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ROTHAMSTED
RESEARCH

Yields of the Field Experiments 2014



Results of the
Classical and other
Long-term Experiments
2014

[Full Table of Content](#)

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% SO₃

FYM Farmyard manure (from bullocks)

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

Kieserite MgSO₄H₂O 17.7% magnesium and 23.3% sulphur

Maize Tops

Manganese sulphate Mn₂ (SO₄)₃ 27% manganese and 24% sulphur

Magnesium sulphate MgSO₄ H₂O 17.7% magnesium and 23.3% sulphur

Muriate of potash (MOP) 60% K₂O as Potassium Chloride (KCl)

Nitram 34.5% N

Nitraprill 34.5% N

Nitrate of soda NaNO₃ 16% nitrogen and 27% sodium

Nitro-Chalk	Calcium Ammonium Nitrate 27% N
Silicate of soda	Na ₂ SiO ₃ 37% sodium and 23% silica
Sodium Sulphate	99.9% SO ₄
Sulphate of ammonia	(NH ₄) ₂ SO ₄ 21% nitrogen 24% sulphur
Sulphate of potash (SOP)	K ₂ SO ₄ 50% K ₂ O and 18.4% sulphur
Triple superphosphate (TSP)	47% P ₂ O ₅

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

Cultivations			
	Manufacturer	Width	Description
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.
Drills			
	Manufacturer	Width	Description
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.
Chemical Applications			
	Manufacturer	Width	Description
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.
Harvesters			
	Manufacturer	Width	Description
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.
Other			
	Manufacturer	Width	Description
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.
Tractors			
	Manufacturer	Weight	Description
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
Absolute	h	diflufenican + flupyr-sulfuron-methyl (41.7:8.3% w/w)
Ally Max SX	h	metsulfuron-methyl + tribenuron-methyl (14.3:14.3 % w/w)
Amistar	f	azoxystrobin (250 g/l)
Artemis	f	fenpropidin + prochloraz + tebuconazole (150:200:150 g/l)
Atlantis	h	iodosulfuron-methyl-sodium + mesosulfuron-methyl (0.6:3.0 % w/w)
BASF 3C 720	gr	chlormequat (720 g/l)
BioPower	ad	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)
Callisto	h	mesotrione (100 g/l)
Cello	f	prothioconazole + spiroxamine + tebuconazole (100:250:100 g/l)
Cortez	f	epoxiconazole (125 g/l)
Covershield	f	pyraclostrobin + kresoxim-methyl + epixiconazole (133:67:50 g/l)
Crystal	h	flufenacet + pendimethalin (60:300 g/l)
Cyflamid	f	cyflufenamid (50 g/l)
Defy	h	pro-sulfocarb (800 g/l)
Fezan	f	tebuconazole (250 g/l)
Firebrand	ad	ammonium sulphate (500 g/l)