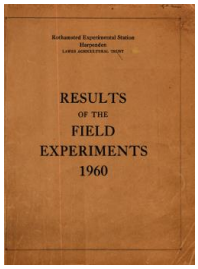
ROTHAMSTED RESEARCH

Yields of the Field Experiments 1960

Full Table of Content



60/R/B/8 Concentrated Fertiliser Rotation

Rothamsted Research

Rothamsted Research (1961) *60/R/B/8 Concentrated Fertiliser Rotation ;* Yields Of The Field Experiments 1960, pp 71 - 72 **- DOI: https://doi.org/10.23637/ERADOC-1-180**

60/B/8.1

CONCENTRATED FERTILISER ROTATION

Concentrated compound fertiliser and forms of N - West Barnfield I 1960.

Rotation: Kale, ryegrass, barley.

Design (each crop): 2 randomised blocks of 14 plots each.

Area of each plot (acres): 0.0174. Area harvested: Kale - 0.0086, Ryegrass - 0.0056, barley - 0.0116.

Treatments (per acre):
- No fertiliser. (0)
- P_2O_5 and K_2O each at 0.3 cwt to barley and each at 0.1 cwt to kale and ryegrass, as triple superphosphate and potassium bicarbonate. (B)
- Compound fertiliser, 20% N, 10% P_2O_5, 10% K_2O at 0.3(1), 0.6(2) cwt N to barley and 1.0(1), 2.0(2) to kale and ryegrass. (F)
- Sulphate of ammonia, granular superphosphate and muriate of potash at rates equivalent to treatments F (1) and (2) (P)
- PK as treatment B plus
  - Sulphate of ammonia (S)
  - Calcium nitrate (C)
  - Urea (U)
  - Ammonium nitrate (A)

  each at rates 1 and 2 of N.

Basal dressing: None.

Cultivations, etc.: Ploughed: Oct 30 - Nov 2, 1959. Fertilisers broadcast for barley, barley drilled at 2½ bushels per acre: Mar 26, 1960. Fertilisers broadcast for ryegrass: Mar 31. Ryegrass sown at 30 lb per acre; fertilisers applied for kale: Apr 1. Kale drilled at 3 lb per acre: Apr 8. Barley sprayed with CMPP at 6 pints in 40 gallons per acre: May 23. Grass cut: July 20. Barley combine harvested: Aug 17. Grass cut second time: Oct 3. Kale harvested: Nov 8 - 16. Varieties: Kale - Thousand head; ryegrass - S22; barley - Proctor. Previous crop: Oats.

Standard errors per plot.
- Kale, fresh weight: 1.339 tons per acre or 6.0% (13 d.f.)
- Ryegrass dry matter:
  - 1st cut 2.59 cwt per acre or 9.2% (13 d.f.)
  - 2nd cut 1.95 cwt per acre or 15.9% (13 d.f.)
  - Total of 2 cuts 3.31 cwt per acre or 8.2% (13 d.f.)
- Barley, grain (at 85% dry matter): 1.38 cwt per acre or 3.8% (13 d.f.)

https://doi.org/10.23637/ERADOC-1-180

Summary of Results

Fertiliser	Kale fresh weight tons per acre	Ryegrass dry matter cwt per acre 1st cut	2nd cut	Total of 2 cuts	Barley (at 85% dry matter) cwt per acre Grain	Straw
	(±0.946)	(±1.83)	(±1.38)	(±2.34)	(±0.98)	
0	12.21	7.1	6.4	13.5	27.9	15.7
B	14.91	11.3	6.9	18.2	28.0	16.0
F_1	22.18	30.8	9.5	40.3	34.8	21.8
F_2	26.56	34.5	17.4	51.9	40.6	29.2
P_1	22.44	27.7	9.5	37.2	35.3	20.5
P_2	25.21	33.8	18.7	52.5	38.5	22.9
S_1	21.58	25.2	9.5	34.7	37.1	25.2
S_2	24.82	33.3	18.2	51.5	39.0	22.8
C_1	23.71	30.7	8.3	39.0	35.1	22.8
C_2	24.43	31.0	18.1	49.0	38.2	24.3
U_1	21.45	27.2	8.1	35.3	34.1	21.2
U_2	24.49	32.9	13.6	46.5	38.0	25.9
A_1	22.04	32.5	10.3	42.8	35.1	23.4
A_2	24.75	34.8	17.7	52.5	39.9	27.3
Mean	22.20	28.0	12.3	40.3	35.8	22.8
Mean dry matter % as harvested:		16.3	20.7	18.5	82.2	69.2

Treatments

0 = No fertiliser
B = P_2O_5 and K_2O each at 0.3 cwt to barley and each at 0.1 cwt to kale and ryegrass, as triple superphosphate and potassium bicarbonate
F = Compound fertiliser, 20% N, 10% P_2O_5, 10% K_2O at 0.3(1), 0.6(2) cwt N to barley and 1.0(1), 2.0(2) to kale and ryegrass
P = Sulphate of ammonia, granular superphosphate and muriate of potash at rates equivalent to treatments F (1) and (2).
S = Sulphate of ammonia. Plus PK as treatment B
C = Calcium nitrate. " " " "
U = Urea. " " " "
A = Ammonium nitrate. " " " "

https://doi.org/10.23637/ERADOC-1-180