

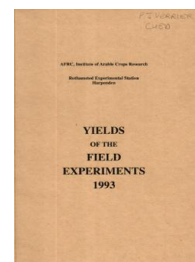
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93/R/CS/323 Cereal Sequence and Take-all - W. Barley, W. Oats, W. Triticale, W. Wheat

Rothamsted Research

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93/R/CS/323

CEREAL SEQUENCES AND TAKE-ALL

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

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

The sixth year, w. barley, w. oats, w. triticale, w. wheat.

For previous years see 88-92/R/CS/323

Design: 3 randomised blocks of 26 plots.

Whole plot dimensions: 3.0 x 10.0.

CROPSEQ Crop sequences (1988, 1989, 1990, 1991, 1992 and 1993 respectively):

TTTTTT
OTTTOT
TOTTTO
TTOTTT
TTTOTT
WWWWWW
OWWWOW
WOWWWO
WWOWWW
WWWOWW
BBBBBB
OBBBOB
BOBBBO
BBOBBB
BBBOBB
WTWTWT
WBWBWB
TBTBTB
SBSBSB
WWTTIW
WWBBBW
TTBBBT
TIWWWT
BBWWWB
BBTTTB
WWSSSW

W = W. wheat
S = S. barley
B = W. barley
O = W. oats
T = W. triticale

93/R/CS/323

Experimental Diary:

05-Sep-92 : B : Scythe at 3.0 l in 200 l.
09-Sep-92 : B : Ploughed, to finish.
16-Sep-92 : B : Disced and rolled.
21-Sep-92 : B : PK as (0:18:36) at 300 kg..
28-Sep-92 : B : Sting CT at 2.0 l in 200 l.
01-Oct-92 : B : Re-ploughed.
06-Oct-92 : T : CROPSEQ Barley plots: Rotary harrowed, Magie, dressed
Cerevax, drilled at 350 seeds per square metre.
: T : CROPSEQ Oat plots: Rotary harrowed, Image, dressed
Ceresol, drilled at 350 seeds per square metre.
: T : CROPSEQ Triticale plots: Rotary harrowed, Lasko, dressed
Cerevax, drilled at 400 seeds per square metre.
: T : CROPSEQ Wheat plots: Rotary harrowed, Mercia, dressed
Cerevax, drilled at 380 seeds per square metre.
04-Mar-93 : B : 34.5%N at 90 kg.
15-Mar-93 : T : CROPSEQ Barley plots: Tigress at 2.5 l in 200 l.
15-Apr-93 : T : CROPSEQ Oats and triticale plots: 34.5% N at 368 kg.
: T : CROPSEQ Barley plots: 34.5% N at 435 kg.
: T : CROPSEQ Wheat plots: 34.5% N at 493 kg.
: T : CROPSEQ Wheat plots: Cheetah R at 2.0 l in 220 l.
: T : CROPSEQ Triticale plots: Hoegrass at 3.0 l in 220 l.
21-Apr-93 : B : Ally at 30 g and Starane 2 at 1.0 l in 200 l.
18-May-93 : B : Calirus at 2.0 l and Corbel at 0.50 l in 200 l.
08-Jun-93 : T : CROPSEQ Wheat plots: Halo at 2.0 l and Mistral at 0.50 l
in 200 l.
09-Jun-93 : T : CROPSEQ Oat plots: Mistral at 1.0 l in 200 l.
02-Aug-93 : T : CROPSEQ Barley plots: Combine harvested.
10-Aug-93 : B : CROPSEQ Wheat, oats, triticale plots: Combine
harvested.

NOTE: Plant samples were taken in April, June and July for take-all and eyespot assessments. Soil cores were taken after harvest to assess take-all infectivity.

93/R/CS/323

GRAIN TONNES/HECTARE

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

CROPSEQ	
TTTTTT	5.39
OTTTOT	5.77
TOTTTT	7.30
TTOTTT	4.99
TTTOTT	5.42
WWWWWW	5.90
OWWWOW	8.16
WOWWOW	6.60
WWOWWW	5.96
WWWOWW	7.78
BBBBBB	4.21
OBBBBB	6.63
BOBBBB	5.97
BBOBBB	4.02
BBBOBB	5.58
WTWTWT	5.18
WBWBWB	5.76
TBTBTB	5.38
SBSBSB	4.82
WWTTW	6.25
WWBBBW	6.07
TTBBBT	4.26
TTWWWT	3.92
BBWWWB	5.76
BBTTTB	5.78
WWSSSW	5.91
Mean	5.72

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

CROPSEQ
0.661

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	50	0.810	14.2
GRAIN MEAN DM%	83.7		
PLOT AREA HARVESTED	0.00228		