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87/R/CS/311 Effects of Shallow Straw Incorporation - W. Wheat
Yields of the Field Experiments 1987, pp 121 - 125 - DOI: <https://doi.org/10.23637/ERADOC-1-37>

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87/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 third year, w. wheat.

For previous years see 85-86/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 8 Sept, 1986
BALED	Baled and removed on 21 Aug
CHOPPED	Chopped on 21 Aug

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

EARLY	Cultivated by rotary grubber on 9 Sept, 1986
LATER	Cultivated by rotary grubber on 26 Sept

Sub plots

3. AUT N Autumn N as 'Nitram' applied just before cultivation:

0	None
50	50 kg N on 9 Sept, 1986 (CULTTIME EARLY), 25 Sept (CULTTIME LATER)

4. FUNGCIDE Fungicides:

0	None
FULL	Full programme:- Triadimefon at 0.125 kg and carbendazim at 0.25 kg in 500 l on 14 Apr, 1987 Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 200 l on 27 Apr Propiconazole at 0.125 kg in 200 l on 28 May Propiconazole at 0.125 kg with carbendazim at 0.25 kg and maneb at 1.5 kg in 200 l on 23 June

5. INSECTCIDE Insecticide:

0	None
PIR	Pirimicarb at 0.14 kg in 200 l on 23 June, 1987

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6. MOLLICIDE

Molluscicide:

0

None

METHCARB

Methiocarb at 0.22 kg, as pellets, broadcast on
29 Sept, 1986

Basal applications: Manures: 'Nitram' at 130 kg and later at 590 kg.
Weedkillers: Paraquat at 0.60 kg ion in 200 l. Isoproturon at 2.5 kg
in 200 l. Clopyralid at 0.05 kg and bromoxynil at 0.24 kg with
mecoprop at 1.8 kg in 200 l.

Seed: Mission, sown at 190 kg.

Cultivations, etc.:— Paraquat applied: 3 Oct, 1986. Rotary harrowed:
6 Oct. Seed sown: 7 Oct. First N applied: 19 Mar, 1987.
Isoproturon applied: 31 Mar. Second N, clopyralid, bromoxynil and
mecoprop applied: 18 Apr. Combine harvested: 19 Aug.

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

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GRAIN TONNES/HECTARE

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

CULTTIME	EARLY	LATER	Mean
STRAW			
BURNT	6.19	6.10	6.14
BALED	6.78	6.83	6.81
CHOPPED	6.82	5.89	6.36
Mean	6.60	6.28	6.44
AUT N	0	50	Mean
STRAW			
BURNT	6.07	6.21	6.14
BALED	6.68	6.93	6.81
CHOPPED	6.41	6.31	6.36
Mean	6.39	6.48	6.44
AUT N	0	50	Mean
CULTTIME			
EARLY	6.54	6.65	6.60
LATER	6.23	6.32	6.28
Mean	6.39	6.48	6.44
MOLLCIDE	0	METHCARB	Mean
STRAW			
BURNT	6.00	6.29	6.14
BALED	6.69	6.92	6.81
CHOPPED	6.42	6.30	6.36
Mean	6.37	6.50	6.44
MOLLCIDE	0	METHCARB	Mean
CULTTIME			
EARLY	6.46	6.73	6.60
LATER	6.28	6.27	6.28
Mean	6.37	6.50	6.44
MOLLCIDE	0	METHCARB	Mean
AUT N			
0	6.39	6.39	6.39
50	6.35	6.62	6.48
Mean	6.37	6.50	6.44
FUNGICIDE	0	FULL	Mean
STRAW			
BURNT	5.86	6.43	6.14
BALED	6.43	7.18	6.81
CHOPPED	6.03	6.68	6.36
Mean	6.11	6.77	6.44

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GRAIN TONNES/HECTARE

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

FUNGCIDE	0	FULL	Mean
CULTTIME			
EARLY	6.32	6.88	6.60
LATER	5.90	6.65	6.28
Mean	6.11	6.77	6.44
FUNGCIDE	0	FULL	Mean
AUT N			
0	6.09	6.68	6.39
50	6.12	6.85	6.48
Mean	6.11	6.77	6.44
FUNGCIDE	0	FULL	Mean
MOLLCIDE			
0	5.99	6.75	6.37
METHCARB	6.23	6.78	6.50
Mean	6.11	6.77	6.44
INSCTCDE	0	PIR	Mean
STRAW			
BURNT	5.99	6.29	6.14
BALED	6.78	6.83	6.81
CHOPPED	6.27	6.45	6.36
Mean	6.35	6.52	6.44
INSCTCDE	0	PIR	Mean
CULTTIME			
EARLY	6.51	6.69	6.60
LATER	6.19	6.36	6.28
Mean	6.35	6.52	6.44
INSCTCDE	0	PIR	Mean
AUT N			
0	6.29	6.48	6.39
50	6.40	6.57	6.48
Mean	6.35	6.52	6.44
INSCTCDE	0	PIR	Mean
MOLLCIDE			
0	6.18	6.56	6.37
METHCARB	6.51	6.49	6.50
Mean	6.35	6.52	6.44

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GRAIN TONNES/HECTARE

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

INSCTCDE FUNG CIDE	0	PIR	Mean
0	6.05	6.17	6.11
FULL	6.65	6.88	6.77
Mean	6.35	6.52	6.44

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

Table	AUT N	FUNG CIDE	INSCTCDE	MOLLCIDE
s.e.d.	0.105	0.105	0.105	0.105
Table	STRAW*	CULTTIME*	STRAW*	CULTTIME*
s.e.d.	AUT N	AUT N	FUNG CIDE	FUNG CIDE
	0.183	0.149	0.183	0.149
Table	AUT N	STRAW*	CULTTIME*	AUT N
s.e.d.	FUNG CIDE	INSCTCDE	INSCTCDE	INSCTCDE
	0.149	0.183	0.149	0.149
Table	FUNG CIDE	STRAW*	CULTTIME*	AUT N
s.e.d.	INSCTCDE	MOLLCIDE	MOLLCIDE	MOLLCIDE
	0.149	0.183	0.149	0.149
Table	FUNG CIDE	INSCTCDE		
s.e.d.	MOLLCIDE	MOLLCIDE		
	0.149	0.149		

* 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	20	0.365	5.7

GRAIN MEAN DM% 84.2

SUB PLOT AREA HARVESTED 0.00288