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

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85/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 25th year, w. barley.

For previous years see 'Details' 1967 and 1973 and 74-84/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: 19 Sept, 1984
ROTA DIG	Cultivated by rotary digger: 19 Sept
DEEPTINE	Deep-tine cultivated: 17 Sept

2. SUBSOIL(82) Subsoiling in September 1982:

NONE	None
CNVNTIAL	Conventional vertical tine
PARAPLOW	'Paraplow'

XTR BURN plus three extra plots with straw burnt since 1985 direct drilled until 1984, spring-tine cultivated twice, on 19 September, 1984, 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 27 July, 1984 and was burnt on XTR BURN on 14 August. All plots were disc cultivated on 15 August, sprayed paraquat at 0.60 kg ion in 250 l on 8 September, rotary harrowed and drilled on 28 September.

(2) The conventional vertical tine sub soiler 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.

85/R/RN/8

Basal applications: Manures: (5:14:30) at 340 kg, combine drilled.
 'Nitro-Chalk' (26% N) at 620 kg. Weedkillers: Isoproturon at 2.4 kg
 with mecoprop (as 'CMPP' at 4.2 l) and the insecticide in 250 l.
 Cyanazine at 0.30 kg with mecoprop at 2.0 kg and the fungicides in
 200 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg.
 Insecticide: Cypermethrin at 0.025 kg.

Seed: Panda, dressed triadimenol and fuberidazole sown at 140 kg.

Cultivations, etc.:- Isoproturon, mecoprop and the insecticide applied:
 31 Oct, 1984. N applied: 9 Apr, 1985. Cyanazine, mecoprop and the
 fungicides applied: 10 Apr. Combine harvested: 8 Aug.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SUBSOIL(82) CLT CHOP	NONE	CNVNTIAL	PARAPLOW	MEAN
PLOUGH	8.13	7.67	7.97	7.92
ROTA DIG	7.88	7.63	7.97	7.83
DEEPTINE	7.79	7.72	8.00	7.83
MEAN	7.93	7.67	7.98	7.86
XTR BURN	NONE	CNVNTIAL	PARAPLOW	MEAN
	8.24	8.37	8.17	8.26

GRAND MEAN 7.96

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	CLT CHOP	SUBSOIL(82)	XTRA BURN	CLT CHOP SUBSOIL(82)
SED	0.157	0.157	0.273	0.273

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.273	3.4

GRAIN MEAN DM% 76.0

PLOT AREA HARVESTED 0.00285