reported by the Pennsylvania Experiment Station (Report, 1902). Four plots were treated with burned lime (slaked before being spread) at the rate of 2 tons per acre once in four years. Four other plots were treated with ground limestone at the rate of 2 tons per acre every two years. A four-year rotation was practised, consisting of corn (maize), oats, wheat, and hay (mixed timothy and clover) seeded on the wheat land in the spring. By having four sets of plots, each crop was grown every year. Seven products were obtained and weighed each year — namely, corn, corn-stover, oats, oat-straw, wheat, wheat-straw, and hay. After twenty years' results had been obtained (1882 to 1901), the Pennsylvania Station reports data showing that with every product a greater total yield had been obtained from the plots treated with limestone than from those treated with caustic lime. Furthermore, with every product whose total yield for the last eight years of the experiment was greater than the total yield of the first eight years the limestone produced a greater increase than the caustic lime; and with every product whose total yield for the last eight years was less than the total yield of the first eight years the decrease was less where limestone was used than where caustic lime was applied (oat-straw alone excepted). This is significant, in that it demonstrates the tendency of caustic lime with continued use to exhaust or destroy the fertility of the soil. In discussing these investigations, Dr. Frear, of the Pennsylvania Station, says: 'In each case the yields with the carbonate of lime showed superiority under the conditions of this experiment over those following an equivalent application of caustic lime.'

"After these experiments had been in progress for sixteen years the soil of each of the four plots in each test was sampled for analysis. The average nitrogen-content for the four plots receiving ground limestone was found to be 2,979 lb. per acre to a depth of 9 in., while only 2,604 lb. were found in the soil treated with caustic lime. This difference of 375 lb. of nitrogen is equal to the nitrogen contained in 37½ tons of farm manure. In other words, the data indicate that the effect of caustic lime as compared with ground limestone was equivalent to the destruction of 37½ tons of farm manure in sixteen years, or more than 2 tons a year to the acre; or, if we count the soil nitrogen worth 15 cents (7½d.) a pound (a fair market price), there is a liberation of more than $7·00 (28s.) worth of nitrogen for every ton of burned lime used during the sixteen years.

"The Maryland Experiment Station has recently reported experiments with different kinds of lime, covering eleven years, with a rotation of corn, wheat, hay (timothy and clover), 1,400 lb. of calcium oxide (burned lime) and equivalent amounts of calcium carbonate (ground oyster-shells and shell marl) having been applied per acre at the beginning. Four crops of corn, three of wheat, and four crops of hay were harvested during the eleven years. In commenting on the results, Director Patterson, of the Maryland Experiment Station, says, 'It will be noted that the carbonate of lime gave decidedly better results than the caustic lime.'

"Porter and Grant, in a recent Farmers' Bulletin issued by the agricultural department of the County Council of Lancaster, England,