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Yields of the Field Experiments 1987

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87/R/RN/8 Cultivation/WEEDKILLER - W. Barley

Rothamsted Research

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87/R/RN/8

CULTIVATION/WEEDKILLER

Object: To study the long-term effects of different methods of primary cultivation on a sequence of crops; weedkillers were also tested until 1981 - Great Harpenden I.

Sponsor: R. Moffitt.

The 27th year, w. barley.

For previous years see 'Details' 1967 and 1973 and 74-86/R/RN/8.

Design: 2 randomised blocks of 12 plots.

Whole plot dimensions: 12.8 x 12.2.

Treatments: All combinations of:-

Whole plots

1. CLT CHOP	Primary cultivations annually; straw chopped since 1985:
PLOUGH	Ploughed: 27 Aug, 1986
ROTA DIG	Cultivated by rotary digger: 8 Sept
DEEPTINE	Deep-tine cultivated, 3 times: 27 Aug
2. SUBSOIL[82]	Subsoiling in September 1982:
NONE	None
CNVNTIAL	Conventional vertical tine
PARAPLOW	'Paraplow'
XTR BURN	plus three extra treatments with straw burnt since 1985 direct drilled until 1984, heavy spring-tine cultivated twice on 27 August, 1986 in addition to basal cultivating, differing in subsoiling in September 1982:
NONE	None
CNVNTIAL	Conventional vertical tine
PARAPLOW	'Paraplow'

NOTES: (1) Straw was chopped on 6 Aug, 1986 and was burnt on XTR BURN on 13 Aug and these plots were spring-tine cultivated on 14 Aug. All plots were sprayed with paraquat at 0.60 kg ion in 200 l on 29 Sept, rotary harrowed on 30 Sept and drilled on 1 Oct.

(2) The conventional vertical tine subsoiler had tines 76 cm apart and worked at a depth of about 50 cm.

(3) The 'Paraplow' had rigid tines set at a 45 degree angle. The tip of each tine was in line with the attachment of an adjacent tine. The tines were 51 cm apart and worked at a depth of about 38 cm.

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87/R/RN/8

Basal applications: Manures: Chalk at 5.0 t. 'Nitram' at 460 kg.
Weedkillers: Isoproturon at 2.5 kg with clopyralid at 0.07 kg and bromoxynil at 0.34 kg and mecoprop at 2.5 kg in 200 l.

Seed: Igri, sown at 150 kg.

Cultivations, etc.:- Chalk applied: 24 Sept, 1986. N applied: 20 Mar, 1987. Weedkillers applied: 16 Apr. Combine harvested: 7 Aug.

GRAIN TONNES/HECTARE

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

SUBSOIL[82]	NONE	CNVNTIAL	PARAPLOW	Mean
CLT CHOP				
PLOUGH	5.58	5.58	5.78	5.65
ROTA DIG	5.78	5.61	6.19	5.86
DEEPTINE	5.79	5.54	5.86	5.73
Mean	5.72	5.57	5.95	5.75

XTR BURN	NONE	CNVNTIAL	PARAPLOW	Mean
	5.89	4.34	4.29	4.84

Grand mean 5.52

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

Table	XTR BURN	CLT CHOP	SUBSOIL[82]	CLT CHOP SUBSOIL[82]
s.e.d.	0.463	0.267	0.267	0.463

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	11	0.463	8.4

GRAIN MEAN DM% 85.0

PLOT AREA HARVESTED 0.00280

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