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Report for 1927-28

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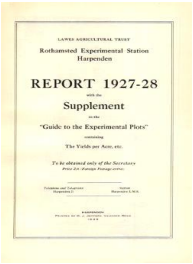
LAWES AGRICULTURAL TRUST
Rothamsted Experimental Station
Harpenden
REPORT 1927-28
Supplement
"Guide to the Experimental Plots"
The Yields per Acre, etc.
To be obtained only of the Secretary

Fallow

Rothamsted Research

Rothamsted Research (1928) *Fallow ;* Report For 1927-28, pp 34 - 34 **- DOI: https://doi.org/10.23637/ERADOC-1-85**

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more effective than those of 40 per cent. or less. The results were :—

	Yield, cwt. per acre : No manure.		Improvement given by slag. Yield when unmanured = 100.			
			Enmore, Somerset. Solubility.		Brooke, Norfolk. Solubility.	
	Old meadow. Enmore, Somerset.	New ley. Brooke, Norfolk.	37%	87%	37%	87%
1926 ...	27.4	45.7	109	112	100	116
1927 ...	26.1	18.8	115	123	133	169
1928 ...	9.4	14.9	119	125	128	171

The rapid fall in yield of hay from the new ley is characteristic of the Eastern counties, and illustrates one of the difficulties of grassland farming there.

The experiments show that the old citric solubility test is of considerable practical utility in discriminating between the various slags now offered to the farmer, and they show the wisdom of insisting on a high solubility in general. Low soluble slags may serve a useful purpose in special conditions, but they should be bought only when the farmer has good reason to know that they will act well.

Fallow.

One of the most striking of recent changes in agriculture has been the increase in land under bare fallow. This represents a loss of crop in the current year, but a gain, and sometimes a marked gain, in the next, so that it is not necessarily as wasteful as it appears. The fallowing of part of Broadbalk has given us opportunities of observing some of the results : on part of it that has had a two years' fallow, the yields have been :—

	Plot.	1928.		Average 77 years, 1852-1928.	
		Grain. Bushels per acre.	Straw. Cwt. per acre.	Grain. Bushels per acre.	Straw. Cwt. per acre.
No manure since 1839	3	27.9	27.8	11.8	9.9
Complete artificials	13	55.2	32.0	29.2	30.8
No potash	11	56.9	31.4	21.4	21.8
No potash or phosphate	10	47.0	25.8	18.8	18.1
No nitrogen ...	5	35.2	34.8	13.6	10.6
Farmyard manure ...	2B	48.4	61.4	33.2	34.5

The result is a remarkable increase in the yield of grain and in the proportion of grain to straw. Never in the 86 years of successive wheat growing has Broadbalk grown a crop so thick set with grain, and we are unable at present to explain it. The season was very favourable, but probably not more so than some of the great wheat seasons of the past, 1854, 1857, 1863, 1894, yet in none of these was so much grain produced. Much of the effect is probably attributable to the fallow, but whether the action is the suppression of weeds, the decomposition of vegetable and other matter, or some physical change in the soil, we cannot decide. Something more seems to be involved than an increase in plant nutrients, for no fertiliser scheme we have yet tested produces this great increase in the proportion of grain. The ordinary fertilisers increase both grain and straw : the fallowing somehow caused the plant to produce grain and not straw. The investigation is being continued.