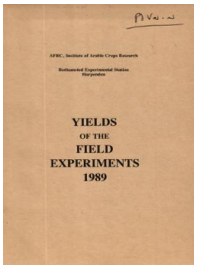
ROTHAMSTED RESEARCH

Yields of the Field Experiments 1989

Full Table of Content



89/R/M/1 Comparison of Combines - W. Wheat, Rye - Mixed Crops

Rothamsted Research

Rothamsted Research (1990) *89/R/M/1 Comparison of Combines - W. Wheat, Rye - Mixed Crops ;* Yields Of The Field Experiments 1989, pp 203 - 205 **- DOI: https://doi.org/10.23637/ERADOC-1-40**

89/R/M/1

MIXED 1

COMPARISON OF COMBINES

Object: To evaluate the suitability of three combines for plot work in respect of purity of sample and accuracy when working on slopes - White Horse I.

Sponsors: R. Moffitt, M.N. Rogers.

Design: A systematic split-plot design of 48 whole plots arranged as shown below.

R	W	R	W	R	W	R	W	Top of slope
W	W	W	W	W	W	W	W	
W	W	W	W	W	W	W	W	
R	R	R	R	R	R	R	R	
W	W	W	W	W	W	W	W	
W*	W	W	W	W	W	W	W	Bottom of slope

* Combines started here (after harvesting a dummy wheat plot downhill), worked up the column of plots then down the next column etc.

R = rye W = wheat

NOTES: (1) Each whole plot was systematically divided to compare the three combine harvesters.
(2) There were 10 m headlands between contiguous rye and wheat plots. These were removed before combining the plots. There were 1 m paths between contiguous wheat plots.

Whole plot dimensions: 9.0 x 9.0.

Treatments:

Whole plots

1. **CROP** Crop:

   WHEAT W. wheat
   RYE W. rye

2. **DIRECTN** Combine direction in relation to slope:

   UP Up slope
   DOWN Down slope

3. **ORDER** Order of combining:

   BEGIN First plot in column
   STRAIGHT Central plots in column
   END Last plot in column

https://doi.org/10.23637/ERADOC-1-40

89/R/M/1

Sub plots

4. **COMBINE** Combine type:

CLAAS	Claas 25
DEUTZ-F	Deutz-Fahr 660
W STEIGER	Wintersteiger

Basal applications: Manure: 'Nitram' at 360 kg. Weedkillers: Methabenzthiazuron at 1.6 kg in 200 l. Bromoxynil at 0.27 kg and ioxynil at 0.27 kg in 200 l.

Seed: W. wheat: Avalon, sown at 180 kg.
W. rye: Admiral, sown at 180 kg.

Cultivations, etc.:- Heavy spring-tine cultivated three times: 2 Nov, 1988. Rotary harrowed, seed sown: 3 Nov. Methabenzthiazuron applied: 16 Nov. N applied: 19 Apr, 1989. Bromoxynil and ioxynil applied: 26 Apr. Combine harvested: 9 Aug. Previous crops: W. oats 1987, potatoes 1988.

NOTE: The Claas combine was improperly adjusted and performed atypically. Yields from this machine have therefore been excluded from the analysis.

https://doi.org/10.23637/ERADOC-1-40

89/R/M/1

GRAIN TONNES/HECTARE

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

COMBINE	DEUTZ-F	W STEIGER
	7.31	7.01

CROP	DIRECTN ORDER	UP BEGIN	UP STRAIGHT	UP END	DOWN BEGIN	DOWN STRAIGHT	DOWN END
WHEAT		7.58	7.57	7.56		7.75	7.64
RYE			5.79		5.91	5.52	

CROP	DIRECTN	ORDER	COMBINE	DEUTZ-F	W STEIGER
WHEAT	UP	BEGIN		7.82	7.34
		STRAIGHT		7.72	7.41
		END		7.78	7.34
	DOWN	STRAIGHT		8.05	7.44
		END		7.98	7.30
RYE	UP	STRAIGHT		5.89	5.69
	DOWN	BEGIN		5.92	5.90
		STRAIGHT		5.04	6.00

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

COMBINE	CROP DIRECTN ORDER	CROP DIRECTN ORDER COMBINE	
0.055	0.170	0.217	min.rep
	0.139	0.177	max-min
	0.098	0.125	max.rep
Except when comparing means with the same level(s) of			
CROP.DIRECTN.ORDER		0.191	min.rep
		0.156	max-min
		0.110	max.rep

max.rep **CROP** WHEAT and **ORDER** STRAIGHT
min.rep any of the remainder
max-min **CROP** WHEAT and **ORDER** STRAIGHT v any of the remainder

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

Stratum	d.f.	s.e.	cv%
WP	40	0.240	3.4
WP.SP	40	0.271	3.8

GRAIN MEAN DM% 89.3

SUBPLOT AREA HARVESTED DEUTZ-F 0.00207
SUBPLOT AREA HARVESTED W STEIGER 0.00144

https://doi.org/10.23637/ERADOC-1-40