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Rothamsted Long-term Experiments Farm Diary and Yields of the Classical and Other Long-term Experiments Weather Summaries 2023



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Conventions

Rothamsted Research

Rothamsted Research (2025) *Conventions* ; Rothamsted Long-Term Experiments Farm Diary And Yields Of The Classical And Other Long-Term Experiments Weather Summaries 2023, pp i - iv

Conventions

For each experiment the 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 (ha) and all plot dimensions are in metres (m).
- All rates of application of fertilizers, sprays etc. are per hectare (/ha).
- All yields are per hectare (/ha).
- For any other crop, details of abbreviations are given as necessary.

FERTILIZERS, ORGANICS AND CHALK

Anaerobic digestate (AD)	
Chalk (lime)	
Compost	
Epsom Salts (magnesium sulphate)	MgSO ₄ ·7H ₂ O; 16% MgO (9% Mg); 33% SO ₃ (13% S)
Extran (ammonium nitrate)	NH ₄ NO ₃ ; 33.5% N
Farmyard manure (FYM)	from bullocks
Headland Manganese 500	500 g/L, 27.5% w/w MnCO ₃
Kieserite (magnesium sulphate)	MgSO ₄ ·H ₂ O; 25% MgO (15% Mg); 50% SO ₃ (20% S)
Manganese sulphate	Mn ₂ (SO ₄) ₃ ; 27% Mn; 24% S
Manganese and Dinitrate	14% w/w; 7.2% w/w nitric nitrogen
Muriate of potash (MOP; potassium chloride)	KCl; 60% K ₂ O (50% K)
Nitrate of soda (sodium nitrate)	NaNO ₃ ; 16% N; 27% Na
Nitro-Chalk (calcium ammonium nitrate)	27% N
Poultry manure (PM)	pelleted
Silicate of soda	Na ₂ SiO ₃ ; 37% Na; 23% Si
Sodium sulphate	35% Na
Straw	
Sulphate of ammonia	(NH ₄) ₂ SO ₄ ; 21% N; 60% SO ₃ (24% S)
Sulphate of potash (SOP)	K ₂ SO ₄ ; 50% K ₂ O (41.5% K); 45% SO ₃ (18% S)
Sulphur-N (Sulphan)	26% N; 35% SO ₃ (14% S)
Sulphur-N-equivalent blend	26% N; 35% SO ₃
Triple superphosphate (TSP)	47% P ₂ O ₅ (20% P)

Cereal straw is removed unless otherwise stated.

Abbreviations

GS: growth stage
tr: seed dressing

PESTICIDES USED

The following list of pesticides is based on the HSE Pesticide Product Register (<https://secure.pesticides.gov.uk/pestreg/ProdSearch.asp>) and Adjuvant Product Register (<https://secure.pesticides.gov.uk/adjuvants/Search.aspx>); The UK Pesticides Guide, CAB International and The British Crop Protection Council. CABI Publishing.

Trade Name (MAPP or ADJ number)	Function	Active ingredient
Aphox (17401)	i	500 g/kg pirimicarb
Arizona (15318)	f	500 g/L folpet
Azoxystar (17407)	f	250 g/L azoxystrobin
Basagran SG (08360)	h	870 g/kg bentazone
Beret Gold (16430)	tr	25 g/L fludioxonil
Biopower (A0617)	ad	A soluble concentrate formulation containing 276.5 g/L alkyl ether sulphates, sodium salts (EAC 1)
Buffalo Elite	water conditioner	ammonium sulphate (40% w/w), water conditioner
Bugle (17821)	f	59.4 g/L fluxapyroxad
Eagle (old 16490; new 18902, 20708)	h	75% w/w amidosulfuron
Firestarter (18422)	h	100 g/L diflufenican and 400 g/L flufenacet
Hallmark with Zeon Technology (12629)	i	100 g/L lambda-cyhalothrin
Horus (16216)	h	2 g/L iodosulfuron-methyl-sodium and 10 g/L mesosulfuron-methyl
Hurler (17715)	h	200 g/L fluroxypyr
Kanaster (20008)	h	60 g/L pinoxaden
Kerb Flo 500	h	500 g/L propyzamide
Lentyma XE (19301)	f	66.7 g/L fluxapyroxad and 70 g/L Mefentrifluconazole
Moddus (15151)	gr	250 g/L trinexapac-ethyl
Moraine (19608)	h	2000 g/L fluroxypyr
Oraso Pro (19321)	f	125 g/L prothioconazole and 125 g/L tebuconazole
Orius P (18994)	f	267 g/L prochloraz and 133 g/L tebuconazole
Paramount Max (18751)	h	200 g/kg florasulam and 600 g/kg tribenuron-methyl
Pontos (17811)	h	240 g/L flufenacet and 1000 g/L picolinafen
Presite SX (18776)	h	67 g/kg metsulfuron-methyl and 333 g/kg thifensulfuron-methyl
Ranco i-Mix (19847)	tr	50 g/L imazalil and 20 g/L ipconazole
Raxil Star (17805)	tr	20 g/L Fluopyram, 100 g/L prothioconazole and 60 g/L tebuconazole
Samurai (16238)	h	360 g/L glyphosate
Simveris (19619)	f	90 g/L metconazole
Sprinter	f	Water soluble manganese (Mn) 14 w/w and Nitric Nitrogen (N) 7.2% w/w in 10 L of product.
Stefes CCC 720 (17731)	gr	720 g/L chlormequat
Stomp Aqua (14664)	h	455 g/L pendimethalin
Tacanza Era (19217)	f	75 g/L benzovindiflupyr and 150 g/L prothioconazole
Velomax (A0831)	ad	86.8% w/w oil (rapeseed fatty acid esters), 5.2% w/w alkoxylated alcohols, 2.5% w/w oil (tall oil fatty acids)
Vibrance Duo (17838)	tr	25.000 g / l fludioxonil and 25.000 g / l Sedaxane
Zarado (A0516)	ad	70% w/w oil (rapeseed fatty acid esters)

Abbreviations

ad: adjuvant d: desiccant f: fungicide gr: growth regulator h: herbicide
i: insecticide m: molluscicide n: nematocide tr: seed treatment

MACHINERY REFERRED TO IN THE DIARY NOTES

Cultivators	Manufacturer	Width (m)	Description
Plough	Kverneland	1.5	5 Furrow reversible, 25 cm Furrows.
Plough	Dowdeswell		4 Furrow
Powerharrow	Kilworth	1.3	Mainly used for Paths.
Spring Tines	Cousins		
Roller	Unknown	6	WES 6M Roll
Cambridge Roll	Flexicoil	6	
Drills	Manufacturer	Width (m)	Description
Accord Combination Drill No. 4	Kverneland	3	Power-harrow mounted pneumatic drill with Suffolk coulters 12.5 cm apart.
Accord Tine Drill	Kverneland	4	Suffolk Coulters with 3-point linkage (WES)
Chemical Applicators	Manufacturer	Width (m)	Description
Cascade	Horstine	12	Tractor mounted pneumatic boom fertiliser spreader
Lift-o-matic / Exact-o-matic Fertiliser box	Ransome Nordsten	3.8	Tractor mounted – Fert Applications.
Muck Spreader	International	1.5	Trailed – FYM Applications.
Fertiliser spreader	Quickpass		Tractor mounted – Fert Applications.
Fertiliser box (GSA 300)	Nordsten	3	Tractor mounted – Fert Applications.
Sprayer	Knight	24	Tractor mounted boom sprayer – Chemical Application.
Agribuggy2 AB30	McConnell	12	Self-propelled sprayer – can be used at 12m or 24m, has automatic section control and GPS autosteer. Also has a slug pellet applicator on the front
Harvesters	Manufacturer	Width (m)	Description
Tucano 430	Claas	6	Commercial combine used for harvesting discards after plot yields.
Grass harvester – Flail Mower	Amazone	1.01	Used for grass ley and herbage yields mainly but also for straw weights
Mower	Unifarm	1.83	
Pro Glide R3100 – Mower/Conditioner	McHale	3.05	Commercial mower used to mow discards on PG/5.
Plot Combine	Haldrup	2	Cereal plot combine harvester used 2017 onwards with a 2.0 m cut width (the previous Sampo combine had a 2.1 m cut).
Other	Manufacturer	Width (m)	Description
Cambridge Ring Rolls	Flexicoil	6	Ring rolls for covering seed post drilling.
Windrower	Claas	-	Rowing up for baling
Tedder (Fanex 524)	Vicon	-	Turning and rowing up of grass for hay making (W/RN/3 and 12, R/PG/5).
Topper 9	McConnell	2.72	Topper used for topping stubbles and grass areas.
Fusion 2 Baler	McHale	-	Used for baling and wrapping clearing leftover straw/grass from experiments after harvest removed.
Tractors	Manufacturer	Weight(t)	Description
ISTH4335	Iseki	1.71	Small Machinery Tractor

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Conventions

JD5070	John Deere	5.85	Wide Wheeled Tractor
JD5620	John Deere	5.46	Drilling Tractor
JD6145R	John Deere	11.25	Cultivations Tractor
JD6230	John Deere	6.10	Yard Tractor
JD6620	John Deere	5.2	Tractor (Woburn)
JD6830	John Deere	5.7	Fertiliser Tractor
MF3070	Massey Ferguson	4.4	Hedge Cutting Tractor

Application code used to identify the kind of application:

a: application (cultivations, harvest, etc.)

p: pesticide

f: fertilizer

s: seed