acre; now from three to four bushels. The grasy seed should be covered with a light bush harrow or pressed by the roller. Timothy is sown with wheat or rye in the Fall, and clover added in the Spring, or they may be both sown in the Spring and left on the surface or covered with a light bush or Thomas' smoothing harrow.

Red Top is used sometimes for permanent meadow in place of a part of the timothy-half a bushel or bushel to the acre. The seed is very light and chaffy, weighing only 15 pounds per bushel, and cheap. I have used Orchard Grass, one-half bushel or one bushel per acre, very satisfactorily. (1) It is a very early grass, and when cut in season, makes excellent hay. If allowed to riven, it is little better than straw. Mixed with medium or early clover, it helps to hold the crop up year. and is ready to cut at the same time. (Good. A. R. J. F.,

a fair crop, easily cured, between Red and White Cover in obvious, that in 1854 5 the land under experiment was divided character. The seed is costly, and adding the trouble and into two half acres, and has so remained ever since. expense of getting it on the farms, this hinders its use. On lands less natural for grass than ours, plowing and reseeding, without any grain crop, is practised, with good success. Turn over the land smoothly after haying, harrow in a good, fine compost, and seed with timothy and Red Top. You lose no crop, as the next year you may expect a good burden of hay. With this summer-seeding, a thin crop of white field turnips may be sown. (2) The necessary conditions for a



CORBETT'S PULVERISER.

good growth of grass seed are, to have the land of sufficient fertility and in good tilth, and bright, clean seed. Seed, the vitality of which has been injured by heating or otherwise, may sprout and then fail to produce vigorous plants. think some of the failures are due to this cause. Use only that which is clean-we do not want to sow sorrel, daisies or any other weeds. Litchfield Co., Conn.

FALLOWS.

BY SIR JOHN B. LAWES, BART. LL.D., F.R.S.

THE Agricultural Gazette of April 25 contains a report of some remarks made by Mr. John Roberts before a farmer's club; amongst them I find the following. " Twenty years ago, a bare summer-fallow on high-rented land like his would produce an unreasonable, flaggy, unprofitable crop, but in sowing it a second year he would get a good profitable crop; now, a summer-fallow might grow a fair useful crop and that was all."

Many years ago the Rev. S. Smith issued his pamphlet in support of what was then known as the Lois Weedon system, (3) which professed to show how wheat could be grown at 5s. a bushel, by a constant system of fallows.

At the time, we thought it advisable to place a few acres of

(1) Not less than two bushels of Urchard Grass. (2) Oh I Rapo, please. A R. J. F. A. R. J. F.

(3) The Lois Weedon system involved the continuous growth of grain on the same land, one yard wild intervals were left bare and fallowed 18 inches deep, and the alternate intervals sown at a foot apart. A. R. J. F.

land at Rothamsted under experiment, upon the plan laid down in the pamphlet, and we received considerable blame both from Mr. Smith himself, and from those who placed faith in his system, because we did not obtain results corresponding with his predictions.

Our experiments on the Lois Weedon system have long since been given up, but another experiment of an ordinary summer fallow which we commenced at the same time and carried on side by side with the Lois Weedon experiments has been continued to the present date.

In 1851 one acre of land was fallowed in the ordinary manner, and after receiving several ploughings during the summer, was sown with wheat during the autumn of the same

In 1853, there was of course no crop, but the disadvantage I have tried Alsike Clover once, with good results, getting of having a crop of wheat on alternate years alone, was so

The wheat grown in 1855 was thus necessarily wheat after wheat without a fallow.

The following table gives the produce of the first seven crops, and also that of the land growing continuously unmanured wheat crops.

BUSHELS OF DRESSED CORN PER ACRE.

	. 1		Wheat after fallow	Wheat every year.
1853			37	14
1854			42	21
1855			17	17
1856			21 1	14
1857			38 ~	20
1858			253	18
1859	• • • • •		34	18
		_	1	i

In 1855 when the experimental plot under fallow was divided into two equal portions, and the wheat followed the wheat of the previous year, it will be seen that the two crops were alike.

The first crop of wheat after fallow is considerably more than twice as much as the wheat following wheat without a fallow: the second crop is exactly twice as much, but, after that, the difference is less than twice as much, and from 1859 to the present time the fallow and the permanently unmanured crop have approximated nearer and nearer to each other, until it has become a somewhat difficult question to decide which of the two crops now growing will yield the larger produce.

The fallow wheat now growing, has been estimated by some who have seen it as not likely to yield more than 1 qr. per acre! In fact one expert stated that he would rather purchase the crop of wheat in the field where the twenty four varieties are now growing, at 56 bushels per acre, than the crop grown on the fallow at 1 bushel.

Whether the fallow wheat yields one bushel, or two, or even more, is of little consequence, but as the result of the experiment we have this fact clearly before us, that a very large decline in the crop has taken place in unmanured land subject to alternate wheat and fallow for thirty years.

We see now quite plainly why the systems of farming advocated by Jethro Tull and the Rev. Samuel Smith, were based upon erroncous principies. Soils exposed to constant stirring and adration were said to absorb fertility, from the atmosphere. That considerable amounts of nitrie acid are produced where land is fallowed is tolerably certain, but, it is