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## Yields of the Field Experiments 1973

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### 73/S/CS/1 - Row Spacing and Seed Rates Winter Wheat -

#### Rothamsted Research

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T3/s/cs/1

ROW SPACING AND SEED RATES

Object: To study the effects of seed rate and row spacing on the yields of winter wheat. The effects of different periods of pre-cropping with winter wheat are also studied - Saxmundham, Oldershaw's and Garner's plots.

Sponsors: F.V. Widdowson, A.E. Johnston.

The eighth year on this site, third year of row spacing and seed rate treatments, winter wheat.

For previous years see 66/c/30(t), 67/c/23(t), 68/c/39, 69-70/s/cs/1, 71/s/cs/1(t), 72/s/cs/1(t).

Design: A single replicate of 4 x 2 x 4 in 4 blocks of 4 plots each split lengthways into 2, plus one additional plot (not split into 2), per block. Additionally, all the plots are split breadthways into 3.

Whole plot dimensions: 5.49 x 40.2. Sub plot area harvested: 0.00293.

Treatments: All combinations of:

Whole plots: 1. Number of previous continuous wheat crops:- PREVCROP

4	4 wheats
5	5 wheats
6	6 wheats
7	7 wheats

Half plots: 2. Spacing between rows:- ROWSPACE

15 cm (6 inches)	15 cm
30 cm (12 inches)	30 cm

3. Seed rate (kg):- SEEDRATE

70	70
140	140
210	210
280	280

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Pairs of sixth plots: 4. Nitrogen fertiliser (kg N):- N

50	50
100	100
150	150

Together with one extra plot per block which had three previous continuous wheat crops and was sown at 19 cm spacing between rows at a seed rate of 210 kg. N applied to sub plots as above. 3W19R210

Basal applications: Manures: (0:20:20) at 1260 kg applied to stubble before ploughing, (20:10:10) at 310 kg broadcast at drilling.  
Weedkillers: Terbutryne and related triazines ('Prebane' at 4.5 kg in 340 l). Ioxynil at 0.63 kg with 1.90 kg mecoprop in 340 l.  
Fungicide: Tridemorph ('Calixin' at 0.7 l in 220 l).

Seed: Cappelle.

Cultivations, etc.:- Basal PK applied and ploughed in: 14 Oct, 1972.  
Seed sown and NPK applied: 23 Oct. 'Prebane' applied: 24 Oct.  
Test N applied: 16 Apr, 1973. Ioxynil and mecoprop applied: 17 Apr.  
Tridemorph applied: 22 May. Combine harvested: 25 Aug.

NOTE: Green crop samples were taken for estimates of total dry matter and leaf areas.

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

PREVCROP

	4 wheats	5 wheats	6 wheats	7 wheats	Mean
ROWSPACE					
15 cm	5.17	4.98	5.19	5.24	5.14
30 cm	5.10	4.95	5.07	5.00	5.03
SEEDRATE					
70	5.09	4.63	5.15	5.21	5.02
140	5.26	5.11	5.23	5.16	5.19
210	5.09	5.13	5.13	5.25	5.15
280	5.11	4.98	5.02	4.87	4.99
N					
50	5.59	5.47	5.50	5.50	5.51
100	5.15	4.90	5.17	5.18	5.10
150	4.67	4.53	4.72	4.68	4.65
Mean	5.13	4.96	5.13	5.12	5.09

3W19R210

N

50	100	150	Mean
5.10	4.70	4.39	4.73

Grand mean: 5.02  
 Mean D.M. % 84.7