



Woburn long-term liming experiment plans 1962-1996

ROTHAMSTED
RESEARCH

DOI: [10.23637/wcs10-Plans](https://doi.org/10.23637/wcs10-Plans)

Prepared by: Margaret J Glendining, CAS Department, Rothamsted Research, Harpenden, Herts, AL5 2JQ, UK.

Published by: Rothamsted Research

Date: December 2020

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/>

Cite as: Glendining M.J. (2020) *Woburn long-term liming experiment plans 1962-1996*. *Electronic Rothamsted Archive, Rothamsted Research*. [10.23637/wcs10-Plans](https://doi.org/10.23637/wcs10-Plans)

Funding: Rothamsted Research receives strategic funding from the UK Biotechnology and Biological Sciences Research Council (BBSRC). The Rothamsted Long-term Experiments National Capability is supported by the BBSRC Grant BBS/E/C/000J0300 and the Lawes Agricultural Trust.

Licence and conditions of re-use:



These plans are published under [the Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/) licence. CC BY 4.00

You are free to adapt, copy, redistribute these plans but must provide appropriate credit using the provided citation, including the DOI and indicate any changes made. You must not apply additional restrictions on the licence.

**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 1
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	Block 1
Lime	O	M	O	M	H	L	M	H	
PK	PK	none	P	PK	P	PK	K	none	
	49	50	51	52	53	54	55	56	Block 2
Lime	L	L	M	O	O	H	O	L	
PK	none	K	PK	K	P	PK	none	P	
	57	58	59	60	61	62	63	64	Block 2
Lime	H	L	H	O	M	H	M	M	
PK	K	PK	none	PK	none	P	P	K	

51.2m

76.8m

Treatment factors:

Lime t CaCO₃ ha⁻¹, total 1962-1973

O	0
L	5
M	12
H	19

PK treatment: kg ha⁻¹yr⁻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	
76.8m									
	411	421	431	441	451	461	471	481	Block 1
Mg	-	-	-	Mg	-	Mg	Mg	-	
Lime	O	M	O	M	H	L	M	H	
Mg	-	Mg	Mg	-	Mg	-	-	Mg	
PK	none	none	P	PK	P	PK	K	none	
	412	422	432	442	452	462	472	482	
76.8m									
	491	501	511	521	531	541	551	561	Block 2
Mg	-	-	Mg	-	-	Mg	-	Mg	
Lime	L	L	M	O	O	H	O	L	
Mg	-	Mg	-	Mg	Mg	-	Mg	-	
PK	none	K	PK	K	P	PK	none	P	
	492	502	512	522	532	542	552	562	
76.8m									
	571	581	591	601	611	621	631	641	Block 2
Mg	-	-	-	-	Mg	Mg	-	Mg	
Lime	H	L	H	O	M	H	M	M	
Mg	-	Mg	Mg	Mg	-	-	Mg	-	
PK	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:

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

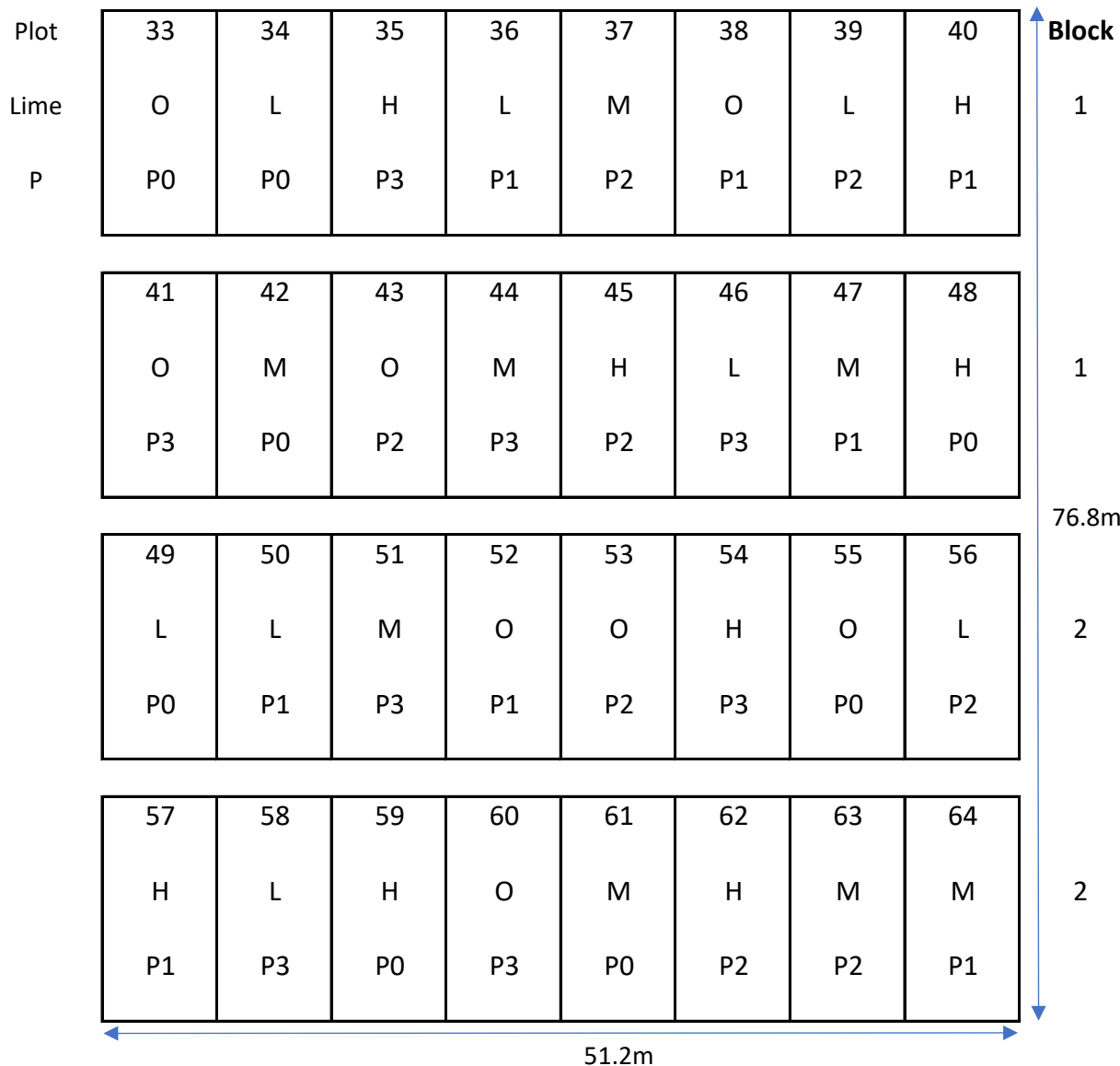
Woburn long term liming experiment W/CS/10
Plan 1981-1986

Not to scale

Stackyard

Lime and P plot treatments

N ↓



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	
		1962-80	1981-86
None	P0	0	0
K	P1	0	100
P	P2	495	75
PK	P3	495	200

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
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	
76.8m									
	411	421	431	441	451	461	471	481	Block 1
Mn	-	-	-	-	-	-	-	-	
Lime	O	M	O	M	H	L	M	H	
Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	
P	P3	P0	P2	P3	P2	P3	P1	P0	
	412	422	432	442	452	462	472	482	
76.8m									
	491	501	511	521	531	541	551	561	Block 2
Mn	L	L	M	O	O	H	O	L	
Lime	-	-	-	-	-	-	-	-	
Mn	P0	P1	P3	P1	P2	P3	P0	P2	
P	492	502	512	522	532	542	552	562	
76.8m									
	571	581	591	601	611	621	631	641	Block 2
Mn	H	L	H	O	M	H	M	M	
Lime	-	-	-	-	-	-	-	-	
Mn	P1	P3	P0	P3	P0	P2	P2	P1	
P	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

Mn spray treatment

1987-1990:

-	not applied
Mn	foliar spray applied

PK treatment

P treatment

kgP ha⁻¹ total

1962-1980:

1981-1988:

1962-80 1981-88

None	P0	0	0
K	P1	0	125
P	P2	495	100
PK	P3	495	275

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	-	-	-	
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	-	
Lime	O	M	O	M	H	L	M	H	
S	-	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	-	-	S	
Lime	L	L	M	O	O	H	O	L	
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	-	
Lime	H	L	H	O	M	H	M	M	
S	-	-	-	-	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	125
495	100
495	275

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