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Numerical Results of the Field Experiments 1970

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70/W/RN/3 Ley/ARABLE

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LEY/ARABLE

(70/W/RN/3)

Woburn Stackyard, 1970 - 33rd year.

For history, treatments, etc., see 'Details' 1967 and 'Results' 68/B/2 and 69/W/RN/3.

Corrective K dressings (in cwt K₂O) as muriate of potash applied to first test crop barley:-

	No FYM half plots	FYM half plots
Continuous rotations		
Ley	1.6	0.0
Sainfoin	3.5	3.0
Arable with hay	5.0	5.0
Arable	3.0	2.0
Alternating rotations (last two rotations, in order)		
Arable with hay/ley	2.0	0.5
Arable/sainfoin	3.5	2.5
Ley/arable with hay	4.0	4.0
Lucerne/arable	3.5	3.5

Treatments to potatoes:

1. Fumigant on quarter plots: None (0), 400 lb (F) chloropicrin.
2. Nitrogen on twelfth plots: 1.0 (N₂), 1.5 (N₃), 2.0 (N₄) cwt N as 'Nitro-Chalk'.
3. Nematicide on twenty fourth plots: None (0), 10 lb (T) aldicarb (as 'Temik' 10% granules).

Treatments to rye:

1. Residues of fumigant applied to potatoes in 1969 on quarter plots: None (0), 400 lb (F) chloropicrin.

Treatments to carrots:

1. Residues of fumigant applied to potatoes in 1968 on quarter plots: None (0), 400 lb (F) chloropicrin.

Management of leys:

1. All leys are now cut and carted off.

Cultivations, etc.:

Treatment crops.

Ley 1st year: Ploughed: 27 Aug, 1969. Mg applied: 16 Apr, 1970.
NPK applied: 22 Apr. Seed sown at 40 lb: 24 Apr. NK applied:
18 June, 5 Aug. Cut twice: 3 Aug, 29 Sept.

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Ley 2nd year: NK applied: 16 Mar, 1970, 16 June, 5 Aug. Cut three times: 10 June, 3 Aug, 29 Sept.
Ley 3rd year: NK applied: 16 Mar, 1970, 16 June, 5 Aug. Cut three times: 10 June, 3 Aug, 28 Sept.
Sainfoin 1st year: Ploughed: 27 Aug, 1969. Mg applied: 16 Apr, 1970. NPK applied: 22 Apr. Seed drilled at 40 lb: 24 Apr. Cut twice: 3 Aug, 29 Sept.
Sainfoin 2nd year: N and K applied: 16 Mar, 1970. Sprayed between rows with paraquat at 0.6 lb ion in 24 gals: 19 June. Cut three times: 2 June, 3 Aug, 29 Sept.
Sainfoin 3rd year: N and K applied: 16 Mar, 1970. Sprayed with paraquat at 0.3 lb ion in 25 gals: 24 Mar. Rotary cultivated: 22 Apr. Power harrowed: 23 Apr. Redrilled at 40 lb: 24 Apr. Sprayed between rows with paraquat at 0.6 lb ion in 24 gals: 28 May. Cut twice: 3 Aug, 28 Sept.

Potatoes: Ploughed: 27 Aug, 1969. Rotary cultivated: 16 Oct. Chloropicrin applied: 26 Nov. PK and Mg applied: 16 Apr, 1970. 'Temik' applied, rotary cultivated: 20 Apr. N applied: 21 Apr. Potatoes planted: 22 Apr. Sprayed with linuron at 1.0 lb plus paraquat at 0.37 lb ion in 33 gals: 13 May. Grubbed: 3 June. Rotary ridged: 5 June. Sprayed with mancozeb at 1.2 lb plus demeton-s-methyl at 3.5 fl oz in 37 gals: 31 July. Sprayed with mancozeb at 1.2 lb in 37 gals: 18 Aug. Sprayed with undiluted BOV at 15 gals: 18 Sept. Haulm destroyed mechanically: 23 Sept. Lifted: 25 Sept.
Rye: Deep-tine cultivated twice: 8 - 9 Oct, 1969. Seed combine drilled at 170 lb: 20 Oct. N applied: 23 Apr, 1970. Seeds hay undersown at 30 lb (AH plots): 24 Apr. Combine harvested: 18 Aug.
Seeds hay: Seeds undersown in rye at 30 lb: 16 Apr, 1969. NPK applied: 16 Mar, 1970. NK applied: 16 June. Cut three times: 2 June, 3 Aug, 28 Sept.
Carrots: Ploughed: 12 Sept, 1969. NPK applied, power harrowed: 23 Apr, 1970. Seed drilled at 3 lb: 24 Apr. Hand hoed: 20 - 21 May. Lifted: 7 - 8 Sept.

Test crops

Barley, 1st test crop: Half corrective K applied: 31 Oct, 1969. Ploughed: 14 - 18 Nov. Remaining corrective K applied: 20 Mar, 1970. Power harrowed, seed combine drilled at 140 lb: 25 Mar. N applied: 2 Apr. Sprayed with ioxynil at 7.5 oz plus mecoprop at 22.5 oz in 25 gals: 18 May. Combine harvested: 12 Aug.

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Barley, 2nd test crop: Chalk applied at 40 cwt: 2 Oct, 1969.
Ploughed: 3 Oct. Power harrowed, seed combine drilled at
140 lb: 25 Mar, 1970. Sprayed with ioxynil at 7.5
oz plus mecoprop at 22.5 oz in 25 gals: 18 May. Combine
harvested: 12 Aug.

NOTE: Soil samples were taken from the potato plots monthly throughout
the growing season for counts of nematodes.

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SUMMARY OF RESULTS

1ST TEST CROP

BARLEY

		NO	N1	N2	N3	N4
GRAIN: CWT						
O	LE	16.8	23.7	18.4	21.0	
	SA	24.3	30.6	30.8	28.5	
	AH		24.7	28.8	24.9	26.9
	AR		24.5	27.7	28.8	24.4
D*	LE	20.6	23.2	23.9	22.6	
	SA	22.4	27.3	25.3	26.8	
	AH		23.7	22.9	25.7	22.5
	AR		25.3	28.4	27.3	27.8
STRAW: CWT						
O	LE	7.5	11.1	7.6	9.4	
	SA	10.2	12.7	21.3	15.7	
	AH		13.9	17.2	12.9	18.1
	AR		11.6	15.4	17.2	13.7
D*	LE	10.3	11.2	11.9	10.4	
	SA	10.7	15.7	12.8	13.7	
	AH		11.2	12.5	11.6	12.9
	AR		13.5	16.1	14.0	16.7
Mean: Grain:		25.0				
Straw:		13.1				
Mean D.M. %:						
Grain:		83.8				
Straw:		77.6				

* Last applied to test crop sugar beet 1965

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RYE

GRAIN: CWT

	LE	SA	AH	AR	Mean
O	31.9	33.8	33.9	31.7	32.8
D*	30.5	33.8	33.4	31.4	32.3
O	31.2	30.7	30.8	30.7	30.8
F	31.2	36.9	36.5	32.4	34.3
Mean	31.2	33.8	33.6	31.5	32.5

Mean D.M. %: 85.4

* Last applied to test crop sugar beet 1967

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POTATOES

TOTAL TUBERS: TONS

	LE	SA	AH	AR	Mean
O	14.60	15.34	15.04	12.30	14.32
D*	20.40	15.10	12.91	15.45	15.96
O	14.98	14.14	11.58	11.98	13.17
F	20.03	16.29	16.37	15.77	17.11
N2	16.99	14.27	13.07	11.98	14.07
N3	16.26	15.60	13.66	13.69	14.80
N4	19.26	15.79	15.19	15.96	16.55
O	17.46	13.49	12.77	12.96	14.17
T	17.55	16.95	15.17	14.79	16.11
Mean	17.50	15.22	13.97	13.88	15.14

* Last applied to test crop sugar beet 1967

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POTATOES

% WARE: 1.5 INCH

	LE	SA	AH	AR	Mean
O	96.1	96.0	97.2	96.8	96.5
D*	96.5	96.4	96.2	96.5	96.4
O	96.1	96.0	96.8	95.9	96.2
F	96.5	96.4	96.6	97.4	96.7
N2	95.9	95.9	96.4	96.7	96.2
N3	96.1	96.1	96.8	96.4	96.4
N4	96.9	96.6	96.9	96.8	96.8
O	96.5	96.1	96.6	96.3	96.4
T	96.1	96.3	96.8	96.9	96.6
Mean	96.3	96.2	96.7	96.6	96.5

* Last applied to test crop sugar beet 1963

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CARROTS

ROOTS: TONS

	O	D*	O	F	Mean
AH	18.64	18.26	18.26	18.64	18.45
AR	14.58	14.45	14.58	14.45	14.52
Mean	16.61	16.36	16.42	16.54	16.48

* Last applied to test crop sugar beet 1966

Replacement for 'Results' 1969 pp. 70 and 71

SUMMARY OF RESULTS

1ST TEST CROP

BARLEY

	NO	N1	N2	N3	N4
GRAIN: CWT					
DO LE	34.9	39.1	37.1	34.9	
SA	21.8	38.7	38.2	37.8	
AH		31.3	35.0	32.7	30.5
AR		33.2	39.6	37.9	37.9
D1 LE	35.6	39.7	36.4	33.9	
SA	24.7	42.1	39.3	36.7	
AH		32.9	33.7	34.8	33.0
AR		38.3	41.7	34.8	35.9
STRAW: CWT					
DO LE	31.2	43.0	41.5	40.7	
SA	14.8	34.5	40.4	37.8	
AH		25.7	33.6	34.4	29.3
AR		30.1	40.1	39.4	38.4
D1 LE	34.8	43.6	43.0	40.8	
SA	18.2	36.8	39.1	39.1	
AH		27.2	38.1	32.9	37.0
AR		31.1	37.9	35.5	41.0
Mean: Grain:	35.4				
Straw:	35.3				
Mean D.M. %: Grain:	84.4				
Straw:	79.4				