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

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90/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.

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The sixth year, w. wheat.

For previous years see 85-89/R/CS/311.

Design: Single replicate of 3 x a half replicate of 2 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 16 Aug, 1989
BALED	Baled and removed on 16 Aug
CHOPPED	Chopped on 16 Aug

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

EARLY	Cultivated by rotary grubber on 16 Aug, 1989
LATER	Cultivated by rotary grubber on 30 Aug

Sub plots

3. **AUTN RES** Residues of autumn N last applied autumn 1988, kg N per annum:

(0)
(50)

4. **FUNGCIDE** Fungicides:

O	None
FULL	Full programme:- Triadimefon at 0.12 kg and carbendazim at 0.25 kg in 200 l on 24 Nov, 1989. Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 200 l on 9 Apr, 1990 Propiconazole at 0.125 kg in 200 l on 17 May Propiconazole at 0.125 kg with carbendazim at 0.25 kg and maneb at 1.6 kg in 200 l on 14 June

5. **INSCTCDE** Insecticides:

O	None
CYP+PIR	Cypermethrin at 25 g in 200 l on 1 Nov, 1989 Pirimicarb at 0.14 kg in 200 l on 14 June

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GRAIN TONNES/HECTARE

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

FUNGCIDE	0	FULL	Mean
CULTTIME			
EARLY	6.40	6.48	6.44
LATER	7.21	7.32	7.27
Mean	6.81	6.90	6.85

FUNGCIDE	0	FULL	Mean
AUTN RES			
(0)	6.83	6.85	6.84
(50)	6.79	6.95	6.87
Mean	6.81	6.90	6.85

INSCCDE	0	CYP+PIR	Mean
STRAW			
BURNT	7.47	7.92	7.69
BALED	6.50	6.67	6.58
CHOPPED	5.92	6.65	6.28
Mean	6.63	7.08	6.85

INSCCDE	0	CYP+PIR	Mean
CULTTIME			
EARLY	6.11	6.77	6.44
LATER	7.14	7.39	7.27
Mean	6.63	7.08	6.85

INSCCDE	0	CYP+PIR	Mean
AUTN RES			
(0)	6.63	7.05	6.84
(50)	6.63	7.11	6.87
Mean	6.63	7.08	6.85

INSCCDE	0	CYP+PIR	Mean
FUNGCIDE			
0	6.63	6.98	6.81
FULL	6.62	7.18	6.90
Mean	6.63	7.08	6.85

MOLLCIDE	0	METHCARB	Mean
STRAW			
BURNT	7.68	7.71	7.69
BALED	6.55	6.62	6.58
CHOPPED	6.22	6.35	6.28
Mean	6.81	6.89	6.85

90/R/CS/311

GRAIN TONNES/HECTARE

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

MOLLCIDE	O	METHCARB	Mean
CULTTIME			
EARLY	6.37	6.51	6.44
LATER	7.26	7.27	7.27
Mean	6.81	6.89	6.85

MOLLCIDE	O	METHCARB	Mean
AUTN RES			
(0)	6.83	6.85	6.84
(50)	6.80	6.94	6.87
Mean	6.81	6.89	6.85

MOLLCIDE	O	METHCARB	Mean
FUNGCIDE			
O	6.70	6.91	6.81
FULL	6.93	6.87	6.90
Mean	6.81	6.89	6.85

MOLLCIDE	O	METHCARB	Mean
INSCDCDE			
O	6.52	6.73	6.63
CYP+PIR	7.10	7.05	7.08
Mean	6.81	6.89	6.85

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

AUTN RES	FUNGCIDE	INSCDCDE	MOLLCIDE
0.072	0.072	0.072	0.072
STRAW*	CULTTIME*	STRAW*	CULTTIME*
AUTN RES	AUTN RES	FUNGCIDE	FUNGCIDE
0.125	0.102	0.125	0.102
AUTN RES	STRAW*	CULTTIME*	AUTN RES
FUNGCIDE	INSCDCDE	INSCDCDE	INSCDCDE
0.102	0.125	0.102	0.102
FUNGCIDE	STRAW*	CULTTIME*	AUTN RES
INSCDCDE	MOLLCIDE	MOLLCIDE	MOLLCIDE
0.102	0.125	0.102	0.102
FUNGCIDE	INSCDCDE		
MOLLCIDE	MOLLCIDE		
0.102	0.102		

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

90/R/CS/311

GRAIN TONNES/HECTARE

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

Stratum	d.f.	s.e.	cv%
WP.SP	20	0.250	3.6

GRAIN MEAN DM% 90.5

SUB PLOT AREA HARVESTED 0.00276