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Yields of the Field Experiments



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Rothamsted Research

Rothamsted Research (2021) 19/R/PG/5 - Park Grass; Yields Of The Field Experiments, pp 24 - 30

19/R/PG/5

19/R/PG/5 PARK GRASS

Object: To study the effects of organic manures and inorganic fertilisers and lime on old grass for hay.

The 164th year, hay.

For previous years see 'Details' 1977 and 1973 and Yield Books for 74-18/R/PG/5.

Treatments: Combinations of:

Whole plots

1.	Manure		Fertilizers and organic manures:			
	N1		Plot 1	N1		
	K		Plot 2/1	K since 1996 (as 2/2 before)		
	None (FYM)		Plot 2/2	None (FYM until 1863)		
	None		Plot 3	None		
	Р		Plot 4/1	P		
	N2P		Plot 4/2	N2 P		
	N1PKNaMg		Plot 6	N1 P K Na Mg		
	(P)KNaMg		Plot 7/1	K Na Mg (+P until 2012)		
	PKNaMg		Plot 7/2	P K Na Mg		
	PNaMg		Plot 8	P Na Mg		
	PKNaMg(N2)		Plot 9/1	P K Na Mg (+ N2 until 1989)		
	N2PKNaMg		Plot 9/2	N2 P K Na Mg		
	N2PNaMg		Plot 10	N2 P Na Mg		
	N3PKNaMg		Plot 11/1	N3 P K Na Mg		
	N3PKNaMgSi		Plot 11/2	N3 P K Na Mg Si		
	None		Plot 12	None		
	(FYM/F)		Plot 13/1	None (FYM/F until 1993/1995)		
	FYM/PM		Plot 13/2	FYM/PM (FYM/F until 1999)		
	PKNaMg (N2*)		Plot 14/1	P K Na Mg (+ N2* until 1989)		
	N2*PKNaMg		Plot 14/2	N2* P K Na Mg		
	N3*PKNaMg (N2	(*)	Plot 15	N3*P K Na Mg (N2* until 1875; P K Na Mg		
				1876-2012)		
	N1*PKNaMg		Plot 16	N1* P K Na Mg		
	N1*		Plot 17	N1*		
	N2KNaMg		Plot 18	N2 K Na Mg		
	FYM		Plot 19	FYM		
	FYM/N*PK		Plot 20	FYM/N*P K		
	N1, N2, N3:	48, 96	, 144 kg N as su	lphate of ammonia		
	N1*, N2*,	48, 96	, 144 kg N as nit	trate of soda (30 kg N to plot 20 in		
	N3*:	years	with no farmyar	d manure). In 2013 plot 15		
		starte	d to receive 144	kg N/ha as nitrate of soda to		
		provid	e a comparison	with plot 11/1, which receives		
		144 kg	N/ha as sulpha	te of ammonia.		

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P:	17 kg P/ha applied as triple superphosphate since
	2017, except for plot 20 which receives 15 kg P/ha in
	years with no farmyard manure. Prior to this, 35 kg P
	(15 kg P to plot 20 in years with no farmyard manure)
	was applied as triple superphosphate in 1974 and since

1987, single superphosphate in other years.

(P): In 2013 plot 7 was split into 7/1 & 7/2. P was withheld

from plot 7/1 but 7/2 continued to receive P as above.

K: 225 kg K (45 kg K to plot 20 in years with no farmyard

manure) as sulphate of potash

Na: 15 kg Na as sulphate of sodaMg: 10 kg Mg as sulphate of magnesiaSi: Silicate of soda at 450 kg

M: Earmyard manura at 25 t avery four

FYM: Farmyard manure at 35 t every fourth year

F: Fishmeal every fourth year to supply 63 kg N (stopped 1999;

replaced by PM)

PM Pelleted poultry manure at 2 t, every fourth year to supply 63

kg N (started 2003)

Sub-plots

2.	Lime	Liming plots 1-18 (excluding 18/2):
	а	Ground chalk applied as necessary to achieve pH7
	b	Ground chalk applied as necessary to achieve pH6
	С	Ground chalk applied as necessary to achieve pH5
	d	None

NOTE:

A small amount of chalk was applied to all plots during tests in the 1880s and 1890s. A regular test of liming was started in 1903 when most plots were divided in two and 4 t ha⁻¹ CaCO₃ was applied every four years to the southern half. In 1965, most plots were divided into four: sub-plots "a" and "b" on the previously limed halves and sub-plots "c" and "d" on the unlimed halves. Sub-plots "a", "b" and "c" now receive different amounts of chalk, when necessary, to achieve and/or maintain soil (0-23cm) at pH 7, 6 and 5, respectively. Sub-plot "d" receives no lime and its pH reflects inputs from the various treatments and the atmosphere. Lime was last applied in 2017-2018; the nineth application in a triennial scheme of soil pH analysis and remedial chalk applications.

[This note was incorrect in earlier Yield book entries.]

NOTE:

A separate scheme of liming was introduced on plots 18, 19 & 20 in 1920; subplot /1, /2 and /3 receive no lime, "high" lime and "light" lime respectively every 4 years. Since 1965 plot 18-1 has been split into two for treatments 'c' and 'd' as above and plot 18-3 split into two for treatments 'a' and 'b. Plots 19 and 20 received no further chalk after 1968; plot 18/2 no further chalk after 1972.

[This note was incorrect in earlier Yield book entries. See further details on the e-RA website at http://www.era.rothamsted.ac.uk]

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Experimental Diary

06/11/2018 f Applied TSP Treatments - plots 4/1,4/2, 6a, 6b, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16 83 kg/ha 06/11/2018 f Applied TSP Treatments - plot 20 73 kg/ha 28/01/2019 f Sulphate of Potash (50% K2O) - plots 2/1, 6a, 6b, 7/1, 7/2, 9/1, 9/2, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 108 kg/ha 28/01/2019 f Sulphate of Potash (50% K2O) - plots 20 108 kg/ha 28/01/2019 f Sulphate of Soda (35% Na) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 111.1 kg/ha 28/01/2019 f Sulphate of Magnesia as Epson Salts (9% Mg) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 111.1 kg/ha 28/01/2019 f Silicate of Soda - plots 11/2 450 kg/ha 28/01/2019 f Silicate of Soda - plots 11/2 450 kg/ha 28/01/2019 f Poultry Manure - plot 13/2 2 t/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 <th>Date</th> <th></th> <th>Application</th> <th>Rate</th> <th>Units</th>	Date		Application	Rate	Units
28/01/2019 f Sulphate of Potash (50% K2O) - plots 2/1, 6a, 6b, 7/1, 7/2, 9/1, 9/2, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 542 kg/ha 9/2, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 28/01/2019 f Sulphate of Potash (50% K2O) - plots 20 108 kg/ha 28/01/2019 f Sulphate of Soda (35% Na) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/2, 14/2, 14/1, 15, 16, 18 111.1 kg/ha 28/01/2019 f Sulphate of Magnesia as Epson Salts (9% Mg) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 111.1 kg/ha 31/01/2019 f Sulphate of Soda - plots 11/2 4/2, 14/1, 15, 16, 18 450 kg/ha 31/01/2019 f Poultry Manure - plot 13/2 2 t/ha 7/2, 8, 9/1, 9/2, 10, 111/1, 11/2, 14/2, 14/1, 15, 16, 18 2 t/ha 31/01/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 20/04/2019 kg/ha 20/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 457	06/11/2018	f		83	kg/ha
9/2, 11/1, 11/2, 14/2, 14/1, 15, 16, 18	06/11/2018	f	Applied TSP Treatments - plot 20	73	kg/ha
28/01/2019 f Sulphate of Soda (35% Na) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 43 kg/ha 28/01/2019 f Sulphate of Magnesia as Epson Salts (9% Mg) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 111.1 kg/ha 28/01/2019 f Silicate of Soda - plots 11/2 450 kg/ha 31/01/2019 f Poultry Manure - plot 13/2 2 t/ha 01/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha	28/01/2019	f		542	kg/ha
10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 28/01/2019 f Sulphate of Magnesia as Epson Salts (9% Mg) - plots 6a, 6b, 7/1, 7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 28/01/2019 f Silicate of Soda - plots 11/2 450 kg/ha 31/01/2019 f Poultry Manure - plot 13/2 2 t/ha 01/04/2019 a Topped paths 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths 20/04/2019 a Cut Paths 20/04/2019 a Cut Paths 20/06/2019 a Cut Paths 20/06/2019 a Cut Paths 20/06/2019 a Cut Paths 20/06/2019 a Cut Paths 20/07/2019 a Harvest - 1st Cut for grass yields 20/07/2019 a Mowed all grass plots 20/07/2019 a Path Cutting - Kilworth Topper - Izeki tractor 21/10/2019 a Harvest - 20/06 Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up	28/01/2019	f	Sulphate of Potash (50% K2O) - plots 20	108	kg/ha
7/2, 8, 9/1, 9/2, 10, 11/1, 11/2, 14/2, 14/1, 15, 16, 18 28/01/2019 f Silicate of Soda - plots 11/2	28/01/2019	f		43	kg/ha
31/01/2019 f Poultry Manure - plot 13/2 2 t /ha 01/04/2019 a Topped paths - - 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 20 188 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - - 29/04/2019 a Cut Paths - - 24/05/2019 <	28/01/2019	f		111.1	kg/ha
01/04/2019 a Topped paths - - 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b 229 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plot 20 188 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - - 29/04/2019 a Cut Paths - - 21/05/2019 a Cut Paths - - 20/06/2019 a Cut Paths - <td< td=""><td>28/01/2019</td><td>f</td><td>Silicate of Soda - plots 11/2</td><td>450</td><td>kg/ha</td></td<>	28/01/2019	f	Silicate of Soda - plots 11/2	450	kg/ha
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10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18 457 kg/ha 10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plot 20 188 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - - 29/04/2019 a Cut Paths - - 15/05/2019 a Cut Paths - - 24/05/2019 a Cut Paths - - 20/06/2019 a Cut Paths - - 26/06/2019 a Harvest - 1st Cut for grass yields - - 28/06/2019 a Test Cut plots for yield with Haldrup - - 01/07/2019 a Mowed all grass plots - -	01/04/2019	а	Topped paths	-	-
10/04/2019 f Applied Sulphate of Ammonia (21% N) - plots 11/1, 11/2 686 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plot 20 188 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - 29/04/2019 a Cut Paths - 24/05/2019 a Cut Paths - 20/06/2019 a Cut Paths - 26/06/2019 a Harvest - 1st Cut for grass yields - 28/06/2019 a Harvest - 1st Cut for grass yields - 28/06/2019 a Mowed all grass plots - 02/07/2019 a Mowed all grass plots - 02/07/2019 a Path Cutting - Kilworth Topper - Izeki tractor - 17/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up -	10/04/2019	f	Applied Sulphate of Ammonia (21% N) - plots 1 and 6a, 6b	229	kg/ha
10/04/2019 f Applied Sodium Nitrate (16% N) - plot 20 188 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 16, 17 300 kg/ha 10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - 29/04/2019 a Cut Paths - 29/04/2019 a Cut Paths - 24/05/2019 a Cut Paths - 20/06/2019 a Cut Paths - 26/06/2019 a Cut Paths - 28/06/2019 a Harvest - 1st Cut for grass yields - 28/06/2019 a Test Cut plots for yield with Haldrup - 01/07/2019 a Mowed all grass plots - 02/07/2019 a turned grass plots - 15/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor - 17/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south a	10/04/2019	f	Applied Sulphate of Ammonia (21% N) - plots 4/2, 9/2, 10, 18	457	kg/ha
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10/04/2019 f Applied Sodium Nitrate (16% N) - plots 14/2 600 kg/ha 11/04/2019 f Applied Sodium Nitrate (16% N) - plots 15 900 kg/ha 11/04/2019 a Cut Paths - - 29/04/2019 a Cut Paths - - 15/05/2019 a topped surrounds and paths - - 24/05/2019 a Cut Paths - - 26/06/2019 a Harvest - 1st Cut for grass yields - - 28/06/2019 a Test Cut plots for yield with Haldrup - - 01/07/2019 a Mowed all grass plots - - 02/07/2019 a turned grass plots - - 15/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor - - 17/10/2019 a Path Cutting - Kilworth Topper - Izeki tractor - - 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up - - <td>10/04/2019</td> <td>f</td> <td>Applied Sodium Nitrate (16% N) - plot 20</td> <td>188</td> <td>kg/ha</td>	10/04/2019	f	Applied Sodium Nitrate (16% N) - plot 20	188	kg/ha
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11/04/2019 a Cut Paths - - 29/04/2019 a Cut Paths - - 15/05/2019 a Cut Paths - - 24/05/2019 a topped surrounds and paths - - 20/06/2019 a Cut Paths - - 26/06/2019 a Harvest - 1st Cut for grass yields - - 28/06/2019 a Test Cut plots for yield with Haldrup - - 01/07/2019 a Mowed all grass plots - - 02/07/2019 a turned grass plots - - 15/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor - - 17/10/2019 a Path Cutting - Kilworth Topper - Izeki tractor - - 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up - -	10/04/2019	f	Applied Sodium Nitrate (16% N) - plots 14/2	600	kg/ha
29/04/2019 a Cut Paths - 15/05/2019 a Cut Paths - 24/05/2019 a topped surrounds and paths - 26/06/2019 a Cut Paths - 1st Cut for grass yields - 28/06/2019 a Harvest - 1st Cut for grass yields - 28/06/2019 a Mowed all grass plots - 28/06/2019 a Mowed all grass plots - 20/07/2019 a turned grass plots - 25/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor - 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot - 29/10/2019 a Row up - 2 - 3	11/04/2019	f	Applied Sodium Nitrate (16% N) - plots 15	900	kg/ha
15/05/2019 a Cut Paths	11/04/2019	а	Cut Paths	-	-
24/05/2019 a topped surrounds and paths	29/04/2019	а	Cut Paths	-	20
20/06/2019 a Cut Paths - 1 26/06/2019 a Harvest - 1st Cut for grass yields - 28/06/2019 a Test Cut plots for yield with Haldrup - 2 01/07/2019 a Mowed all grass plots - 2 02/07/2019 a turned grass plots - 2 15/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor - 2 17/10/2019 a Path Cutting - Kilworth Topper - Izeki tractor - 2 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up - 2	15/05/2019	а	Cut Paths	=	20
26/06/2019 a Harvest - 1st Cut for grass yields	24/05/2019	а	topped surrounds and paths	-	- 3
28/06/2019 a Test Cut plots for yield with Haldrup	20/06/2019	а	Cut Paths	-	2 3
01/07/2019 a Mowed all grass plots	26/06/2019	а	Harvest - 1st Cut for grass yields	-	-
02/07/2019 a turned grass plots 15/08/2019 a Path Cutting - Kilworth Topper - Izeki tractor 17/10/2019 a Path Cutting - Kilworth Topper - Izeki tractor 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up	28/06/2019	а	Test Cut plots for yield with Haldrup		-
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17/10/2019 a Path Cutting - Kilworth Topper - Izeki tractor 22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up	02/07/2019	а	turned grass plots		=
22/10/2019 a Harvested - 2nd Cut for grass yields - plot 18d second pass moved to south after accident with mower - still full length of plot 29/10/2019 a Row up	15/08/2019	а	Path Cutting - Kilworth Topper - Izeki tractor	劇	-
moved to south after accident with mower - still full length of plot 29/10/2019 a Row up	17/10/2019	а	Path Cutting - Kilworth Topper - Izeki tractor	-	2
The first of the second	22/10/2019	а	moved to south after accident with mower - still full length of		•
The first of the second	29/10/2019	а	Row up		-
20/Tn/snta a gallud / pales	30/10/2019	а	Baling	7	bales

19/R/PG/5

NOTE: Samples of herbage (1^{st} and 2^{nd} Cut) were taken for chemical analysis. Unground herbage samples from all plots were archived.

Yields

1ST CUT (26-27 JUN 2019) DRY MATTER, TONNES/HECTARE

Tables of means

Grand mea	n 4.16					
Manur N1		a 2.66	b 2.49	c 2.03	d 1.24	Mean 2.10
K 2/2	1	2.46	2.63	1.87	2.49	2.36
None(FYM) 2/2	2	2.92	2.98	2.41	2.24	2.64
None 3	3	2.50	2.90	2.51	2.02	2.48
P 4/:	1	2.72	3.50	3.30	2.83	3.09
N2P 4/2	2	4.26	4.83	4.81	2.62	4.13
N1PKNaMg (5	5.26	5.81	11.5	5 53	5.54
(P)KNaMg 7/2	1	4.10	5.47	4.97	2.69	4.31
PKNaMg 7/2	2	3.92	5.49	5.05	4.20	4.66
PNaMg 8	3	3.13	3.75	4.07	4.75	3.93
PKNaMg(N2) 9/3	1	4.08	4.99	4.28	1.00	3.59
N2PKNaMg 9/2	2	5.34	6.07	5.19	4.56	5.29
N2PNaMg 10	0	4.31	4.60	5.08	3.31	4.32
N3PKNaMg 11/	1	5.27	5.78	5.66	4.91	5.41
N3PKNaMgSi 11/2	2	6.86	6.52	5.66	5.67	6.18
None 12	2	2.90	2.35	2.68	2.45	2.59
(FYM/F) 13/2	1	4.00	4.34	4.17	3.75	4.06
FYM/PM 13/2	2	4.01	5.25	5.22	6.05	5.13
PKNaMg(N2*) 14/	1	3.45	4.96	4.79	4.84	4.51
N2*PKNaMg 14/2	2	5.32	6.06	4.85	6.03	5.56
13*PKNaMg(N2*) 1	5	5.45	6.48	5.60	6.15	5.92
N1*PKNaMg 1	5	4.79	5.27	4.37	4.48	4.73
N1* 1	7	3.03	3.58	2.71	3.28	3.15

Results of the Classical and other Long-term Experiments 2019 19/R/PG/5								
N2KNaMg 18		3.49	3.73	3.26	1.11	2.90		
N2KNaMg 18/2		(4)	-	-	*	3.93		
FYM 19/1		æ		*	(#3)	5.50		
FYM 19/2		-	(2)	2	531	5.62		
FYM 19/3		17.	-	8	-	5.84		
FYM/N*PK 20/1		-	020	<u>201</u>	120	5.75		
FYM/N*PK 20/2		-	-	2	21	5.84		
FYM/N*PK 20/3		~	1=1	-	:= 0	5.39		
1st cut mean DM%	26.80							
2ND CUT (22 OCT 2019) DRY MAT	TER, TONN	IES/HECTA	RE					
Tables of means Grand mean	0.93							
Manure N1 1	Lime	a 0.90	b 0.83	c 0.91	d 0.42	Mean 0.77		
K 2/1		0.70	0.60	0.62	0.81	0.68		
None(FYM) 2/2		0.80	0.80	1.04	0.91	0.89		
None 3		0.86	0.87	1.13	1.01	0.97		
P 4/1		1.09	1.18	1.75	1.18	1.30		
N2P 4/2		0.57	0.76	0.60	0.60	0.63		
N1PKNaMg 6		0.64	0.63		**	0.63		
(P)KNaMg 7/1		0.79	0.90	0.74	0.72	0.79		
PKNaMg 7/2		0.67	0.76	0.82	0.55	0.70		
PNaMg 8		0.73	0.57	0.54	0.69	0.63		
PKNaMg(N2) 9/1		0.55	0.65	0.48	0.08	0.44		
N2PKNaMg 9/2		0.65	0.78	0.38	0.71	0.63		
N2PNaMg 10		0.27	0.46	0.67	0.65	0.51		
N3PKNaMg 11/1		1.35	1.20	0.83	1.44	1.21		
N3PKNaMgSi 11/2		2.20	1.55	1.12	1.58	1.61		
None 12		0.52	0.38	0.55	0.43	0.47		

0.88

0.81

0.59

0.54

0.70

(FYM/F) 13/1

Results of the Classical and other Long-term Experiments 2019							
FYM/PM 13/2	1.21	1.48					
PKNaMg(N2*) 14/1	0.57	1.05	1.40	1.35	1.09		
N2*PKNaMg 14/2	1.46	1.84	1.54	1.60	1.61		
N3*PKNaMg(N2*) 15	1.68	1.81	1.76	1.29	1.63		
N1*PKNaMg 16	1.31	1.61	1.17	0.94	1.26		
N1* 17	0.89	0.90	0.81	0.81	0.85		
N2KNaMg 18	0.46	0.63	0.68	0.24	0.50		
N2KNaMg 18/2	/ = /	(/ =)	2	= 3	0.96		
FYM 19/1	-	~	=	*1	0.95		
FYM 19/2	-				1.28		
FYM 19/3	100		=	1=13	1.09		
FYM/N*PK 20/1	(T)	(5)	₩.	53	1.05		
FYM/N*PK 20/2	-		2	90	1.22		
FYM/N*PK 20/3	-	-	2	423	0.87		

2nd cut mean DM% 24.05

TOTAL OF 2 CUTS DRY MATTER, TONNES/HECTARE

Tables of means

Grand mean		5.09					
Manure		Lime	а	b	С	d	Mean
N1	1		3.56	3.32	2.94	1.66	2.87
K	2/1		3.16	3.23	2.48	3.30	3.04
None(FYM)	2/2		3.72	3.78	3.46	3.14	3.52
None	3		3.36	3.77	3.64	3.03	3.45
P	4/1		3.81	4.69	5.04	4.01	4.39
N2P	4/2		4.83	5.59	5.42	3.21	4.76
N1PKNaMg	6		5.91	6.43	152	:E1	6.17
(P)KNaMg	7/1		4.89	6.38	5.70	3.41	5.10
PKNaMg	7/2		4.59	6.25	5.87	4.75	5.36
PNaMg	8		3.86	4.31	4.61	5.44	4.56
PKNaMg(N2)	9/1		4.63	5.64	4.76	1.08	4.03

Results of the Classical and other Long-term Experiments 2019							
N2DVN-N- 0/2	F 00	C 0E	F F 7	F 26	F 02		
N2PKNaMg 9/2	5.99	6.85	5.57	5.26	5.92		
N2PNaMg 10	4.58	5.05	5.75	3.96	4.83		
N3PKNaMg 11/1	6.62	6.98	6.49	6.35	6.61		
N3PKNaMgSi 11/2	9.06	8.07	6.78	7.25	7.79		
None 12	3.42	2.72	3.23	2.88	3.06		
(FYM/F) 13/1	4.88	5.15	4.75	4.29	4.77		
FYM/PM 13/2	5.28	7.24	6.66	7.27	6.61		
PKNaMg(N2*) 14/1	4.02	6.01	6.19	6.19	5.60		
N2*PKNaMg 14/2	6.78	7.89	6.39	7.63	7.17		
N3*PKNaMg(N2*) 15	7.13	8.29	7.36	7.44	7.55		
N1*PKNaMg 16	6.1	6.87	5.53	5.42	5.98		
N1* 17	3.93	4.49	3.52	4.10	4.01		
N2KNaMg 18	3.95	4.36	3.94	1.35	3.40		
N2KNaMg 18/2	2	-	-	-	4.89		
FYM 19/1	=	18.		121	6.45		
FYM 19/2	-		-	-	6.90		
FYM 19/3	-				6.94		
FYM/N*PK 20/1		-		-	6.80		
FYM/N*PK 20/2		5 5 8	·*	57.5	7.06		
FYM/N*PK 20/3	1.5		•	-	6.26		
TOTAL OF 2 CUTS							

30

Mean DM% 25.38