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## Yields of the Field Experiments 1996

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### 96/R/BW/1 Beta-acids, Aphids and Bydv - W. Barley

#### Rothamsted Research

Rothamsted Research (1997) *96/R/BW/1 Beta-acids, Aphids and Bydv - W. Barley* ; Yields Of The Field Experiments 1996, pp 117 - 118 - DOI: <https://doi.org/10.23637/ERADOC-1-51>

96/R/BW/1

WINTER BARLEY

BETA-ACIDS, APHIDS AND BYDV

**Object:** To investigate the effects of beta-acids from hops on the aphid colonization and BYDV infection on winter barley - Highfield V.

**Sponsors:** B.J. Pye, J.A. Pickett, R.T. Plumb.

**Design:** 4 randomised blocks of 4 plots split into 3 sub-plots, systematically arranged.

**Whole plot dimensions:** 9.0 x 10.0.

**Treatments:**

APHCONT	Aphid control and timing:
-	None
C	Cypermethrin in November
F	Formulated control applied on three occasions in autumn
BA	Beta-acids applied on three occasions in autumn

**NOTE:** Composition of beta-acids application was 10% beta-acids, 10% water, 80% ethanol and of formulation, 20% water, 80% ethanol.

**Experimental diary:**

24-Aug-95 : B : Ploughed and furrow pressed.  
25-Sep-95 : B : Spring-tine cultivated. Rotary harrowed, Gaelic, dressed Vitaflo Extra, drilled at 350 seeds per m<sup>2</sup>.  
18-Oct-95 : T : APHCONT BA: Beta-acids applied at 10.4 l.  
          : T : APHCONT F: Formulation applied at 10.4 l.  
01-Nov-95 : T : APHCONT BA: Beta-acids applied at 10.4 l.  
          : T : APHCONT F: Formulation applied at 10.4 l.  
14-Nov-95 : B : Panther at 2.0 l in 200 l.  
16-Nov-95 : T : APHCONT BA: Beta-acids applied at 10.4 l.  
          : T : APHCONT F: Formulation applied at 10.4 l.  
          : T : APHCONT C: Ambush C at 250 g in 10.4 l.  
07-Mar-96 : B : 34.5% N at 116 kg.  
09-Apr-96 : B : 34.5% N at 348 kg.  
27-Apr-96 : B : Starane 2 at 1.0 l with Punch C at 0.8 l in 200 l.  
10-Jun-96 : B : Punch C at 0.6 l in 320 l.  
02-Aug-96 : B : Combine harvested.

Previous crops: Set-aside 1994, w. rape 1995.

**NOTE:** Counts were made of virus infected plants in May and June.

96/R/BW/1

GRAIN TONNES/HECTARE

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

APHCONT

-	10.03
C	9.88
F	9.94
BA	9.67

Mean	9.88
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\*\*\* Standard errors of differences of means \*\*\*

APHCONT

0.172

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	9	0.243	2.5
BLOCK.WP.SP	32	0.288	2.9

GRAIN MEAN DM% 86.8

PLOT AREA HARVESTED 0.00230