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Results of the Classical and Other Long-term Experiments 2021

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Conventions

Rothamsted Research

Rothamsted Research (2023) *Conventions ;* Results Of The Classical And Other Long-Term Experiments 2021 , pp i - iv **- DOI: https://doi.org/10.23637/ERADOC-1-271**

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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. 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, respectively.

Anhydrous Sulphate of Soda	
Chalk	
Compost	
Double Top	27% N and 30% SO_3
FYM	Farmyard manure (from bullocks)
Headland Manganese 500	500 g/l 27.5% w/w $MnCO_3$
Kieserite	$MgSO_4H_2O$; 17.7% Mg and 23.3% S
Maize Tops	
Magnesium sulphate	$MgSO_4$ H_2O; 17.7% Mg and 23.3% S
Manganese sulphate	Mn_2 $(SO_4)_3$; 27% Mn and 24% S
Manganese and Dinitrate ('Sprinter')	14% w/w and 7.2% w/w Nitric Nitrogen
Muriate of potash (MOP)	KCl; 60% K_2O (49.8% K)
Nitram	34.5% N
Nitraprill	34.5% N
Nitrate of soda	$NaNO_3$; 16% N and 27% Na
Nitro-Chalk	Calcium Ammonium Nitrate; 27% N
Silicate of soda	Na_2SiO_3; 37% Na and 23% Si
Sodium Sulphate	35% Na
Sulphate of ammonia	$(NH_4)_2SO_4$; 21% N and 24% S
Sulphate of potash (SOP)	K_2SO_4; 50% K_2O (41.5% K) and 18.4% S
Triple superphosphate (TSP)	47% P_2O_5; (20.1% P)

Cereal straw is removed unless otherwise stated.

GS: Growth Stage
tm): Tank mix; two or more products applied together
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

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(https://secure.pesticides.gov.uk/adjuvants/Search.aspx); 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 (MAPP or ADJ number)	Function	Active ingredient
Ally Max SX (18768)	h	143.000 g/kg metsulfuron-methyl and 143.000 g/kg tribenuron-methyl
Buffalo Elite	water conditioner	ammonium sulphate (40 % w/w), water conditioner
Caramba 90 (15524)	f	90.000 g/L metconazole
Cello (18290)	f	100.000 g/L prothioconazole, 250.000 g/L spiroxamine and 100.000 g/L tebuconazole
Cogent (A0902)	ad	32.67 % w/w alkoxylated alcohols and 1.0 % w/w trisiloxane organosilicone copolymers
Cortez (16280)	f	125 g/L (12.1% w/w) epoxiconazole
Cytokin P (?)	gr	No information available
Envoy (16297)	f	85 g/L (8.2% w/w) pyraclostrobin plus 62.5 g/L (6% w/w) epoxiconazole
Firestarter (18422)	h	100.000 g/L diflufenican and 400.000 g/L flufenacet
Hallmark with Zeon Technology (12629)	i	100.000 g/L lambda-cyhalothrin
Hurler (17715)	h	200.000 g/L fluroxypyr
Laser (17339)	h	200.000 g/L cycloxydim
Lentyma XE (19301)	f	66.700 g/L fluxapyroxad and 70.000 g/L Mefentrifluconazole
Mobius (13395)	f	175.000 g/L prothioconazole and 150.000 g/L trifloxystrobin
Moddus (15151)	gr	250.000 g/L trinexapac-ethyl
Ninja 5CS (16417)	i	50.000 g/L lambda-cyhalothrin
Plexeo 60 (18281)	f, gr	60 g/L metconazole
Pontos (17811)	h	240.000 g/L flufenacet and 100.000 g/L picolinafen
Presite SX (18776)	h	67.000 g/kg metsulfuron-methyl and 333.000 g/kg thifensulfuron-methyl
Retengo 200 (19551)	f	200.000 g/L pyraclostrobin
Samurai (16238)	h	360.000 g/L glyphosate
Simveris (19619)	f	90.000 g/L metconazole
Starane HI-Load HL (16557)	h	333.000 g/L fluroxypyr
Stefes CCC 720 (17731)	gr	720.000 g/L chlormequat
Velogy Plus (17866)	f	100.000 g/L benzovindiflupyr
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)
X-Clude	water conditioner	
Zarado (A0516)	ad	70.0 % w/w oil (rapeseed fatty acid esters)

https://doi.org/10.23637/ERADOC-1-271

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Machinery Referred to in the Diary Notes

Cultivators	Manufacturer	Width	Description
Plough	Kverneland	1.5 m	5 Furrow, 25 cm Furrows.
Plough	Ransome	1 m	3 Furrow, 25 cm Furrows
Plough	Dowdeswell		5 Furrow, 12 in Furrows (Woburn)
Press	Philip Watkins	4.6 m	Used to level and consolidate ground after ploughing
Flexitine	Bomford	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 No. 4	Kverneland	3.0 m	Power-harrow mounted pneumatic drill with Suffolk coulters 12.5 cm apart.
Accord Tyne Drill	Kverneland	4.0 m	3-point linkage with Suffolk coulters Plots/Commercial (Woburn)

Chemical Applicators	Manufacturer	Width	Description
Cascade	Horstine	12 m	Tractor-mounted pneumatic boom fertiliser spreader
GSA 300	Nordsten	3 m	Tractor-mounted - Fert Applications.
Exactomatic	Ransome, Nordsten	3.8 m	Tractor-mounted - Fert Applications.
Muck Spreader	International	1.5 m	Trailed - FYM Applications.
Sprayer	Tecnoma	12 m	Tractor-mounted boom sprayer - Chemical Application.
Sprayer	Knight	24 m	Tractor-mounted boom sprayer - Chemical Application.
Sprayer	Knight	12 m	Tractor-mounted boom sprayer - Chemical Application. (Woburn)

Harvesters	Manufacturer	Width	Description
Amazone Groundkeeper Smart Cut - GHS Drive 1500	Amazone		Flail mower collector, specially modified by Trials Equipment UK to cut and weigh grass. This was commissioned for 2021 to replace the Wilder Grass Box Mower previously used for grass yields but which was no longer fit for purpose.
Tucano 430	Claas	6 m	Commercial combine used for harvesting discards after plot yields.
Box Mower	Wilder	1.01 m	No longer used. Box mower mainly used for yields on PG/5 up until 2020.
Mower	Unifarm	1.83 m	Commercial mower used to mow discards on PG/5.
Mower Conditioner	Kuhn	3 m	Commercial mower with conditioning.
Plot Combine	Haldrup	2 m Cut	Cereal plot combine harvester (used from 2017).

Other	Manufacturer	Width	Description
Cambridge Ring Rolls	Flexicoil	6 m	Ring rolls for covering seed post drilling.
PZ Hay Rake	Zweegers	-	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).

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Topper 9	McConnell	2.72 m	Topper used for topping stubbles and grass areas.
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.
Grass Box	Wilder	-	Used for grass weights.

Tractors	Manufacturer	Weight	Description
ISTH4335	Iseki	1.71 t	Small Machinery Tractor
JD5070	John Deere	5.85 t	Wide Wheeled Tractor
JD5620	John Deere	5.46 t	Drilling Tractor
JD6145R	John Deere	11.25 t	Cultivations Tractor
JD6230	John Deere	6.10 t	Yard Tractor
JD6620	John Deere	5.2 t	Tractor (Woburn)
JD6830	John Deere	5.7 t	Fertiliser Tractor
JD6930	John Deere	5.9 t	Drilling Tractor
MF3070	Massey Ferguson	4.4 t	Hedge Cutting Tractor
MF6150	Massey Ferguson	4.6 t	Spraying Tractor (Woburn)
NH T6030	New Holland	5.50 t	Mounted Sprayer Tractor
NH T7210	New Holland	8.10 t	Cultivations Tractor
Tym T503	Tym	3.63 t	Small Light Tractor

Application code: This is used to identify the kind of application

a = application (cultivations, harvest, etc.), p = pesticide, f = fertilizer and s = seed.

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