ROTHAMSTED RESEARCH

Yields of the Field Experiments 1976

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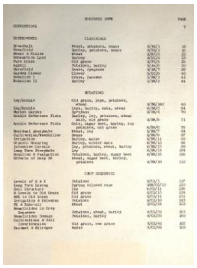

76/R/CS/166 and 76/W/CS/166 Liquid Fertilisers - Wheat

Rothamsted Research

Rothamsted Research (1977) *76/R/CS/166 and 76/W/CS/166 Liquid Fertilisers - Wheat ;* Yields Of The Field Experiments 1976, pp 210 - 213 **- DOI: https://doi.org/10.23637/ERADOC-1-15**

76/R/CS/166 and 76/W/CS/166

LIQUID FERTILISERS

Object: To study the residual effects on wheat of a range of rates and methods of applying liquid fertilisers to potatoes - Rothamsted (R), Long Hoos I/II and Woburn (W), Far Field I.

Sponsors: F.V. Widdowson, A. Penny.

The second year, wheat.

For previous year see 75/R&W/CS/166.

Design: Half replicate of 4 x 4 x 2 x 4 arranged in 2 blocks of 32 plots.

Whole plot dimensions: 4.27 x 12.2.

Treatments: All combinations of:-

1. APPLICN(75) Form and method of applying fertiliser to potatoes in 1975:

GRAN B	Granules (13:13:20), broadcast over the plough furrow
LIQUID S	Liquid (7:7:10), sprayed on plough furrow
LIQUID P	Liquid, placed in bands on each side of the seed
LIQUID D	Liquid, divided, half on plough furrow, half placed

2. N IN NPK(75) Rate of nitrogen in NPK fertiliser 1975 (kg N):

126	126
188	188
251	251
314	314

3. SPACING (75) Spacing of tubers within the rows 1975 (rows all 71 cm apart) (cm):

30 CM	30
45 CM	45

4. N 76 Nitrogen fertiliser in 1976 (kg N):

0	0
30	30
60	60
90	90

Basal applications:-
Long Hoos I/II (R): Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.6 l in 220 l). Growth regulator: Chlormequat at 1.7 kg in 220 l.
Far Field I (W): Weedkillers: Ioxynil at 0.63 kg plus mecoprop at 1.9 kg in 280 l. Growth regulator: Chlormequat at 1.7 kg in 280 l.

Seed: Long Hoos I/II (R): Maris Huntsman, sown at 190 kg.
Far Field I (W): Maris Huntsman, sown at 210 kg.

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76/R/CS/166 and 76/W/CS/166

Cultivations, etc.:-
Long Hoos I/II (R): Heavy spring-tine cultivated twice, seed sown: 17 Oct, 1975. N applied: 12 Apr, 1976. Weedkiller applied: 13 Apr. Chlormequat applied: 5 May. Combine harvested: 2 Aug.
Far Field I (W): Deep-tine cultivated: 9 Oct, 1975. Spring-tine cultivated: 13 Oct. Seed sown: 14 Oct. N applied: 13 Apr, 1976. Weedkiller applied: 21 Apr. Chlormequat applied: 4 May. Combine harvested: 30 July.

NOTE: Grain samples were taken for nitrogen analysis.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

APPLICN(75) SPACING(75)	GRAN B	LIQUID S	LIQUID P	LIQUID D	MEAN
30 CM	5.84	5.64	6.03	5.89	5.85
45 CM	6.01	5.91	6.10	6.02	6.01
MEAN	5.93	5.78	6.06	5.96	5.93

N IN NPK(75) SPACING(75)	126	188	231	314	MEAN
30 CM	5.55	5.84	5.90	6.11	5.85
45 CM	5.86	5.88	6.12	6.18	6.01

N IN NPK(75) APPLICN(75)	126	188	231	314	MEAN
GRAN B	5.77	5.85	5.95	6.13	5.93
LIQUID S	5.45	5.71	5.68	6.26	5.78
LIQUID P	5.65	5.77	6.53	6.30	6.06
LIQUID D	5.95	6.12	5.86	5.90	5.96
MEAN	5.71	5.86	6.01	6.15	5.93

N 76 SPACING(75)	0	30	60	90	MEAN
30 CM	5.56	5.73	6.20	5.91	5.85
45 CM	5.56	6.05	6.20	6.23	6.01

N 76 APPLICN(75)	0	30	60	90	MEAN
GRAN B	5.41	5.92	6.37	6.01	5.93
LIQUID S	5.39	5.66	6.31	5.75	5.78
LIQUID P	5.71	5.97	6.20	6.38	6.06
LIQUID D	5.73	6.00	5.93	6.16	5.96

N 76 N IN NPK(75)	0	30	60	90	MEAN
126	5.12	5.57	6.11	6.03	5.71
188	5.58	5.69	6.02	6.17	5.86
231	5.52	6.03	6.46	6.01	6.01
314	6.02	6.26	6.23	6.08	6.15
MEAN	5.56	5.89	6.20	6.07	5.93

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76/R/CS/166 LONG HOOS I/II (R)

GRAIN TONNES/HECTARE

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	SPACING(75)	APPLICN(75)	N IN NPK(75)	N 76
SED	0.106	0.150	0.150	0.150

TABLE	SPACING(75) APPLICN(75)	SPACING(75) N IN NPK(75)	APPLICN(75) N IN NPK(75)	SPACING(75) N 76
SED	0.213	0.213	0.301	0.213

TABLE	APPLICN(75) N 76	N IN NPK(75) N 76
SED	0.301	0.301

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.425	7.2

GRAIN MEAN DM% 88.5

PLOT AREA HARVESTED 0.00347

76/W/CS/166 FAR FIELD I (W)

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

APPLICN(75) SPACING(75)	GRAN B	LIQUID S	LIQUID P	LIQUID D	MEAN
30 CM	4.55	4.30	4.44	4.61	4.47
45 CM	4.51	4.95	4.45	4.44	4.59
MEAN	4.53	4.62	4.45	4.52	4.53

N IN NPK(75) SPACING(75)	126	188	231	314	MEAN
30 CM	4.47	4.60	4.50	4.33	4.47
45 CM	4.46	4.97	4.33	4.58	4.59

N IN NPK(75) APPLICN(75)	126	188	231	314	MEAN
GRAN B	4.58	4.77	4.43	4.34	4.53
LIQUID S	4.76	4.76	4.40	4.57	4.62
LIQUID P	4.20	4.83	4.34	4.42	4.45
LIQUID D	4.32	4.78	4.50	4.50	4.52
MEAN	4.46	4.78	4.42	4.46	4.53

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76/W/CS/166 FAR FIELD I (W)

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N 76	0	30	60	90	MEAN
SPACING(75)					
30 CM	4.65	4.55	4.42	4.27	4.47
45 CM	4.60	4.73	4.47	4.55	4.59

N 76	0	30	60	90	MEAN
APPLICN(75)					
GRAN B	4.64	4.96	4.06	4.45	4.53
LIQUID S	4.65	4.71	4.85	4.27	4.62
LIQUID P	4.62	4.34	4.28	4.54	4.45
LIQUID D	4.59	4.56	4.58	4.37	4.52

N 76	0	30	60	90	MEAN
N IN NPK(75)					
126	4.34	4.50	4.77	4.25	4.46
188	4.65	4.98	4.54	4.96	4.78
231	4.63	4.69	4.24	4.11	4.42
314	4.88	4.41	4.21	4.33	4.46
MEAN	4.62	4.64	4.44	4.41	4.53

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	SPACING(75)	APPLICN(75)	N IN NPK(75)	N 76
SED	0.102	0.144	0.144	0.144

TABLE	SPACING(75) APPLICN(75)	SPACING(75) N IN NPK(75)	APPLICN(75) N IN NPK(75)	SPACING(75) N 76
SED	0.204	0.204	0.288	0.204

TABLE	APPLICN(75) N 76	N IN NPK(75) N 76
SED	0.288	0.288

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.408	9.0

GRAIN MEAN DM% 88.2

PLOT AREA HARVESTED 0.00347

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