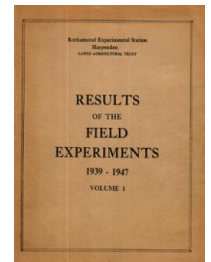


Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



Yields of the Field Experiments 1939-1947 Volume 1



[Full Table of Content](#)

BB/1 Long Period Cultivation

Rothamsted Research

Rothamsted Research (1948) *BB/1 Long Period Cultivation ; Yields Of The Field Experiments 1939-1947 Volume 1*, pp 96 - 99 - DOI: <https://doi.org/10.23637/ERADOC-1-145>

Bb/1.1

LONG PERIOD CULTIVATION EXPERIMENT

Long Hoos V, 1934-39

This experiment was completed in 1939. The results were reported by E.W. Russell and B.A. Keen in "Studies in Soil Cultivation - X. The results of a six-year cultivation experiment". J. Agric. Sci., 31, (1941), 326.

The experiment was designed to compare the effects on crop yield and weed infestation of continued ploughing, rotary cultivation with the Simar implement and stirring the soil with a cultivator, and also to investigate the value of cyanamide as a weed-killer. The crops grown in rotation were wheat, mangolds, barley, there being four blocks of twelve plots each under each crop. The twelve treatments were made up of all combinations of:-

Ploughing (P), Simaning (S) or Cultivating (C)
Shallow cultivation (4 ins.) (Sh) or deep cultivation (8 ins.) (D)
Cyanamide (Cy) or Nitrochalk (N)

On two of the four blocks the treatments were continued on the same plots in successive years, while on the other two blocks cycles of cultivations and manuring were used.

Area of each plot, 0.015 acre.

A basal dressing of 0.75 cwt. P_2O_5 per acre (as superphosphate) and 1.0 cwt. K_2O per acre (as muriate of potash) was given to all plots growing mangolds.

Details of the experiment are as given in the 1934 Report, p. 175.

Crop Notes

	Wheat	Mangolds	Barley
Variety	Wilhelmina	Yellow Globe	Plumage Archer
Previous crop	Barley	Wheat	Mangolds
Date sown	24/10/38	April 25	March 20
Harvested	Aug. 18	Oct. 25	Aug. 29

Standard errors per plot:

Wheat Grain, 0.950 cwt. per acre or 3.6%, 11 d.f.
Mangolds Roots, 1.539 tons per acre or 6.6%, 11 d.f.
Barley Grain, 1.313 cwt. per acre or 6.9%, 11 d.f.

Bb/1.2

1939											
1938 1939	Continuous			Mean	Cycle A			Cycle B			Mean
	P	S	C		C	P	S	S	C	P	
	P	S	C		P	S	C	P	S	C	
Wheat Grain: cwt. per acre											
	±0.67			±0.39	±0.95			±0.95			±0.39
N D	31.3	25.0	24.3	26.9	22.5	27.3	21.4	29.3	26.6	22.8	25.0
Sh	28.6	26.5	22.8	26.0	27.6	26.6	24.7	27.5	25.0	22.3	25.6
Cy D	29.8	23.8	23.6	25.7	27.6	25.9	26.6	29.5	23.7	25.8	26.5
Sh	25.4	24.5	26.6	25.5	29.3	26.2	24.6	23.7	21.0	23.9	24.8
Wheat Straw: cwt. per acre											
N D	45.4	36.5	34.0	38.6	52.9	51.6	41.9	46.7	40.7	34.6	44.7
Sh	42.5	39.4	34.0	38.6	43.8	44.7	43.8	42.1	39.5	33.4	41.2
Cy D	46.3	36.6	35.0	39.3	41.5	45.4	40.7	44.8	34.3	38.0	40.8
Sh	43.7	35.6	40.7	40.0	45.0	39.3	42.7	34.3	31.3	38.8	38.6
Mangolds Roots: tons per acre											
	±1.09			±0.63	±1.54			±1.54			±0.63
N D	24.98	22.29	23.56	23.61	25.30	25.19	23.85	28.26	23.21	27.16	25.50
Sh	26.20	23.21	21.88	23.76	26.46	23.50	24.72	24.20	21.94	26.99	24.64
Cy D	24.46	23.30	23.07	23.61	28.03	23.74	23.91	29.48	25.30	22.63	25.52
Sh	24.93	21.13	19.01	21.69	24.72	26.99	24.96	22.87	21.12	24.61	24.21
Mangolds Tops: tons per acre											
N D	5.72	5.37	6.15	5.75	6.27	5.57	6.04	5.80	5.28	6.62	5.93
Sh	5.86	5.98	5.69	5.84	5.75	6.04	5.80	5.57	4.87	6.44	5.74
Cy D	6.09	5.92	5.69	5.90	5.75	5.80	5.80	7.08	5.69	5.11	5.87
Sh	6.56	5.51	5.40	5.82	5.46	6.04	5.98	5.80	4.99	5.57	5.64
Barley Grain: cwt. per acre											
	±0.93			±0.54	±1.31			±1.31			±0.54
N D	19.8	22.6	17.1	19.8	23.6	21.5	19.2	23.6	22.6	18.8	21.6
Sh	22.6	18.6	15.7	19.0	22.1	24.1	19.9	24.7	16.4	20.4	21.3
Cy D	23.6	20.6	16.4	20.2	23.1	21.7	20.5	25.2	20.1	21.7	22.0
Sh	21.5	16.2	14.1	17.3	22.5	19.2	16.8	19.3	18.0	20.8	19.4
Barley Straw: cwt. per acre											
N D	24.3	26.2	22.0	24.2	25.1	23.7	23.8	28.6	25.0	24.1	25.0
Sh	27.2	23.2	16.8	22.4	22.1	25.8	27.7	28.7	21.9	23.7	25.0
Cy D	25.7	24.6	21.6	24.0	27.4	24.1	25.3	28.1	22.8	25.3	25.5
Sh	25.2	20.0	17.5	20.9	25.1	22.6	21.5	24.8	18.6	22.8	22.6

Standard errors are based on 11 d.f.

Bb/1.3

Long Period Cultivation ExperimentMean of Nitrochalk and Cyanamide
1939

	Continuous				Cycle A			Cycle B			
1938	P	S	C		C	P	S	S	C	P	
1939	P	S	C	Mean	P	S	C	P	S	C	Mean
Wheat Grain: cwt. per acre											
		± 0.48		± 0.27		± 0.67			± 0.67		± 0.27
D	30.6	24.4	24.0	26.3	25.0	26.6	24.0	29.4	25.2	24.3	25.8
Sh	27.0	25.5	24.7	25.7	28.4	26.4	24.6	25.6	23.0	23.1	25.2
Mean	28.8	25.0	24.4	26.1	26.7	26.5	24.3	27.5	24.1	23.7	25.5
		± 0.34				± 0.48			± 0.48		
Wheat Straw: cwt. per acre											
D	45.8	36.6	34.5	39.0	47.2	48.5	41.3	45.8	37.5	36.3	42.8
Sh	43.1	37.5	37.4	39.3	44.4	42.0	43.2	38.2	35.4	36.1	39.9
Mean	44.4	37.0	36.0	39.2	45.8	45.2	42.2	42.0	36.4	36.2	41.3
Mangolds: Roots: tons per acre											
		± 0.77		± 0.44		± 1.09			± 1.09		± 0.44
D	24.72	22.80	23.32	23.61	26.66	24.46	23.88	28.87	24.26	24.90	25.50
Sh	25.56	22.17	20.44	22.72	25.59	25.24	24.84	23.54	21.53	25.80	24.42
Mean	25.14	22.48	21.88	23.17	26.12	24.85	24.36	26.20	22.90	25.35	24.96
		± 0.54				± 0.77			± 0.77		
Mangolds Tops: tons per acre											
D	5.90	5.64	5.92	5.82	6.01	5.68	5.92	6.44	5.48	5.86	5.90
Sh	6.21	5.74	5.54	5.83	5.60	6.04	5.89	5.68	4.93	6.00	5.69
Mean	6.06	5.69	5.73	5.83	5.80	5.86	5.90	6.06	5.20	5.93	5.79
Barley Grain: cwt. per acre											
		± 0.66		± 0.38		± 0.93			± 0.93		± 0.38
D	21.7	21.6	16.8	20.0	23.4	21.6	19.8	24.4	21.4	20.2	21.8
Sh	22.0	17.4	14.9	18.1	22.3	21.6	18.4	22.0	17.2	20.6	20.4
Mean	21.8	19.5	15.8	19.0	22.8	21.6	19.1	23.2	19.3	20.4	21.1
		± 0.46				± 0.66			± 0.66		
Barley Straw: cwt. per acre											
D	25.0	25.4	21.8	24.1	26.2	23.9	24.6	28.4	23.9	24.7	25.3
Sh	26.2	21.6	17.2	21.7	23.6	24.2	24.6	26.8	20.2	23.2	23.8
Mean	25.6	23.5	19.5	22.9	24.9	24.0	24.6	27.6	22.0	24.0	24.5

Standard errors are based on 11 d.f.

