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# Yields of the Field Experiments

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## Conventions

### Rothamsted Research

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## CONVENTIONS

For each experiment current treatments are shown with the factor and level names which are used in the tables.

For each experiment references are given to previous years. These refer to the '(Numerical) (Results)' previous editions of 'Yields of the Field Experiments'.

For the classical and some long-term experiments reference is made to 'Details' – separate publications, giving full descriptions of treatments until 1977 & 1973, with full titles 'Details of the Classical and Long Term Experiments up to 1977' and 'Details of the Classical and Long Term Experiments up to 1973'.

The following conventions are observed unless otherwise stated.

All areas are in hectares. All plot dimensions are in metres.

All rates of application of fertilizers, sprays etc. are per hectare.

All yields are per hectare.

For any other crop, details of abbreviations are given as necessary

## Fertilizers

27%N or 34.5% N means nitrogen as calcium ammonium nitrate or ammonium nitrate.

Anhydrous Sulphate of Soda

Chalk

Compost

Double Top                      27% nitrogen and 30% SO<sub>3</sub>

FYM                                Farmyard manure (from bullocks)

Headland Manganese 500      500 g/l 27.5% w/w manganese carbonate

Kieserite                         MgSO<sub>4</sub>H<sub>2</sub>O 17.7% magnesium and 23.3% sulphur

Maize Tops

Manganese sulphate            Mn<sub>2</sub> (SO<sub>4</sub>)<sub>3</sub> 27% manganese and 24% sulphur

Magnesium sulphate          MgSO<sub>4</sub> H<sub>2</sub>O 17.7% magnesium and 23.3% sulphur

Muriate of potash (MOP)      60% K<sub>2</sub>O as Potassium Chloride (KCl)

Nitram                              34.5% N

Nitraprill                         34.5% N

Nitrate of soda                 NaNO<sub>3</sub> 16% nitrogen and 27% sodium

Nitro-Chalk	Calcium Ammonium Nitrate 27% N
Silicate of soda	Na <sub>2</sub> SiO <sub>3</sub> 37% sodium and 23% silica
Sodium Sulphate	35% Sodium
Sulphate of ammonia	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 21% nitrogen 24% sulphur
Sulphate of potash (SOP)	K <sub>2</sub> SO <sub>4</sub> 50% K <sub>2</sub> O and 18.4% sulphur
Triple superphosphate (TSP)	47% P <sub>2</sub> O <sub>5</sub>

Cereal straw is removed unless otherwise stated.

GS: Growth Stage.

tm): Tank mix; two or more products applied together.

tr: means seed dressing

#### Machinery Referred to in the Diary Notes

<b>Cultivations</b>			
	<b>Manufacturer</b>	<b>Width</b>	<b>Description</b>
Plough	Kverneland	1.5 m	5 Furrow, 25 cm Furrows.
Cultipress	Simba	3.3 m	Used after Ploughing.
Flexitine	Bunford	3.3 m	Used for lifting Worked ground.
Powerharrow	Kverneland	3.0 m	Used for creating seed bed.
Rotavator	Howard	1.3 m	Mainly used for BK/1 Paths.
Rotavator	Concept	1.2 m	Mainly Used for HB/2 Paths.
<b>Drills</b>			
	<b>Manufacturer</b>	<b>Width</b>	<b>Description</b>
Accord Combination Drill	Kverneland	3.0 m	Power-harrow Mounted Pneumatic drill with Suffolk coulters 12.5 cm apart.
Maize Drill	Nodet Pneumasem 2	5 Rows	Rows spaced at 70 cm.
<b>Chemical Applications</b>			
	<b>Manufacturer</b>	<b>Width</b>	<b>Description</b>
Aero-spreader	Kuhn	12 m	Tractor Mounted - General Fert Applications.

Muck Spreader	International	1.5 m	Trailed - FYM Applications.
Exacto-matic	Ransome, Nordsten	3.8 m	Tractor Mounted - Fert Applications.
Sprayer	Knight	24 m	Tractor Mounted - Chemical Application.
Quickpass	Yr-Crop	1.5 m	Trailed - Fert Applications.
Lowsread	Lowsread	2.76 m	Tractor Mounted - Fert Applications.
<b>Harvesters</b>			
	<b>Manufacturer</b>	<b>Width</b>	<b>Description</b>
Rosenlew SR2010	Sampo	(Cut) 2m	Cereal Combine Harvester with a Continuous Weighing System.
3760	John Deere	2 Row	Maize Harvester, Cut and Mulch. Trailed Machine used after plot yields.
Tucano	Claas	6 m	Commercial Combine used for harvesting discards after plot yields.
Box Mower	Wilder	1.1 m	Box Mower Mainly used for yields on PG/5.
Mower	Unifarm	1.83 m	Commercial Mower used to mow discards on PG/5.
<b>Other</b>			
	<b>Manufacturer</b>	<b>Width</b>	<b>Description</b>
Ring Rolls	Cousins	3.3 m	Ring rolls for covering seed post drilling.
Topper 9	McConnell	2.72 m	Topper used for topping stubbles and grass areas.
Small Topper	Kilworth	1.1 m	Topper used with Iseki Tractor - Used for cutting Paths.
945 Conventional Baler	New Holland	-	Traditional Baler Used for baling straw samples.
Round Baler	Claas	-	Used for clearing unwanted leftover straw/grass from experiments.
<b>Tractors</b>			
	<b>Manufacturer</b>	<b>Weight</b>	<b>Description</b>
T7210	New Holland	8.1 t	Main cultivations tractor.
TL6030 Elite	New Holland	5.5 t	Sprayer tractor.
6830	John Deere	5.6 t	Drill and fertiliser application tractor.
TH4335	Iseki	1.1 t	Paths cutting tractor.

T503	Tym	2.0 t	Fertiliser applications and Rotovating.
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Application code: This is used to identify the kind of application  
a = application (cultivations, harvest, etc.), p = pesticide, f = fertilizer and s = seed.

### Tables of means

The following abbreviations are used in variate headings:

Wheat, barley, oats, beans, lupins etc.

Grain: Grain (at 85% dry matter)  
Straw: Straw (at 85% dry matter)

All crops

Mean DM%: Mean dry matter % as harvested

### Standard errors

- NOTES:** (1) This report gives standard errors of differences, not of means.  
(2) Annotations (e.g. \* min rep, max-min, max rep) to S.E. Ds are only explained the first time they occur in any experiment.

### PESTICIDES USED

The following list of pesticides is based on The UK Pesticides Guide, CAB International and The British Crop Protection Council. CABI Publishing

#### KEY TO ABBREVIATIONS

ad	Adjuvant	d	Desiccant	f	Fungicide
gr	Growth regulator	h	Herbicide	i	Insecticide
m	Molluscicide	n	Nematicide	tr	Trace elements

Trade Name	Function	Active ingredient
Ally Max SX	h	metsulfuron-methyl + tribenuron-methyl (14.3:14.3 % w/w)
Atlantis	h	iodosulfuron-methyl-sodium + mesosulfuron-methyl (0.6:3.0 % w/w)
Balear 720	f	chlorothalonil (720 g/l)
BASF 3C	gr	chlormequat (750 g/l)
Bassoon EC	f	epoxiconazole (83 g/l)
BioPower	adj	6.7% w/w 3,6-dioxaeicosylsulphate sodium salt and 20.2% w/w 3,6-dioxaoctadecylsulphate sodium salt
Bravo 500	f	chlorothalonil (500 g/l)
Cello	f	prothioconazole + spiroxamine + tebuconazole (100:250:100 g/l)
Chex	water conditioner	A soluble liquid concentrate containing water conditioning and acidifying agents, humectant, pH buffer and an anti-foam.
Clayton Spigot	f	fenpropimorph (750 g/l)
Compitox plus	h	mecoprop-P (600 g/l)

Corbel	f	fenpropimorph (750 g/l)
Cortez	f	epoxiconazole (125 g/l)
Cyflamid	f	cyflufenamid (50 g/l)
Excalibur	h	diflufenican + flupyr-sulfuron-methyl (44.4:5.6 % w/w)
Firebrand	adj	ammonium sulphate (500 g/l)
Folicur	f	tebuconazole (250g/l)
Hallmark with zeon tech	i	lambda-cyhalothrin (100 g/l)
Hatchet xtra	h	fluroxypyr (200 g/l)
Hunter	h	florasulam + fluroxypyr (2.5:100 g/l)
Hurler	h	fluroxypyr (200 g/l)
Keystone	f	epoxiconazole + isopyrazam (99:125 g/l)
Kingdom	f	boscalid + epoxiconazole (140:50 g/l)
Kinto	f	prochloraz + triticonazole (60:20 g/l)
Laser	h	cycloxydim (200 g/l)
Liberator	h	diflufenican + flufenacet (100:400 g/l)
Mesurol	i	methiocarb (500g/l)
Mirage 40 EC	f	prochloraz (400 g/l)
Moddus	gr	trinexapac-ethyl (250 g/l)
Odin	f	tebuconazole (250g/l)
Pacifica	h	iodosulfuron-methyl-sodium + mesosulfuron-methyl (1.0:3.0% w/w)
Proline	f	prothioconazole (275 g/l)
Raxil star	f	fluopyram + prothioconazole + tebuconazole (20.8:103.1:63.2 g/l)
Redigo	f	prothioconazole (100 g/l)
Redigo Deter	f	prothioconazole + clothiandin (50:250 g/l)
Redigo Pro	f	prothioconazole + tebuconazole (15:20 g/l)
Refine Max	h	metsulfuron-methyl + thifensulfuron-methyl (6.7:33.3 w/w)
Samurai	h	glyphosate (360 g/l)
San 703	f	chlorothalonil + cyproconazole (375:40 g/l)
Simba SX	h	metsulfuron-methyl (20 % w/w)
Sprinter-K	foliar feed	K <sub>2</sub> O, 30% w/w (44,4% w/v)
Stomp Aqua	h	pendimethalin (455 g/l)
Supasect	i	cypermethrin
TDS Major	m	metaldehyde (4% w/w)
Toledo	f	tebuconazole (430 g/l)
Troy 480	h	bentazone (480 g/l)
Vortex	f	epoxiconazole + fluxapyroxad + pyraclostrobin (41.6:41.6:61 g/l)
Zarado	adj	70% w/w oil (rapeseed oil fatty acid esters) as emulsifiable concentrate