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# Yields of the Field Experiments 1992



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

### **Rothamsted Research**

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#### EFFECTS OF SHALLOW STRAW INCORPORATION

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

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The eighth year, w. wheat.

For previous years see 85-91/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

BALED Baled and removed

CHOPPED Chopped

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

EARLY As soon as possible after harvest
LATER At least 14 days after EARLY

Sub plots

FUNGCIDE Fungicides:

O None

FULL Full programme:-

Triadimefon and carbendazim in winter, prochloraz in

spring plus propiconazole alone and with

chlorothalonil in summer

4. INSCTCDE Insecticides:

O None

CYP+PIR Cypermethrin in autumn and pirimicarb in summer

5. MOLLCIDE Molluscicide:

0 None

METHCARB Methiocarb after drilling

#### Experimental Diary:

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22-Aug-91 : T : STRAW BALED: Straw baled and removed.
27-Aug-91 : T : STRAW BURNT: Straw burnt.
         : T : STRAW CHOPPED: Straw chopped with trailed straw chopper.
28-Aug-91 : T : STRAW BURNT: Disced.
          : T : CULTTIME EARLY: Cultivated by rotary grubber.
23-Sep-91 : B : (0:16:36) at 1040 kg.
11-Oct-91 : T : CULTTIME LATER: Cultivated by rotary grubber.
12-Oct-91 : B : Rotary harrowed, Haven drilled at 220 kg, rolled.
18-Oct-91: T: MOLLCIDE METHCARB: Draza at 5.5 kg.
12-Nov-91: T: INSCTCDE CYP+PIR: Ripcord at 0.20 1 in 200 1.
27-Nov-91 : B : Stefes IPU at 2.5 1 and Stomp 400 at 3.3 1 in 200 1.
14-Jan-92 : T : FUNGCIDE FULL: Bayleton BM at 1.0 kg in 200 1.
25-Feb-92 : B : 34.5% N at 120 kg.
14-Apr-92 : B : 34.5% N at 580 kg.
15-May-92 : T : FUNGCIDE FULL: Sportak 45 at 0.90 1 in 200 1.
20-May-92 : B : Terpal at 2.0 1 with Farmon Blue at 0.80 1 in 200 1.
04-Jun-92 : T : FUNGCIDE FULL: Radar at 0.50 1 in 200 1.
22-Jun-92 : T : FUNGCIDE FULL: Radar at 0.50 l and Chiltern
                   Chlorothalonil 500 at 1.0 1 in 200 1.
         : T : INSCTCDE CYP+PIR: Aphox at 0.28 kg in 200 1.
28-Jul-92 : B : Roundup at 4.0 1 in 200 1.
19-Aug-92 : B : Combine harvested.
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NOTE: Growth was measured and incidence of diseases assessed at intervals during the season. Incidence of stem-borers was assessed in spring. Ears of volunteers were counted prior to harvest and components of yield were measured.

#### GRAIN TONNES/HECTARE

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

CULTTIME	EARLY	LATER	Mean
BURNT	8.62	8.58	8.60
BALED	8.24	8.57	8.40
CHOPPED	8.23	8.56	8.39
Mean	8.36	8.57	8.47
FUNGCIDE	0	FULL	Mean
STRAW			
BURNT	7.79	9.40	8.60
BALED	7.54	9.26	8.40
CHOPPED	7.52	9.27	8.39
Mean	7.62	9.31	8.47

# GRAIN TONNES/HECTARE

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

FUNGCIDE	0	FULL	Mean
CULTTIME			
EARLY	7.53	9.20	8.36
LATER	7.71	9.42	8.57
Mean	7.62	9.31	8.47
INSCTCDE	0	CYP+PIR	Mean
STRAW			
BURNT	8.46	8.73	8.60
BALED	8.43	8.38	8.40
CHOPPED	8.39	8.40	8.39
Mean	8.43	8.50	8.47
INSCTCDE	0	CYP+PIR	Mean
CULTTIME	O	CITTIN	Hean
EARLY	8.34	8.38	8.36
	8.52	8.62	
LATER	8.54	8.62	8.57
Mean	8.43	8.50	8.47
INSCTCDE	0	CYP+PIR	Mean
FUNGCIDE			
0	7.62	7.62	7.62
FULL	9.24	9.38	9.31
Mean	8.43	8.50	8.47
MOLLCIDE	0	METHCARB	Mean
STRAW			
BURNT	8.59	8.61	8.60
BALED	8.39	8.41	8.40
CHOPPED	8.43	8.35	8.39
Mean	8.47	8.46	8.47
MOLLCIDE	0	METHCARB	Mean
CULTTIME			
EARLY	8.37	8.36	8.36
LATER	8.58	8.56	8.57
Mean	8.47	8.46	8.47
WOLT OTHE		MOMILLOS	
MOLLCIDE	0	METHCARB	Mean
FUNGCIDE	5 66	D 64	
0	7.63	7.61	7.62
FULL	9.31	9.31	9.31
	0 47	0.46	0.45
Mean	8.47	8.46	8.47

# GRAIN TONNES/HECTARE

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

MOLLCIDE	0	METHCARB	Mean
0	8.50	8.36	8.43
CYP+PIR	8.45	8.55	8.50
Mean	8.47	8.46	8.47

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

INSCTCDE	MOLLCIDE	STRAW*
		FUNGCIDE
0.084	0.084	0.145
STRAW	CULTTIME	FUNGCIDE
INSCTCDE	INSCTODE	INSCTCDE
0.145	0.119	0.119
CULTTIME*	FUNGCIDE	INSCTCDE
MOLLCIDE	MOLLCIDE	MOLLCIDE
0.119	0.119	0.119
	0.084  STRAW INSCTCDE 0.145  CULTTIME* MOLLCIDE	0.084 0.084  STRAW CULTTIME INSCTCDE INSCTCDE 0.145 0.119  CULTTIME* FUNGCIDE MOLLCIDE MOLLCIDE

\* 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
 0.291
 3.4

GRAIN MEAN DM% 87.0

SUB PLOT AREA HARVESTED 0.00276