ROTHAMSTED RESEARCH

Yields of the Field Experiments 1960

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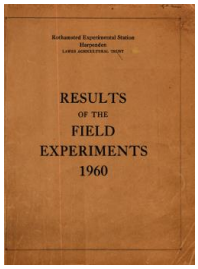

60/R/CD//2 and 60/W/CD/2 Wheat, Barley and Multiple Crops - Residuals of Weedkillers

Rothamsted Research

Rothamsted Research (1961) *60/R/CD//2 and 60/W/CD/2 Wheat, Barley and Multiple Crops - Residuals of Weedkillers ;* Yields Of The Field Experiments 1960, pp 108 - 112 **- DOI: https://doi.org/10.23637/ERADOC-1-180**

WHEAT, BARLEY AND MULTIPLE CROPS

Residual effects of triazine weedkillers - Rothamsted (R) Great Field I and Great Knott I and Woburn (W) Broad Mead I and Great Hill 1960.

Design: Strip cropping on sites of 1959 experiments:-
Great Field I (R), Great Knott I (R) and Broad Mead I (W): Winter wheat, kale, sugar beet, barley and oats.
Great Hill (W): Spring wheat, kale, sugar beet, barley and oats.

Area of each plot (acres):
Great Field I (R) and Great Knott I (R) - winter wheat; Broad Mead I (W) - winter wheat: 0.0318. Area harvested: 0.0152. All other crops on above fields: 0.0079. Area harvested: 0.0035 - 0.0053.
Great Hill (W) - Barley: 0.0393. Area harvested: 0.0170. Other crops on Great Hill: 0.0098. Area harvested: Oats - 0.0043, Sugar beet - 0.0051.

Treatments: Applied in 1959. See 'Results of the Field Experiments' 1959 pages 59/Ce/2 and 59/Cf/5.

Basal dressings per acre:
Oats, barley and spring wheat (all fields): 3 cwt compound fertiliser (16% N, 9% P_2O_5, 9% K_2O) combine drilled.
Kale and sugar beet (all fields): 10 cwt compound fertiliser (10% N, 10% P_2O_5, 18% K_2O).
Winter wheat:- Great Field I (R): 1½ cwt compound fertiliser (6% N, 15% P_2O_5, 15% K_2O) combine drilled and 4 cwt sulphate of ammonia top dressed. Great Knott I (R): 2½ cwt compound fertiliser (6% N, 15% P_2O_5, 15% K_2O) combine drilled and 5 cwt sulphate of ammonia top dressed. Broad Mead I (W): 2½ cwt compound fertiliser (6% N, 15% P_2O_5, 15% K_2O) combine drilled and 3 cwt 'Nitro-Chalk' 21 top dressed.

Cultivations, etc.:
Rothamsted. Great Field I (F) and Great Knott I (K). Ploughed: (K) - Oct 9, 1959, (F) - Oct 21. Winter wheat combine drilled at 2¾ bushels per acre: (K) - Oct 23, (F) - Oct 26. Barley combine drilled at 2 bushels per acre: Mar 7, 1960. Basal fertiliser applied for kale and sugar beet: Mar 24. Sugar beet drilled at 19 lb per acre: (K) - Apr 6, (F) - Apr 7. Kale drilled at 3 lb per acre: (K) - Apr 8, (F) - Apr 9. Top dressing of sulphate of ammonia applied to winter wheat: (K) - Apr 8, (F) - Apr 12. Winter wheat sprayed with CMPP at 6 pints in 40 gallons per acre: (F) - Apr 21, (K) - Apr 22. Barley and oats sprayed with TCB/MCPA at 4 pints in 40 gallons per acre: (F) - May 6, (K) - May 10. Sugar beet singled: (F) - May 23, (K) - May 25. Sugar beet sprayed with demeton methyl at 12 fluid oz in 60 gallons per acre: May 30. Barley and oats combine harvested: Aug 16. Winter wheat combine harvested: (F) - Aug 23, (K) - Aug 28. Sugar beet lifted: Oct 25. Kale harvested: (F) - Oct 25, (K) - Nov 24.

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Woburn. Broad Mead I (B) and Great Hill (G): Ploughed: (B) - Nov 2, 1959. Winter wheat combine drilled at 3 bushels per acre: Nov 11. Ploughed: (G) - Jan 5, 1960. Seed combine drilled: Barley at 2¼ bushels, oats at 4 bushels per acre: (B) - Mar 19, (G) - Mar 26; spring wheat at 2¾ bushels per acre: (G) - Mar 26. 'Nitro-Chalk' applied to winter wheat: Apr 5. Basal fertiliser applied to kale and sugar beet: (B) - Apr 11, (G) - Apr 14. Kale and sugar beet seed drilled: Apr 14. Kale and sugar beet sprayed with miscible DDT (against flea beetle) at 3 pints in 40 gallons per acre: May 6. Sugar beet singled: May 30. Sugar beet sprayed with demeton methyl at 12 fluid oz in 40 gallons per acre: June 1. Spring wheat, barley and oats combine harvested: (G) - Aug 22. Winter wheat, barley and oats combine harvested: (B) - Sept 8. Sugar beet lifted: Oct 5. Kale harvested: Nov 2.

Varieties (all fields): Winter wheat: Cappelle; spring wheat: Jufy I; barley: Proctor; oats: Condor; sugar beet: Klein E; kale: Thousand head.

Previous crops: Great Field I (R) and Great Hill (W): Potatoes. Great Knott I (R) and Broad Mead I (W): Spring beans.

Note: Owing to damage by birds, no yields were taken for kale and spring wheat on Great Hill (W), nor for barley and oats on Broad Mead I (W).

Summary of Results

Great Field I (R)

	Spray in 1959					
	None	S1	S2	S3	A2	Mean
	Wheat, grain (at 85% dry matter): cwt per acre					
Mean	53.1	51.4	52.5	49.7	52.8	51.9
	Barley, grain (at 85% dry matter): cwt per acre					
Mean	46.1	44.2	47.5	42.3	44.5	45.1
	Oats, grain (at 85% dry matter): cwt per acre					
Mean	35.3	39.8	39.2	37.1	38.0	38.3
	Kale, fresh weight: tons per acre					
Mean	20.96	26.18	27.82	24.67	25.42	25.56

Mean dry matter % as harvested: Wheat 81.2
Barley 81.3
Oats 82.6

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	Spray in 1959 None	S1	S2	S3	A2	Mean
Great Field I (R)						
Sugar beet. Roots (washed): tons per acre						
Mean	19.79	22.22	20.00	19.64	16.80	19.68
Sugar beet. Sugar percentage						
Mean	17.0	16.4	16.2	16.3	16.9	16.5
Sugar beet. Total sugar: cwt per acre						
Mean	67.2	72.6	64.9	63.9	57.0	65.0
Great Knott I (R)						
Wheat, grain (at 85% dry matter): cwt per acre						
Mean	50.2	53.7	50.8	52.0	52.3	51.5
Barley, grain (at 85% dry matter): cwt per acre						
Mean	36.1	37.6	38.2	37.6	40.0	37.6
Oats, grain (at 85% dry matter): cwt per acre						
Mean	32.3	32.0	30.1	30.6	33.5	31.8
Kale, fresh weight: tons per acre						
Mean	25.19	23.32	21.72	18.78	22.60	22.80
Sugar beet. Roots (washed): tons per acre						
Mean	17.88	17.02	15.48	16.58	15.64	16.74
Sugar beet. Sugar percentage						
Mean	16.9	16.7	16.7	16.6	16.6	16.7
Sugar beet. Total sugar: cwt per acre						
Mean	60.3	56.8	51.8	55.2	51.8	56.0

Mean dry matter % as harvested: Wheat 80.0
Barley 81.8
Oats 84.5

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60/Cd/2.4

Broad Mead I (W)

	Spray in 1959				
	None	S1	S2	S3	A2	Mean
Wheat, grain (at 85% dry matter): cwt per acre						
Mean	36.6	38.2	36.7	37.6	40.5	37.9
Kale, fresh weight: tons per acre						
Mean	20.92	24.36	22.79	20.92	21.80	22.16
Sugar beet. Roots (washed): tons per acre						
Mean	15.83	17.80	13.75	16.27	16.32	15.99
Sugar beet. Sugar percentage						
Mean	14.9	15.6	14.2	15.1	15.2	15.0
Sugar beet. Total sugar: cwt per acre						
Mean	47.1	55.5	39.0	49.0	49.6	48.0
Sugar beet. Tops: tons per acre						
Mean	23.47	24.75	24.46	22.10	23.57	23.67

Mean dry matter % as harvested: Wheat 76.3

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60/Cd/2.5

Great Hill (W)

	Spray and treatment in 1959							
	None	S1	S2	S3	S4	A2	M	Mean
Barley, grain (at 85% dry matter): cwt per acre								
Mean	22.4	23.4	24.2	21.4	20.3	18.0	20.2	21.4
Oats, grain (at 85% dry matter): cwt per acre								
Mean	10.9	10.4	11.2	8.9	7.2	8.4	6.9	9.1
Sugar beet. Roots (washed): tons per acre								
Mean	15.26	17.72	13.35	15.88	9.47	16.76	17.48	15.13
Sugar beet. Sugar percentage								
Mean	15.9	16.8	16.0	16.2	16.2	16.2	16.9	16.3
Sugar beet. Total sugar: cwt per acre								
Mean	48.6	59.4	42.6	51.4	30.7	54.2	59.2	49.4
Sugar beet. Tops: tons per acre								
Mean	14.00	13.65	13.48	17.39	8.87	13.39	14.35	13.59

Mean dry matter % as harvested: Barley 81.5
Oats 73.0

Sprays

S = Simazine
A = Atrazine

Levels

1 = 1 lb in 40 gallons per acre
2 = 2 lb in 80 gallons per acre
3 = 3 lb in 120 gallons per acre
4 = 4 lb in 160 gallons per acre

50% active material

M = Normal mechanical weed control.

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