

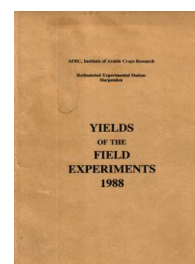
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88/R/CS/323 Cereal Sequences and Take-all - W. Wheat, W. Barley, W. Triticale, W. Oats, S. Barley

Rothamsted Research

Rothamsted Research (1989) *88/R/CS/323 Cereal Sequences and Take-all - W. Wheat, W. Barley, W. Triticale, W. Oats, S. Barley* ; Yields Of The Field Experiments 1988, pp 121 - 122 - **DOI:** <https://doi.org/10.23637/ERADOC-1-43>

88/R/CS/323

CEREAL SEQUENCES AND TAKE-ALL

Object: To study the effects on take-all (*Gaeumannomyces graminis*) and yield of including triticale in cereal sequences - West Barnfield II.

Sponsors: R.J. Gutteridge, D. Hornby, R.D. Prew.

The first year, w. barley, w. oats, w. triticale, w. wheat, s. barley.

Design: 3 randomised blocks of 26 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments:

CROPS	Crops:
W BARLEY	W. barley (6 plots per block)
W OATS	W. oats (3 plots per block)
W TRITIC	W. triticale (7 plots per block)
W WHEAT	W. wheat (9 plots per block)
S BARLEY	S. barley (1 plot per block)

Standard applications: Manures: (0:18:36) at 280 kg. 'Nitram' at 90 kg to all w. cereals followed by 490 kg (w. wheat), 430 kg (w. barley), 350 kg (w. oats and w. triticale). 'Nitram' at 350 kg to s. barley. Weedkillers: Methabenzthiazuron at 2.4 kg in 200 l (not to s. barley). Fluroxypyr at 0.20 kg in 200 l (not to s. barley). Fluroxypyr at 0.15 kg applied with the prochloraz and carbendazim in 200 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg. Propiconazole at 0.12 kg in 200 l.

SEED: Winter barley: Magie, sown at 150 kg.
Winter oats: Peniarth, sown at 190 kg.
Winter triticale: Cumulus, sown at 180 kg.
Winter wheat: Mercia, sown at 180 kg.
Spring barley: Klaxon, sown at 160 kg.

Cultivations, etc.:-

All crops: PK applied: 24 Sept, 1987. Ploughed: 25 Sept. Rotary harrowed: 30 Sept. Fluroxypyr with prochloraz and carbendazim applied: 6 May, 1988. Propiconazole applied: 25 May.
All winter crops: Rotary harrowed, seed sown: 1 Oct, 1987.
Methabenzthiazuron applied: 3 Oct. First N applied: 1 Mar, 1988.
Fluroxypyr alone applied: 17 Mar. Second N applied: 15 Apr.
Combine harvested: 4 Aug (w. barley), 23 Aug (w. wheat), 26 Aug (w. oats and triticale).
S. barley: N applied, rotary harrowed, seed sown: 7 Mar, 1988.
Combine harvested: 16 Aug.
Previous crops: W. beans 1986, s. oilseed rape, 1987.

NOTES: (1) Plant samples were taken at the end of June to assess take-all.
(2) Because of a harvesting error the yield of one plot of S BARLEY was lost. An estimated value was used in the analysis.

88/R/CS/323

W.WHEAT, W.BARLEY, W.TRITICALE, W.OATS, S.BARLEY

GRAIN TONNES/HECTARE

***** Tables of means *****

CROPS	
W BARLEY	9.24
W OATS	5.77
W TRITIC	9.92
W WHEAT	9.61
S BARLEY	6.01
Mean	8.11

*** Standard errors of differences of means ***

W OATS	0.184			
W TRITIC	0.145	0.180		
W WHEAT	0.137	0.173	0.131	
S BARLEY	0.281	0.300	0.278	0.274
W BARLEY		W OATS	W TRITIC	W WHEAT

***** Stratum standard errors and coefficients of variation *****

BLOCK.WP	70	0.451	5.0
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GRAIN MEAN DM% 81.9

PLOT AREA HARVESTED 0.00275