

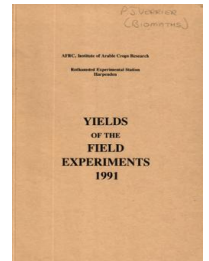
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## Yields of the Field Experiments 1991

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### 91/R/CS/311 Effects of Shallow Straw Incorporation - W. Wheat

#### Rothamsted Research

Rothamsted Research (1992) *91/R/CS/311 Effects of Shallow Straw Incorporation - W. Wheat* ; Yields Of The Field Experiments 1991, pp 63 - 66 - DOI: <https://doi.org/10.23637/ERADOC-1-46>

91/R/CS/311

### EFFECTS OF SHALLOW STRAW INCORPORATION

**Object:** To study the effects of shallow straw incorporation on straw decomposition, toxin production, pests and diseases and on the establishment, growth and yield of winter wheat - West Barnfield I.

**Sponsors:** R.D. Prew, D.G. Christian, R.J. Gutteridge, E.T.G. Bacon, J.F. Jenkyn, B.R. Kerry, W. Powell, A.D. Todd.

The seventh year, w. wheat.

For previous years see 85-90/R/CS/311.

**Design:** Single replicate of 3 x 2 x 2 x 2 x 2.

**Whole plot dimensions:** 9.0 x 57.0.

**Treatments:** Combinations of:-

Whole plots

1. **STRAW** Treatments to straw of previous wheat:

BURNT	Burnt on 22 Aug, 1990
BALED	Baled and removed on 21 Aug
CHOPPED	Chopped on 22 Aug

2. **CULTTIME** Time of cultivation, to 10 cm depth:

EARLY	Cultivated by rotary grubber on 23 Aug, 1990
LATER	Cultivated by rotary grubber on 14 Sept

Sub plots

3. **FUNGICIDE** Fungicides:

O	None
FULL	Full programme:- Triadimefon at 0.12 kg and carbendazim at 0.25 kg in 200 l on 3 Dec, 1990 Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 200 l on 12 Apr, 1991 Propiconazole at 0.12 kg with chlorothalonil at 0.50 kg in 200 l on 20 June

4. **INSECTICIDE** Insecticides:

O	None
CYP+PIR	Cypermethrin at 25 g in 200 l on 6 Nov, 1990 Pirimicarb at 0.14 kg in 200 l on 2 July, 1991

5. **MOLLICIDE** Molluscicide:

O	None
METHCARB	Methiocarb at 0.22 kg on 11 Oct, 1990

**NOTE:** STRAW BURNT plots were disced the day after burning.

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**Basal applications:** Manures: 'Nitram' at 120 kg and later at 580 kg.  
Weedkillers: Glyphosate at 0.18 kg and later at 1.4 kg, both in 200 l. Tri-allate at 2.2 kg. Bifenox at 0.95 kg and chlorotoluron at 3.5 kg in 200 l.

**Seed:** Haven, sown at 190 kg.

**Cultivations, etc.:-** First glyphosate applied: 8 Oct, 1990. Rotary harrowed, seed sown: 10 Oct. Tri-allate applied: 2 Nov. Bifenox and chlorotoluron applied: 13 Nov. First N applied: 4 Mar, 1991. Second N applied: 5 Apr. Second glyphosate applied: 13 Aug. Combine harvested: 20 Aug.

**NOTE:** Growth was measured and incidence of pests and diseases was assessed at intervals during the season. Ears of volunteers were counted prior to harvest and components of yield were measured.

#### GRAIN TONNES/HECTARE

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

CULTTIME	EARLY	LATER	Mean
<b>STRAW</b>			
BURNT	8.84	8.42	8.63
BALED	9.00	9.23	9.11
CHOPPED	8.78	8.23	8.51
Mean	8.87	8.63	8.75
<b>FUNGCIDE</b>	O	FULL	Mean
<b>STRAW</b>			
BURNT	7.71	9.55	8.63
BALED	8.39	9.84	9.11
CHOPPED	7.66	9.35	8.51
Mean	7.92	9.58	8.75
<b>FUNGCIDE</b>	O	FULL	Mean
<b>CULTTIME</b>			
EARLY	8.17	9.57	8.87
LATER	7.66	9.59	8.63
Mean	7.92	9.58	8.75
<b>INSCTCDE</b>	O	CYP+PIR	Mean
<b>STRAW</b>			
BURNT	8.44	8.82	8.63
BALED	9.05	9.18	9.11
CHOPPED	8.51	8.50	8.51
Mean	8.66	8.83	8.75

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GRAIN TONNES/HECTARE

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

INSCTCDE	O	CYP+PIR	Mean
<b>CULTTIME</b>			
EARLY	8.72	9.02	8.87
LATER	8.61	8.65	8.63
Mean	8.66	8.83	8.75

INSCTCDE	O	CYP+PIR	Mean
<b>FUNGCIDE</b>			
O	7.76	8.08	7.92
FULL	9.57	9.59	9.58
Mean	8.66	8.83	8.75

MOLLCIDE	O	METHCARB	Mean
<b>STRAW</b>			
BURNT	8.57	8.69	8.63
BALED	9.02	9.21	9.11
CHOPPED	8.53	8.48	8.51
Mean	8.71	8.79	8.75

MOLLCIDE	O	METHCARB	Mean
<b>CULTTIME</b>			
EARLY	8.84	8.91	8.87
LATER	8.58	8.68	8.63
Mean	8.71	8.79	8.75

MOLLCIDE	O	METHCARB	Mean
<b>FUNGCIDE</b>			
O	7.84	7.99	7.92
FULL	9.57	9.59	9.58
Mean	8.71	8.79	8.75

MOLLCIDE	O	METHCARB	Mean
<b>INSCTCDE</b>			
O	8.64	8.69	8.66
CYP+PIR	8.77	8.90	8.83
Mean	8.71	8.79	8.75

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GRAIN TONNES/HECTARE

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

		STRAW*	
FUNGCIDE	INSCTCDE	MOLLCIDE	FUNGCIDE
0.111	0.111	0.111	0.192
CULTTIME*		STRAW*	
FUNGCIDE	INSCTCDE	CULTTIME*	FUNGCIDE
0.156	0.192	INSCTCDE	INSCTCDE
		0.156	0.156
STRAW*		CULTTIME*	
MOLLCIDE	MOLLCIDE	FUNGCIDE	INSCTCDE
0.192	0.156	MOLLCIDE	MOLLCIDE
		0.156	0.156

\* Within the same level of **STRAW**, **CULTTIME** or **STRAW.CULTTIME** only

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

Stratum	d.f.	s.e.	cv%
WP.SP	27	0.383	4.4

GRAIN MEAN DM% 89.6

SUB PLOT AREA HARVESTED 0.00276