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Yields of the Field Experiments 1965

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65/W/WGM/B/3 Green Manuring

Rothamsted Research

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65/B/3.1

GREEN MANURING EXPERIMENT

(WGM)

Woburn Stackyard 1965, the second year with revised treatments.

For history, treatments, etc., see 'Details' 1962 and 'Results' 64/B/3.

Area of each sub-plot: 0.0195. Area harvested: 0.0145.

Cultivations, etc.: Ploughed (plots not undersown):

Oct 28, 1964. Green manure plots ploughed: Feb 4, 1965.

'Nitro-Chalk' applied: Lower Half - Mar 12, Upper Half -

Mar 17. Seed drilled at 2.5 bushels, trefoil sown

at 30 lb, ryegrass at 40 lb: Mar 29. Sprayed with

MCPB at 2 lb a.e. in 40 gals: May 11. Combine

harvested: Aug 26.

ESTIMATES OF PRODUCE (ROOTS AND TOPS) OF GREEN MANURE CROPS: CWT PER ACRE

1965

UPPER HALF

TO BARLEY 1964

	NO	N1	N2	N3	Mean
DRY MATTER					
T	14.9	10.7	7.8	5.2	9.6
R	5.6	4.3	4.1	3.0	4.2
Mean	10.2	7.5	5.9	4.1	6.9
NITROGEN					
T	0.414	0.280	0.161	0.126	0.245
R	0.077	0.061	0.064	0.051	0.063
Mean	0.246	0.170	0.112	0.088	0.154

65/B/3.2

1965

LOWER HALF

TO BARLEY 1964

	NO	N1	N2	N3	Mean
DRY MATTER					
T	15.8	12.6	8.2	5.8	10.6
R	6.8	6.5	5.6	3.6	5.7
Mean	11.3	9.6	6.9	4.7	8.1
NITROGEN					
T	0.449	0.320	0.184	0.131	0.271
R	0.075	0.073	0.069	0.053	0.068
Mean	0.262	0.196	0.126	0.092	0.169

1964

N TO BARLEY 1963

	NO	N1	N2	N3	Mean
DRY MATTER					
T	20.7	24.4	17.9	15.3	19.6
R	27.3	21.8	19.9	17.3	21.6
Mean	24.0	23.1	18.9	16.3	20.6
Mean N %:					
T	3.40				
R	1.66				

65/B/3.3

SUMMARY OF RESULTS

LOWER HALF

BARLEY (2nd crop)

GRAIN

EXCLUDING PLOTS FALLOW UNDER OLD SCHEME

N 1964 - 65

	NO	N1	N2	N3	Mean
Mean	17.8	26.2	36.2	39.2	29.9
N 1963*					
NO	19.8	26.5	36.2	39.1	30.4
N1	17.7	24.5	36.4	39.6	29.6
N2	17.1	28.2	37.3	38.4	30.2
N3	16.8	25.6	34.7	39.8	29.2
Undersown 1964-65					
O	12.8	24.2	35.2	38.4	27.7
T	36.4	34.6	41.6	40.9	38.4
R	9.4	21.8	32.6	39.1	25.7
Green manures+					
1955 - 63					
T	16.3	26.1	34.4	39.8	29.1
R	19.0	24.4	38.1	38.1	29.9
TU	17.9	25.7	37.2	39.2	30.0
RU	18.3	28.7	35.0	39.7	30.4
Dung last applied					
1953					
O	17.7	26.0	36.4	39.4	29.9
D	18.0	26.4	35.9	39.1	29.8

+

T = Trefoil grown as a green manure after early potatoes

R = Ryegrass grown after early potatoes

TU = as T, but with trefoil undersown in the barley

RU = as R, but with ryegrass undersown in the barley.

*N to sugar beet 1963 at 0, 0.67, 1.33, 2.00 cwt N.

65/B/3.4

BARLEY (2nd crop)

LOWER HALF

GRAIN

EXCLUDING PLOTS FALLOW UNDER OLD SCHEME

GREEN MANURES 1955 - 63

Dung last applied 1953	T	R	TU	RU
O	27.8	31.7	31.3	28.8
D	30.5	28.1	28.7	32.0

PLOTS FALLOW UNDER OLD SCHEME

N 1964 - 65

	N1	N2	N3	N4	Mean
Mean	20.1	34.2	40.7	40.6	33.9
N 1963*					
NO	21.0	34.4	41.6	42.5	34.9
N1	21.6	34.5	39.5	40.1	33.9
N2	18.4	34.9	40.1	40.3	33.4
N3	19.6	33.0	41.5	39.6	33.4
Dung last applied 1953					
O	20.6	34.6	40.5	41.4	34.3
D	19.7	33.7	40.9	39.8	33.5

*N to sugar beet 1963 at 0, 0.67, 1.33, 2.00 cwt N.

Mean D.M. %: 75.7

65/B/3.5

BARLEY (3rd crop)

GRAIN

EXCLUDING PLOTS FALLOW UNDER OLD SCHEME

N 1964 - 65

	NO	N1	N2	N3	Mean
Mean	16.5	26.6	34.4	36.6	28.5
N 1963					
NO	19.3	28.1	34.4	37.5	29.8
N1	13.4	24.6	36.1	37.1	27.8
N2	15.2	27.4	34.4	37.3	28.6
N3	18.2	26.2	32.7	34.3	27.9
Undersown 1964-65					
O	13.7	25.4	34.3	36.4	27.4
T	27.6	35.0	35.1	36.7	33.6
R	11.2	20.4	33.9	36.8	25.6
Green manures+					
1955 - 64					
T	16.0	26.2	34.0	36.0	28.1
R	17.2	24.0	34.2	37.2	28.2
TU	13.7	29.5	33.7	36.5	28.4
RU	19.2	26.6	35.7	36.4	29.5
Dung last					
applied 1952					
O	16.3	26.2	34.4	36.1	28.2
D	16.7	26.9	34.5	37.1	28.8

+

T = Trefoil grown as a green manure after early potatoes

R = Ryegrass grown after early potatoes

TU = as T, but with trefoil undersown in the barley

RU = as R, but with ryegrass undersown in the barley.

65/B/3.6

BARLEY (3rd crop)

GRAIN

EXCLUDING PLOTS FALLOW UNDER OLD SCHEME

GREEN MANURES 1955 - 64

Dung last applied 1952	T	R	TU	RU
O	27.1	26.4	30.0	29.5
D	29.0	29.9	26.7	29.5

PLOTS FALLOW UNDER OLD SCHEME

N 1964 - 65

	N1	N2	N3	N4	Mean
Mean	21.0	31.7	37.4	38.0	32.0
N 1963					
NO	16.0	36.8	36.1	41.9	32.7
N1	24.0	33.4	36.3	30.5	31.1
N2	22.5	31.0	35.6	38.9	32.0
N3	21.4	25.5	41.5	40.8	32.3
Dung last applied 1952					
O	19.2	29.5	35.9	35.7	30.1
D	22.7	33.9	38.9	40.4	34.0

Mean D.M. %: 77.6