

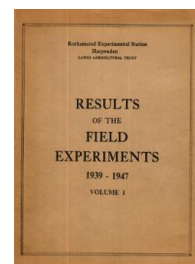
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# Yields of the Field Experiments 1939-1947 Volume 1

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## A/2 Hoosfield - Barley

### Rothamsted Research

Rothamsted Research (1948) *A/2 Hoosfield - Barley* ; Yields Of The Field Experiments 1939-1947  
Volume 1, pp 13 - 16 - DOI: <https://doi.org/10.23637/ERADOC-1-145>

BARLEY - HOOSFIELD

Experiments on barley grown continuously on the same land were begun on Hoosfield in 1852, the general purpose being the same as on Broadbalk. On Hoosfield however the mineral manures in various combinations were laid on strips running lengthways along the field, and these were crossed at right angles by strips of various nitrogenous manures, to give plots of approximately 1/6 acre - one for each treatment. Dung alone was applied to a plot outside this factorial arrangement.

Since 1919, Plumage Archer has been the variety grown, except that from 1929 to 1932 Plumage Archer and Spratt Archer were grown in strips running through all the plots. Weeds have been troublesome on Hoosfield, as on Broadbalk, and it was found necessary to fallow the whole field in 1912, 1933 and 1943. Commencing in 1944 a yearly spraying with DNOC (dinitro-ortho-cresol) was given in late May or early June to check broad-leaved weeds, but wild oat (*Avena fatua*) has become a serious pest in recent years and hand pulling is regularly carried out.

Weed surveys have been made by the Botany Department.

Treatments

Symbols and amounts per acre

Cross Dressings

- O Unmanured
- A Sulphate of ammonia, 43 lb. N
- AA Nitrate of soda, 43 lb. N
- AAS Nitrate of soda, 43 lb. N; silicate of soda, 400 lb.
- C Rape cake (castor bean meal from 1940 onwards), 1,000 lb.

Strip Dressings

- P Superphosphate, 65 lb. P<sub>2</sub>O<sub>5</sub>
- K Sulphate of potash, 98 lb. K<sub>2</sub>O
- S Sulphate of soda, 100 lb.
- M Sulphate of magnesia, 100 lb.

Plot Dressings

- D Farmyard manure, 14 tons
- D' Unmanured, following farmyard manure 1852-71
- F Unmanured, following furnace ash 1852-1933
- N' Nitrate of soda, 43 lb. N
- N'' Nitrate of soda, 43 lb. N, following double dressing 1852-57

Dung is ploughed in in winter; all other manures are broadcast in spring during the preparation of the seedbed.

Crop Notes

Year	Sown	Harvested	Year	Sown	Harvested
1939	Mar. 10	Aug. 25	1944	Mar. 29	Aug. 18
1940	Mar. 12	Aug. 6	1945	Mar. 9	Aug. 8
1941	Mar. 17	Aug. 25	1946	Mar. 25	Aug. 23
1942	Mar. 29	Aug. 15	1947	Apr. 17	Aug. 19

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Total grain: cwt. per acre

Plot	Cross Dressing	Strip Dressing	1939	1940	1941	1942	1944	1945	1946	1947
1	O	O	9.2	6.4	2.1	8.8	14.8	11.2	10.2	5.4
2	O	P	12.5	9.4	4.4	11.1	22.7	11.7	10.3	6.7
3	O	KSM	12.0	7.8	3.3	12.0	17.9	18.1	11.8	8.3
4	O	PKSM	14.7	10.9	4.7	14.9	27.8	21.1	13.3	9.1
5	O	FK	11.9	6.8	3.8	14.9	28.6	20.8	13.4	10.8
1	A	O	17.1	12.2	5.7	9.4	10.4	15.6	15.0	7.1
2	A	P	20.7	15.8	8.5	8.0	15.3	22.9	14.4	9.0
3	A	KSM	18.4	13.5	6.6	10.2	11.8	21.9	15.6	11.8
4	A	PKSM	24.9	14.4	12.2	12.2	21.1	22.0	16.0	12.5
5	A	FK	22.2	18.2	8.5	9.0	13.9	14.8	22.4	17.4
1	AA	O	16.5	13.9	5.5	6.0	12.1	18.1	19.6	7.7
2	AA	P	24.3	20.8	8.8	9.9	21.3	25.0	16.4	12.0
3	AA	KSM	18.0	14.3	6.8	10.8	11.4	24.2	18.8	11.5
4	AA	PKSM	24.6	21.2	12.2	14.9	24.4	28.7	22.5	13.4
1	AAS	O	19.8	19.5	7.1	9.6	14.4	18.4	23.3	11.0
2	AAS	P	24.5	20.5	8.2	10.2	24.4	24.0	20.0	17.4
3	AAS	KSM	22.4	19.4	8.4	12.8	12.4	22.6	12.5	13.6
4	AAS	PKSM	26.2	23.2	12.9	16.2	26.5	26.8	24.8	16.6
1	C	O	21.0	16.6	7.7	7.4	16.4	19.4	14.7	14.6
2	C	P	21.4	16.6	7.6	7.5	28.5	27.4	17.9	18.6
3	C	KSM	19.6	16.8	9.5	10.3	22.1	24.9	40.5	16.7
4	C	PKSM	24.1	19.3	10.6	13.2	28.5	27.5	38.9	16.1
7-1		D'	15.3	9.7	4.2	13.8	25.4	23.6	14.0	10.5
7-2		D	32.8	20.8	7.6	12.7	30.9	36.6	32.6	21.0
6-1		O	10.9	6.3	2.1	8.7	17.8	14.6	8.1	6.9
6-2		F	10.4	5.3	1.9	6.9	15.1	13.2	11.1	8.1
1		N'	17.4	14.8	7.1	8.1	13.1	18.5	17.8	12.9
2		N''	21.4	17.8	7.8	8.0	17.8	23.1	17.8	19.6

X  
Vertical lines

Barley - Hoosfield

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Barley - Hoosfield

Total straw: cwt. per acre

Plot	Cross Dressing	Strip Dressing	1939	1940	1941	1942	1944	1945	1946	1947
1	O	O	11.8	8.6	8.2	10.9	14.8	12.1	9.8	5.0
2	O	P	12.3	7.3	7.1	10.8	18.2	10.8	9.4	6.4
3	O	KSM	19.0	9.6	9.9	15.2	17.4	17.0	13.0	8.3
4	O	PKSM	20.0	13.7	12.1	19.5	23.2	18.1	14.8	9.1
5	O	PK	15.5	9.9	14.7	19.0	27.8	19.9	14.4	10.0
1	A	O	21.1	18.8	18.5	16.1	11.6	15.8	15.4	5.7
2	A	P	23.0	20.7	21.5	16.6	14.9	25.9	16.5	9.5
3	A	KSM	23.0	16.1	18.7	17.8	12.7	24.7	21.5	13.4
4	A	PKSM	25.0	20.9	19.3	23.1	21.6	31.0	22.2	10.6
5	A	PK	29.1	28.7	25.2	29.8	24.0	39.2	31.4	20.0
1	AA	O	27.2	27.6	18.9	19.9	15.3	25.7	22.4	9.6
2	AA	P	27.9	24.7	25.2	22.1	21.2	30.0	22.4	14.5
3	AA	KSM	25.1	21.2	23.8	20.7	13.1	28.4	25.3	15.4
4	AA	PKSM	25.7	24.5	21.8	27.6	22.4	32.0	28.0	11.1
1	AAS	O	28.3	26.0	22.2	26.3	19.8	30.4	27.1	12.6
2	AAS	P	27.8	29.0	21.5	25.2	24.6	32.1	26.7	15.0
3	AAS	KSM	27.2	22.4	22.3	27.0	15.9	32.4	20.1	13.0
4	AAS	PKSM	27.5	25.4	21.7	28.2	27.3	35.2	31.9	12.7
1	C	O	25.7	25.1	21.5	21.6	18.1	29.4	24.1	15.2
2	C	P	25.4	23.9	21.0	21.4	26.9	32.0	23.6	17.8
3	C	KSM	23.0	21.1	21.5	24.3	24.0	29.3	61.5	15.4
4	C	PKSM	25.8	23.1	20.1	27.2	32.6	33.4	52.3	26.0
7-1		D'	21.0	16.0	13.2	16.6	23.9	23.5	17.9	11.8
7-2		D	41.4	35.6	32.2	31.7	32.5	45.2	47.3	21.4
6-1		O	14.1	10.1	7.9	13.8	18.7	14.5	10.7	8.4
6-2		F	13.9	6.4	7.8	11.4	13.8	13.5	11.3	8.3
1		N'	24.0	23.4	22.8	23.3	16.6	26.8	21.7	13.9
2		N''	28.5	25.4	22.7	24.8	19.8	29.3	21.8	18.2

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