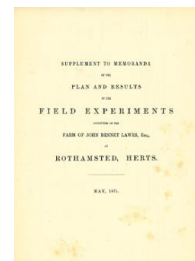


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Supplement to Memoranda of the Plans and Results of the the Field Experiments at Rothamsted May 1871



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Memoranda of the Plans and Results of the Field Experiments at Rothamsted May 1871

Rothamsted Research

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SUPPLEMENT TO MEMORANDA
OF THE
PLAN AND RESULTS
OF THE
FIELD EXPERIMENTS
CONDUCTED ON THE
FARM OF JOHN BENNET LAWES, Esq.,
AT
ROTHAMSTED, HERTS.

MAY, 1871.

(3)

EXPERIMENTS WITH DIFFERENT DESCRIPTIONS OF WHEAT, IN 1871;
AND
SUMMARY OF RESULTS OBTAINED IN PREVIOUS YEARS.

	DRESSED CORN PER ACRE.				Average.	WEIGHT PER BUSHEL.			
	1868; Sawpit Field; 1 cwt. Guano; 1 cwt. Wheat Manure; after Clover.	1869; Thirty Acres Field; 2 cwt. Guano; after Clover.	1870; Sawyer's Field; 4 cwt. Guano; after Fallow.	1870; Sawyer's Field; 4 cwt. Guano; after Fallow.		1868; Sawpit Field; 1 cwt. Guano; 1 cwt. Wheat Manure; after Clover.	1869; Thirty Acres Field; 2 cwt. Guano; after Clover.	1870; Sawyer's Field; 4 cwt. Guano; after Fallow.	Average.
1. Red Wonder	51½	54½	51	51	52½	63	60½	64½	62½
2. Burwell (Old Red Lammas)	41½	48½	48½	48½	46½	64	63	65½	64½
3. Bristol Red .. .. .	.. .. .	54½	50	50	52½	.. .. .	61	65½	63½
4. Red Nursery	41½	49½	45	45	45½	66	65	66½	66
5. Red Lingham .. .. .	.. .. .	53	49½	49½	51½	.. .. .	61	65½	63½
6. Woolly Ear (White)	44½	52½	47½	47½	48	64	61½	64½	63½
7. Golden Drop (Red) .. .. .	.. .. .	50½	50½	50½	50½	.. .. .	62½	66	64½
8. Golden Drop (Red), Hallett's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
9. Hunter's White, Hallett's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
10. Victoria White, Hallett's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
11. Original Red, Hallett's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
12. White Chiddam	49	49½	45½	45½	48	64½	60½	66½	63½
13. Red Rostock	45½	51½	.. .. .	.. .. .	49	63½	61½	.. .. .	62½
14. Casey's White .. .. .	.. .. .	.. .. .	50½	50½	50½	.. .. .	.. .. .	64½	64½
15. Golden Rough-chaff (Red) .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
16. Bole's Prolific (Red) .. .. .	.. .. .	.. .. .	53½	53½	53½	.. .. .	.. .. .	65½	65½
17. Club Wheat .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
18. Browick (Red) .. .. .	.. .. .	.. .. .	50½	50½	50½	.. .. .	.. .. .	64½	64½
19. Red-chaff (White) .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
20. Maynard's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
21. Niagara (Red) .. .. .	.. .. .	43½	45½	45½	45½	.. .. .	60½	65	62½
22. Clover's Suffolk Red	41½	.. .. .	.. .. .	.. .. .	41½	64	.. .. .	.. .. .	64
Mean	45½	50½	49½	49½	48½	64½	61½	65½	63½

EXPERIMENTS WITH A VIEW TO ECONOMY IN THE USE OF EXPENSIVE NITROGENOUS MANURES.

It is found that generally less than half the nitrogen supplied in such manures as guano, ammonia-salts, or nitrate of soda, is recovered in the increase of crop obtained by their use; that a considerable quantity may remain in the soil in a comparatively inactive state, and that a considerable quantity may be carried away by drainage and lost. It seemed desirable, therefore, to commence a series of experiments to determine whether any saving can be effected

by applying comparatively small quantities near to the seed, instead of larger amounts as evenly as possible over and throughout the surface soil as in the usual mode of broadcast sowing and harrowing-in. The following experiments were therefore arranged for the present season, 1871.

It is also intended to make experiments with a view to ascertain the best periods of the year for the application of such manures to different crops.

EXPERIMENTS UPON WHEAT; FIRST SEASON, 1871. LITTLE HOOS' FIELD.

4 Plots, about $\frac{1}{4}$ acre each.

PLOT 1.—Unmanured. Seed, 1 bushel per acre, dibbled, 6 inches apart in the rows.

PLOT 2.—Sulphate of ammonia, 146 lbs. per acre (containing about the same quantity of nitrogen as 15 bushels of grain, with its average proportion of straw). Seed, 1 bushel per acre.

Holes dibbled 6 inches apart in the rows (as for Plot 1); the ammonia-salt, previously ground with an equal weight of fine ashes, put, according to calculated measure, into the holes, and the seed, according to calculated number, put in above the manure.

PLOT 3.—Sulphate of ammonia, 292 lbs. per acre (double the quantity of Plot 2). Seed, 1 bushel per acre.

The ammonia-salt mixed with fine ashes and sown broadcast. Seed dibbled 6 inches apart in the rows.

PLOT 4.—Sulphate of ammonia, 146 lbs. per acre. Seed, 1 bushel per acre.

The ammonia-salt mixed with as little water as would dissolve it, the seed put into the solution, the whole dried up by admixture with dry ashes, and sown broadcast.

EXPERIMENTS UPON BARLEY; FIRST SEASON, 1871. THIRTY-ACRES' FIELD.

6 Plots, about $\frac{1}{2}$ acre each.

PLOT 1.—Unmanured. Seed, 3 bushels per acre, drilled.

PLOT 2.—1 cwt. superphosphate, 1 cwt. nitrate of soda, per acre. Seed, 3 bushels per acre. Manures sown broadcast; seed drilled.

PLOT 3.—1 cwt. superphosphate, 1 cwt. nitrate of soda, per acre. Seed, 3 bushels per acre. Manures mixed with fine ashes and drilled; seed drilled above the manure.

PLOT 4.—1 cwt. superphosphate, 1 cwt. nitrate of soda, per acre. Seed, 3 bushels per acre.

The manures well mixed with fine ashes, then the seed well mixed with the manure, and the whole drilled together.

PLOT 5.—1 cwt. superphosphate, 1 cwt. nitrate of soda, per acre. Seed, $1\frac{1}{2}$ bushel per acre.

Holes dibbled 6 inches apart in the rows; the manures well mixed with an equal weight of fine ashes, and put, according to calculated measure, into the holes, and the seed, according to calculated number, put in above the manure.

PLOT 6.—2 cwts. superphosphate, 2 cwts. nitrate of soda, per acre. Seed 3 bushels per acre.

The manures mixed with ashes and sown broadcast. The seed drilled.