  
**Liming:** Chalk to be applied to all plots every five years @ 5t/ha. Next due Spring 2022.

**Nitrogen to Spring Barley for 2019, kg N/ha, N0-N5.**

0, 35, 70, 105, 140 and 175 as Nitrochalk @ 27%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**

- 2012 F Maize and Mustard
- 2013 W. Rye
- 2014 S. Barley and Mustard
- 2015 W. Beans
- 2016 W. Wheat
- 2017 F Maize and Mustard
- 2018 W. Rye
- 2019 S. Barley and Mustard

**Variety**

S Barley - Irina

//Straw yields not required. Straw baled and removed  
 // 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

2019/W/IRNI/12

Stackyard B

Organic Manuring

S Barley and Mustard

55th year

Stackyard B

203

