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

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94/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 seventh year, w. barley, w. oats, w. triticale, w. wheat, s. barley.

For previous years see 88-93/R/CS/323

Design: 3 randomised blocks of 26 plots.

Whole plot dimensions: 3.0 x 10.0.

CROPSEQ Crop sequences (1988 to 1994 respectively):

TTTTTTT
OTTTOTT
TOTTTOT
TTOTTTO
TTTOTTT
WWWWWWW
OWWWOWW
WOWWWOW
WWOWWWO
WWWOWWW
BBBBBBB
OBBBOBB
BOBBBOB
BBOBBBO
BBBOBBB
WTWTWTW
WBWBWBW
TBTBTBT
SBSBSBS
WWTTTWW
WWBBBWW
TTBBBTT
TTWWWTT
BBWWWBB
BBTTTBB
WWSSSWW

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

94/R/CS/323

Experimental diary:

- 02-Sep-93 : B : PK as (0:18:36) at 300 kg.
09-Sep-93 : B : Ploughed.
23-Sep-93 : B : Spring-tine cultivated.
23-Sep-93 : T : CROPSEQ W. barley plots: Rotary harrowed, Magie, dressed Cerevax, drilled at 400 seeds per m².
24-Sep-93 : T : CROPSEQ Oats plots: Rotary harrowed, Image, dressed Ceresol, drilled at 350 seeds per m².
: T : CROPSEQ Triticale plots: Rotary harrowed, Lasko, dressed Cerevax, drilled at 400 seeds per m².
: T : CROPSEQ Wheat plots: Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m².
: B : Glytex at 2.25 kg in 200 l.
08-Mar-94 : T : CROPSEQ W. barley, oats, triticale and wheat plots: 34.5% N at 87 kg.
16-Mar-94 : T : CROPSEQ S. barley plots: Rotary harrowed, Klaxon undressed, drilled at 350 seeds per m².
12-Apr-94 : T : CROPSEQ Triticale plots: Hoegrass at 3.0 l with Starane 2 at 0.75 l in 220 l.
14-Apr-94 : T : CROPSEQ Oats and triticale plots: 34.5% N at 346 kg.
: T : CROPSEQ W. barley plots: 34.5% N at 428 kg.
: T : CROPSEQ Wheat plots: 34.5% N at 496 kg.
: T : CROPSEQ S. barley plots: 34.5% N at 346 kg.
09-May-94 : T : CROPSEQ W. barley plots: Starane 2 at 0.75 l with Tigress at 2.5 l in 200 l.
31-May-94 : B : Mistral at 0.5 l with Radar at 0.5 l in 200 l.
01-Jun-94 : T : CROPSEQ S. barley plots: Duplosan New System CMPP at 1.4 l with Oxytril CM at 1.0 l in 200 l.
26-Jul-94 : T : CROPSEQ W. barley plots: Combine harvested.
02-Aug-94 : T : CROPSEQ S. barley, wheat, oats and 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.

94/R/CS/323

GRAIN TONNES/HECTARE

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

| CROPSEQ | |
|---------|------|
| TTTTTTT | 5.35 |
| OTTTOTT | 5.04 |
| TOTTTOT | 6.23 |
| TTOTTTO | 6.95 |
| TTTOTT | 5.91 |
| WWWWWWW | 4.70 |
| OWWWOWW | 4.84 |
| WOWWWOW | 5.01 |
| WWOWWOW | 6.55 |
| WWWOWWW | 6.65 |
| BBBBBBB | 6.46 |
| OBBBBBB | 7.15 |
| BOBBBBB | 5.23 |
| BBOBBBB | 6.60 |
| BBBBOBB | 6.48 |
| WTWTWTW | 5.27 |
| WBWBWBW | 6.25 |
| TBTBTBT | 6.98 |
| SBSBSBS | 5.09 |
| WTTTWW | 6.64 |
| WWBBBWW | 5.65 |
| TTBBBTT | 5.87 |
| TTWWTT | 5.18 |
| BBWWBB | 6.46 |
| BBTTTBB | 7.04 |
| WWSSWW | 5.28 |
| Mean | 5.96 |

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

CROPSEQ
0.632

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

| Stratum | d.f. | s.e. | cv% |
|---------------------|---------|-------|------|
| BLOCK.WP | 50 | 0.774 | 13.0 |
| GRAIN MEAN DM% | 84.8 | | |
| PLOT AREA HARVESTED | 0.00226 | | |