BROADBALK PLAN 1852-1925

	→ N																			
						Bro	adb	alk	Wi	ldei	nes	 88, 9	star	ted	18	82				
	Wooded													Mown				Stubbed		
Strip	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	3	2		
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	N2 K	-	N2 PK	N2 PK	N2* PK	N2 PK	N2 P	N2 PK	N2 P	N2 P	N2 -	N1* PK	N3 PK	N2 PK	N1 PK	- PK	-			
	Na	-	Na	Na	Na	Na	-	-	Na*	-		Na	Na	Na	Na	Na	-			
	Mg	-	Mg	Mg	Mg	Mg	Mg*	-	- - 1	- - -		Mg	Mg	Mg	Mg	Mg	-			
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Most strips divided into 2 halves length ways (A and B) 1847-1893 A and B halves combined to make one strip in 1894. Strips divided into 'Top (T) and Bottom (B) halves most years 1894-1925

Fertilizer and organic manure treatments 1852-1925

Strip Treatments applied each year since 1852:

- 2A FYM since 1885
- 2B FYM
- 3 No fertilizer or manure
- 5 PKNaMg
- 6 N1 PKNaMg
- 7 N2 PKNaMg
- 8 N3 PKNaMg
- 9 N1* PKNaMg since 1894; 9A and 9B received different treatments 1852-93
- 10 N2
- 11 N2 P
- 12 N2 P Na*
- 13 N2 PK
- 14 N2 P Mg*
- 15 N2 PKNaMg (timing of N application different to other plots, see below)
- 16 N4 PKNaMg 1852-64; unmanured 1865-83; N2*PKNaMg since 1884

Plots 17 and 18 treatments alternate each year:

- 17 N2 applied in even years; PKNaMg applied in odd years
- 18 N2 applied in odd years; PKNaMg applied in even years
- 19 N1.5 P and rape cake 1852-78, 1879-1925 rape cake only
- 20 N2 KNaMg since 1906, previously no manure or fertilizer

Annual treatment per hectare:

FYM: Farmyard manure at 35t

C: Rape cake: Supplied approx. 96kgN (N2).

0.56t 1852-78; 1.91t 1879-82; 2.12t 1883-1925 (omitted 1917-1920).

P: 35 kgP as superphosphate (omitted 1915)

K: 90 kgK as potassium sulphate (omitted 1915, 1917-19)

Na: 16 kgNa as sodium sulphate (omitted 1915)

Na* 57 kgNa as sodium sulphate (omitted 1915, 1917-19)

Mg: 11 kgMg as magnesium sulphate (omitted 1915)

Mg* 31 kgMg as magnesium sulphate (omitted 1915, 1917-19)

Nitrogen: Annual treatment per hectare

N1: 48 kgN as ammonium sulphate N1.5 72 kgN as ammonium sulphate

N2: 96 kgN as ammonium sulphate

N3: 144 kgN as ammonium sulphate N4: 192 kgN as ammonuim sulphate

N1*: 48 kgN as sodium nitrate N2*: 96 kgN as sodium nitrate

Timing of Nitrogen applications:

Ammonium sulphate:

1852-72 All applied in autumn

1873-77 All applied in autumn, except plot 15 in spring 1878-83 All applied in spring, except plot 15 in autumn

1884-1967 24 kgN applied in autumn, remainder in spring (except plot 15 all in autumn)

Sodium nitrate:

1867-1967 All applied in spring, as one application 1867-98, as two equal

amounts since 1899, applied from six days to six weeks apart

Sources of data:

Johnston & Garner (1969) Rothamsted Report for 1968, Part 2, pp12-25

Rothamsted Research (2006) 'Guide to the Classical and other Long-term Experiments'

Lawes Agricultural Trust, Harpenden, UK.

Please contact the e-RA Curators for further information