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Collection of Plans for the Woburn Organic Manuring Experiment



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W/RN/12 - Woburn Organic Manuring 2000 - 2004

Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 2000 - 2004 ;* Collection Of Plans For The Woburn Organic Manuring Experiment, pp 35 - 39

Block1 Sponsor P.R. Poulton Block1 Block1 Sponsor P.R. Poulton Block1 Block1 Block1 Normalian Block1 Block1 Block1 Block1 Normalian 314 1 <	71/NTX1/M/00				Orga	unic M	anur	Organic Manuring Experiment	perim	ent					36th year	year	Stack	Stackyard B	204
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		И	7. whe	at					ponsc	r P.R.	Poultc	uc	/	/					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Ţ							Block	п					1	z	1			
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			05			08 	<				·····				16 	•č ⁻ 0→	Treatments Residues of (St)	s <u>organic manures</u> FYM annually 1965 -71 and 1981-85 Straw annually 1965 -71 and 1981-85 Commensions 1006 71 theory 1000 06	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		(Gm) (Gm)	(D			- (Fs) -			(Gm)					- (St)	(II)		ues of	Choices I & III) 1980-87 (blocks II & IV) (blocks I & III) 1980-87 (blocks II & IV) Peat amunally 1965-71 then (Lc8) 1979-86 (blocks I & III) 1980-87 (blocks II & IV) fertilizers	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		(3)(5)	(1)(5)	(4)(1)		(1)(2)									(-)((+)			PKMg equivalent to (Dg) rate, annually 1965-71 & 1981-6 (blocks I & III), 7 (blocks II & IV) KMg equivalent to straw with P annually 1965-71 then ½ Dg rate 1981-6	2 1-6
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	(-) (1)		(-)(2)			(3)(-)									(1)(2)			(blocks II & IV), 7 (blocks I & III) (Lc) clover/grass ley) 1965-71 then (Lc6) 1981-6 (blocks I & III), (La) grass ley with N) 7 (blocks II & IV)	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$; or									←0.5n	õ	<u>cen treatments</u> last applied 1994 0,50,100,150,200,250 kg N/ha	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		20	21	22	- 23			Block	- ²⁶	27	- 28	29	30	31		9.14m	 4.m Basal manure per ha 7.m PKS: 21.8 kgP as TSP (106kg TSP/ha), 83 kgK and 36 kgS as K₅SO₄ (200 kg potasium sulphate) in autumn to stubble of preceeding c N: 96 kg N/ha (278 kg 34.5 %N) in spring. 	manure per ha 21.8 kgP as TSP (106kg TSP/ha), 83 kgK and 36 kgS as K ₅ SO ₄ (200 kg potasium sulphate) in autumn to stubble of preceeding crop. kg Nha (278 kg 24.5 %N) in spring.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		(-)(3)	(4)(3)	(1)(5)	(3)(4)	(-)(4)						(1)(2)			(5)(1)		Variety Hereward dressed Sibutol sown at 380 seeds/m ² on 4 October 1999	380 seeds/m ² on 4 October 1999	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		(Ind)	(Pt)			(91)		(10)		(ff)		(31) [(31)	——(Fd)			29.48m	// No internal cross-paths // Combine cut from whole 29.48m	// No internal cross-paths // Combine cut from whole 29.48m (26.48m on Block III) plot length, two cuts per	ц.
		(1)(5)	(1)(-)	(2)(4)		(3)(2)									(3)(-)		piot // No straw yields		
													· ·				// From 1999 Block III is 26.48m lo severe erosion in winter 1998/9	// From 1999 Block III is 26.48m long. 3 m at the NE end is discarded following severe erosion in winter 1998/9	
(4)(3) (5)(-) (2)(4) (2)(5) (-)(3) (-)(1) (1)(5) (3)(2) (2)(5) (-)(1) (2)(3) (-)(3) (1)(4) (1)(5) (4)(2)(2) (4)(2)(2) (4)(2)(2) (4)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)			(2)(5)	(-)(3)		(1)(5)									(4)(2)				
	-	3m dis	card				\rightarrow									ہ لا	5 <i>m</i>		

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02/W	02/W/RN/12	7			Orgaı	nic M	Organic Manuring Experiment	ıg Exj	perim	ent						38th year	year	Stackyard B 203	
			4	W. wheat	sat					Spons	Sponsor P.R. Poulton	. Poult	uo	/	,				
Block I	CI.								Block II	Π					1	Z			
01 1 2 1 2 1 2	02 N1N2	03 N2 N1 N2 N1	04 04 N1 N2	05 	06 	07 	08 N2 N1	<	09 — — — 09 N2 N1	10 N1_N2	N1N2	12 N1 N2	13 N2 N1	14 N2 N1 N2 N1	15 N1N2 N1N2	NIN2	0.5m	Treatments Residues of organic manures (Dg) FYM annually 1965 -71 and 1981-85 (Gm) Straw annually 1965 -71 and 1981-85 (Gm) Green manue annually 1965-71 then (Lc8) lev (clover/ <u>erass</u>) 1979-86	
(je) (92) (1)	——(I) (Lra)	(St)	(Gm) (Gm)	(g	(Fd)		(F		(Fd)	(Gm) (Lc8)	(g		(j_)		(St)	(LLc6)		ues of	
																¥	0.5m		
Block III	kШ							70.1m	Block IV	N				-			9.14m	N2 200 kgN/ha (split 40 + 120 + 40) Applied early March, GS31 or mid-April and GS37 and no later than mid-May.	
1 17	8	19		21	53	. 23	24		25	26	2	28	29		31	3		0.5m // Nutrogen treatments reverse alternate years. Basal manure per ha PKS: 21.8 kgP as TSP (106kg TSP/ha), 83 kgK and 36 kgS as K ₅ SO ₄ (200 kg potasium sulphate) in autumn to stubble of preceeding crop.	
N2N	N2N	N2 N1	N1 N2	N1N2	N1 N2	N1 N2	N2 N1		N1 N2	N1 N2	N2 N1	N1 N2	N2NI	N2NI	N1N2	N1N2		Variety Claire tr. Sibutol + Aventis Manganese 500, sown at 350 seeds/m ² on 22 Sep 2001	
(St)	(Fs)		(I_C) (1)		(Fd)	(Dg)	- <u>(</u>) (9))		(I_n) (1)	(D	- (J.		- (j) (j)	(Fd)	(St)	(Gm) 	29.48m	// No internal cross-paths // Combine cut from whole 29.48m (26.48m on Block III) sub-plot length // No straw yields	
										· · · · · · · ·		• • • • •			· · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		// From 1999 Block III has 3 m at the NE end discarded before combining, following severe erosion in winter 1998/9.	
	+	3m	nwos	discard			-	\uparrow								¥	<u> </u>	E	
∲ [₽]	Å ₽		\mathbf{V}^{\exists}	1.37m paths	s	ž	No paths <					73.6	73.61m	< ¹⁶	spray path	1		Row spacing:	

6 n 16 n 12 n 16 n 6 n 16 n 12 n 16 n 6 8m

spray path ⁻ centres

<4.88m
 152.10 m

39 th year Treatments <u>Organic Treatments since 2003 (annually</u>)	 F - none 0.5m Dg10 - FYM at 10 t/ha 0.5m Dg25 - FYM at 25 t/ha St - Chopped wheat straw at 7.5 t/ha St - Cover crop prior to spring-sown crop CC - Cover crop prior to spring-sown crop CC - Compost at 40 t/ha Lc - Permanent grass/clover: Timothy, Fescue & White clover sown @ 30 kg/ha on 4 Oct 2002 0.5m Residues of previous treatments (see 'Yields' books 	0.5m ↓ ↑ ↑	 Digitation of the second of the sec
03/W/RN/12 Organic Manuring W. rye 39 th N Block I Block I Block II	$ \begin{pmatrix} 01 & 02 & 03 & 04 & 05 & 06 & 07 & 08 \\ 2 & 16 & 12 & 13 & 14 & 15 & 16 \\ 12 & F & St & CC & Dg25 & F & Co & Dg10 & F & CC & Dg25 & Co & Lc & Dg10 & St & F \\ (Lc6)(Lc6)(Lc6) & (Lc8) & (Lc8) & (Lc8) & (Lc8) & (Lc8) & (Lc8) & (Lc6) & (Lc8) & (Lc6) & ($	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\bigotimes Bm$ $1.37m path$ $4.88m discard$ $8m$ $1.37m path$ $4.88m discard$ $\bigotimes m$ $73.61m$ $4.88m discard$ \checkmark $73.61m$ $5.10m$ \checkmark $152.10m$ $152.10m$ \lor $152.10m$ $122 m$ \lor $1/2$ Combine cut from whole 29.48m (26.48 on Row spacing Block III) plot length $Rye - Picasso Blend1/2 Straw yields required; straw baled andr, Baytan @ 98 kg/ha1/2 From 1999 Block III has 3m at the NE endmo 9 Oct 20021/2 From 1999 Block III has 3m at the NE enddiscarded before combining following severe8mroosion in winter 1998/99$

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	. Manuring S.	barley & white mustard	40 th year	N Stackyard B 203
		.152.1m		TREATMENTS
0.5m	$\underbrace{\overset{8m}{\longrightarrow} \underbrace{ 1.37m \text{ path}}_{\text{Block I}} Block I $	→ 4.88m discard Block 2		<u>Organic Treatments since 2003</u>
← ←	$\begin{pmatrix} 1 \\ 0 \\ 1 \\ 1 \\ 1 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2$	10 11 12 13 1	14 15 16	r - none Dg10 - FYM at 10 t/ha/yr
9.16m	n N4 N5 N2 N3 N2 N1 N1 N2 N1 N5 N5 N4 N2 N5 N6 N4 N2 N4 N2 N4	N2 N0 N0 N5 N5 N2	NI N0 N2 N1 N2 N0	Dg25 - FYM at 25 t/ha/yr St - Chonned wheat straw at 7 5 t/ha/vr
	\downarrow Lc F st C Dg25 F C Dg10 F	CC Dg25 Co Lc	Dg10 St F	CC - Cover crop (white mustard) prior to spring-
0.5m	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	(dm) (Pg) (Pt)	(Fs) (St) (Ln)	sown crop Co - Compost at 40 t/ha/yr
29.48m	(1±c6) (1±c8) (1±c8)	(1c8)		Lc - Permanent grass/clover: 11mothy, Fescue & white clover sown @ 30 kg/ha on 4 Oct 2002
	NI N3 N0 N1 N5 N0 N3 N0 N4 N0 N3 N1 N4 N3 N1 N4 N3 N1	N1 N4 N4 N1 N0 N4	N4 N5 N4 N0 N3 N5	Residues of mevious treatments (see 'Yields' hooks 1965-
	5 e			2002 subtraction of the second structure of the second structure of the second second structure of the second seco
	N0 N2 N5 N4 N3 N4 N4 N5 N3 N2 N2 N0 N0 N1 N5 N2	N5 N3 N2 N3 N1 N3	N2 N3 N3 N5 N1 N4	(St) Straw annually 1965-71 and 1981-85 (Gm) Green manuel y 1965-71 (her (Lc8)) consolutions in 1070 oc 2015-15 (her 112, her (Lc8))
→				grass/clover ley 1979-86 (Blocks I & III), 1980-87 (Blocks II & IV)
9.14m	Block 3	Block 4		(Pt) Peat annually 1965-71 then (Lc8) grass/clover ley 1979- 86 (Blocks I & III), 1980-87 (Blocks II & IV) 620 (DrAM control-tors) (DrAM control tors 71 - 1
	$ \uparrow 17 18 19 20 21 22 23 24 25 $	26 27 28 29 3	30 31 32	(ru) rww equivaent to (Dg) fatte, annually 1903-71 and 1981-86 (Blocks 1 & III) 1981-87 (Blocks III & IV) (Dg) = (Dg)
8.16m	N3 N1 N0 N5 N1 N0 N3 N0 N3 N0 N4 N1 N4 N5 N4 N2 N0	N2 N0 N5 N3 N1 N3	N2 N5 N3 N0 N1 N2	(15) XXMg equivation (0 (5) MIL F, anuarij 1502-11 men 22 (Fd) rate 1981-86 (Blocks 1 & III), 1981-87 (Blocks I & III) (15) Carron burnish N 1065 71 shor (7-6) arred for an (1-1), 1061-87
) st Dg10 CC F Co F Dg25 Lc F	Dg25 Co Dg10 Lc	F St CC	(LIU) Oldas key wild (N 1902-7) uicu (LEO) glass/covel key 1981-86 (Blocks I & III), 1981-87 (Blocks II & IV) (D) Generaciobauer law 1065 71 than (I & A) menciobauer law
				1981-86 (Blocks I & III), 1981-87 (Blocks II & IV).
26.48m	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	(Lpg) (Pt) (Fs) (Lc) (Lc6) (Lc6)	$ \begin{array}{c c} (Fd) & (St) & (Gm) \\ \hline & & (Lc8) \\ \hline \end{array} $	BASAL PKS/ha (to be applied early spring)
	N4 N2 N1 N2 N3 N5 N2 N1 N2 N5 N0 N2 N2 N1 N4 N1	N5 N1 N0 N4 N0 N5	N4 N3 N4 N2 N0 N4	Basal P at 97.5 kg TSP (20 kg P) to all treatments except Dg25
				Basal KS at $200 \text{ kg K}_2\text{SO}_4$ (83 kg K + 36 kg S) to all treatments except Dg25
3m	N5 N0 N3 N4 N4 N2 N5 N4 N3 N1 N5 N3 N3 N0 N5 N3 N0 N5 N3 N3 N0 N5 N3 N3 N0 N5 N3 N3 N0 N5 N3 N3 N3 N0 N5 N3	N4 N3 N1 N2 N2 N4	N0 N1 N5 N1 N3 N5	Nitrogen for 2004, /ha N0-5 0, 35, 70, 105, 140, 175 kg N/ha as Nitrochalk
VARIETY S. Barlev.	TY // Straw yields NOT reqired; straw baled and ev. Obtic tr. Sibutol @ removed	Row spacing		ROTATION W. rye, s. barley, w. beans, w. wheat, f. maize
400 s/n White r	400 s/m ² 12 April 2004 // From 1999 Block III has 3m discard at the NE White mustard Albatross @ and following service arcsion in winter 1008/00.	0 10 ×	12 16 6	
10 kg/h	10 kg/ha on 14 Aug 2003 sub-plots are therefore shorter		1	

D.P. Yeoman, 13.4.04