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Woburn long-term liming experiment plans 1962-1996

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Description: Contains five standardized experiment plans for the Woburn Long-term Liming Experiment, 1962-1996, showing plot numbers, layout and treatment factors (not to scale).

- **Plan 1:** 1962-1973. Lime and PK treatments applied to whole plots
- **Plan 2:** 1974-1980. Mg treatments applied to sub-plots, lime and PK treatments to whole plots
- **Plan 3:** 1981-1986. Lime and P treatments to whole plots
- **Plan 4:** 1987-1990. Mn treatments applied to sub-plots, lime and P treatments to whole plots
- **Plan 5:** 1991-1996. S treatments applied to sub-plots, lime and P treatments to whole plots.

Site: W/CS/10. Stackyard field Section 3, Woburn Experimental Farm, Husborne Crawley, Woburn, Bedfordshire, UK. Latitude 52.0003, Longitude -0.6149

Related Resources:

- Original hand drawn plans for individual years can be found here: <http://www.era.rothamsted.ac.uk/eradoc/book/147>
- Refer to website for more details: <http://www.era.rothamsted.ac.uk/>

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Woburn long term liming experiment W/CS/10
Plan 1962-1973

Not to scale

Stackyard

Lime and PK plot treatments

N

Plot	33	34	35	36	37	38	39	40	Block
Lime	O	L	H	L	M	O	L	H	
PK	none	none	PK	K	P	K	P	K	
	41	42	43	44	45	46	47	48	1
	O	M	O	M	H	L	M	H	
	PK	none	P	PK	P	PK	K	none	
	49	50	51	52	53	54	55	56	2
	L	L	M	O	O	H	O	L	
	none	K	PK	K	P	PK	none	P	
	57	58	59	60	61	62	63	64	2
	H	L	H	O	M	H	M	M	
	K	PK	none	PK	none	P	P	K	

76.8m

51.2m

Treatment factors:

Lime t CaCO₃ ha⁻¹, total 1962-1973

O	0
L	5
M	12
H	19

PK treatment:	kg ha ⁻¹ yr ⁻¹	
1962-1980:	P	K
none	0	0
K	0	104
P	27.5	0
PK	27.5	104

No P or K in fallow years, and different rate for potatoes.

Plot area 6.4m x 18.3m Fallow 1969

Woburn long term liming experiment W/CS/10

Not to scale

Plan 1974-1980

Mg applied to sub-plots

Stackyard

Lime and PK whole plot treatments

N

Sub-plot	331	341	351	361	371	381	391	401	Block 1
Mg	Mg	Mg	-	Mg	Mg	-	-	Mg	
Lime	O	L	H	L	M	O	L	H	
Mg	-	-	Mg	-	-	Mg	Mg	-	
PK	none	none	PK	K	P	K	P	K	
Sub-plot	332	342	352	362	372	382	392	402	
411	421	431	441	451	461	471	481		1
Mg	-	-	Mg	-	Mg	Mg	-		
O	M	O	M	H	L	M	H		
-	Mg	Mg	-	Mg	-	-	Mg		
PK	none	P	PK	P	PK	K	none		
412	422	432	442	452	462	472	482		
491	501	511	521	531	541	551	561		2
-	-	Mg	-	-	Mg	-	Mg		
L	L	M	O	O	H	O	L		
Mg	Mg	-	Mg	Mg	-	Mg	-		
none	K	PK	K	P	PK	none	P		
492	502	512	522	532	542	552	562		
571	581	591	601	611	621	631	641		2
Mg	-	-	-	Mg	Mg	-	Mg		
H	L	H	O	M	H	M	M		
-	Mg	Mg	Mg	-	-	Mg	-		
K	PK	none	PK	none	P	P	K		
572	582	592	602	612	622	632	642		

51.2m

Treatment factors:

Lime t CaCO₃ ha⁻¹, total 1962-1980

O	0
L	6
M	14
H	23

Mg kgMg ha⁻¹yr⁻¹

-	0
Mg	112
Mg applied 1974, 1976-78	

PK treatment

kg ha⁻¹yr⁻¹

1962-1980:

	P	K
none	0	0
K	0	105
P	27.5	0
PK	27.5	105

No P or K in fallow years, and different rate for potatoes.

See plans for previous years (1962-1973) for further details

Plot area 6.4m x 18.3m (6.4m x 18m 1974, 1976) Fallow 1979 & 1980

Woburn long term liming experiment W/CS/10
Plan 1981-1986

Not to scale

Stackyard

Lime and P plot treatments

N

Plot	33	34	35	36	37	38	39	40	Block 1 1 76.8m 2 2 51.2m
Lime	O	L	H	L	M	O	L	H	
P	P0	P0	P3	P1	P2	P1	P2	P1	
	41	42	43	44	45	46	47	48	
	O	M	O	M	H	L	M	H	
	P3	P0	P2	P3	P2	P3	P1	P0	
	49	50	51	52	53	54	55	56	
	L	L	M	O	O	H	O	L	
	P0	P1	P3	P1	P2	P3	P0	P2	
	57	58	59	60	61	62	63	64	
	H	L	H	O	M	H	M	M	
	P1	P3	P0	P3	P0	P2	P2	P1	

Treatment factors:

Lime t CaCO₃ ha⁻¹, total 1962-1986

O	0
L	8
M	24
H	43

PK treatment	P treatment	kgP ha ⁻¹ total	
1962-1980:	1981-1988:	1962-80	1981-86
None	P0	0	0
K	P1	0	125
P	P2	495	75
PK	P3	495	225

See plans for previous years (1962-1980) for further details

Plot area 6.4m x 18.3m (6.0m x 18m 1983) Fallow 1984

Woburn long term liming experiment W/CS/10

Not to scale

Plan 1987-1990

Mn applied to sub-plots

Stackyard

Lime and P whole plot treatments

N

Sub-plot	331	341	351	361	371	381	391	401	Block 1 1 76.8m 2 2 51.2m
Mn	-	-	-	-	-	-	-	-	
Lime	O	L	H	L	M	O	L	H	
Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	
P	P0	P0	P3	P1	P2	P1	P2	P1	
Sub-plot	332	342	352	362	372	382	392	402	
	411	421	431	441	451	461	471	481	Block 1 1 76.8m 2 2 51.2m
	-	-	-	-	-	-	-	-	
	O	M	O	M	H	L	M	H	
	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	
	P3	P0	P2	P3	P2	P3	P1	P0	
	412	422	432	442	452	462	472	482	
	491	501	511	521	531	541	551	561	Block 2 2 51.2m
	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	
	L	L	M	O	O	H	O	L	
	-	-	-	-	-	-	-	-	
	P0	P1	P3	P1	P2	P3	P0	P2	
	492	502	512	522	532	542	552	562	
	571	581	591	601	611	621	631	641	Block 2 2 51.2m
	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	
	H	L	H	O	M	H	M	M	
	-	-	-	-	-	-	-	-	
	P1	P3	P0	P3	P0	P2	P2	P1	
	572	582	592	602	612	622	632	642	

Treatment factors:

Lime: t CaCO₃ ha⁻¹, total 1962-1987

O	0
L	9
M	25.5
H	45.5

Mn spray treatment

1987-1990:

-	not applied
Mn	foliar spray applied

PK treatment

1962-1980:

None
K
P
PK

P treatment

1981-1988:

P0
P1
P2
P3

kgP ha ⁻¹ total	
1962-80	1981-88
0	0
0	150
495	100
495	300

See plans for previous years (1962-1986) for further details

Plot area 6.0m x 18.3m

Woburn long term liming experiment W/CS/10

Not to scale

Plan 1991-1996

S applied to sub-plots

Stackyard

Lime and P whole plot treatments

N

Sub-plot	331	341	351	361	371	381	391	401	Block
S	S	-	-	S	S	-	-	-	1
Lime	O	L	H	L	M	O	L	H	
S	-	S	S	-	-	S	S	S	
P	P0	P0	P3	P1	P2	P1	P2	P1	
Sub-plot	332	342	352	362	372	382	392	402	
76.8m									
	411	421	431	441	451	461	471	481	1
S	S	-	S	S	S	S	S	-	
O	O	M	O	M	H	L	M	H	
-	-	S	-	-	-	-	-	S	
P	P3	P0	P2	P3	P2	P3	P1	P0	
Sub-plot	412	422	432	442	452	462	472	482	
76.8m									
	491	501	511	521	531	541	551	561	2
-	-	S	-	S	S	-	-	S	
L	L	L	M	O	O	H	O	L	
S	S	-	S	-	-	S	S	-	
P	P0	P1	P3	P1	P2	P3	P0	P2	
Sub-plot	492	502	512	522	532	542	552	562	
76.8m									
	571	581	591	601	611	621	631	641	2
S	S	S	S	S	-	-	S	-	
H	L	L	H	O	M	H	M	M	
-	-	-	-	-	S	S	-	S	
P	P1	P3	P0	P3	P0	P2	P2	P1	
Sub-plot	572	582	592	602	612	622	632	642	
51.2m									

Treatment factors:

Lime: t CaCO₃ ha⁻¹, total 1962-1987

O	0
L	9
M	25.5
H	45.5

S treatment

1991-1996:	kgS ha ⁻¹ yr ⁻¹
-	0
S	30

PK treatment

1962-1980:

None
K
P
PK

P treatment

1981-1988:

P0
P1
P2
P3

kgP ha⁻¹ total

1962-80 1981-88

0	0
0	150
495	100
495	300

See plans for previous years (1962-1990) for further details

Plot area 6.0m x 18.3m 1991, 1992; 5.6m x 16.1m 1993, 1994; 6.0m x 16.1m 1995, 1996