

of the investigation. It should be added that a considerable number of analyses of silage are given in an appendix to the report.

Experiment Grounds of the Rural New-Yorker.

A QUESTION SUBMITTED TO OUR READERS.

In February of last year half of a three-acre lot belonging to an esteemed neighbor was given 11 loads of city stable manure. It was spread evenly over the surface where it remained thus exposed until the following April. The same quantity of manure was placed in a heap on the other half where it remained also until April, having been turned often enough in the interval to prevent burning. It was then spread and the entire field (three acres) was plowed. The plowman noticed that the soil underneath the half upon which the manure was spread in February was mellow, yielding readily to the plow—while the other half upon which the manure had not been spread until April, was so much harder that it was easy to tell whenever the plow passed from one to the other. The manure pile had so shrunk during the winter and covered the acre and a half so sparingly, that Mr. Bogert, the owner, concluded to give it an additional spread of three bags of high-grade complete chemical fertilizer, that is, at the rate of 400 pounds to the acre. The entire field was then harrowed and planted to potatoes. The vines of the acre and a half which had received the stable manure alone, spread in February, were thriftier during the season than those on the other part, and the yield of potatoes was one-quarter more. The entire field was then fitted for rye and seeded to Timothy last Fall, and to clover last Spring. The rye on the half where the stable manure had been spread in February and which had received no chemical fertilizer, was appreciably heavier than that on the other half, and when the rye was cut, as now, the clover was so much thicker as to mark the boundary distinctly. Previous to 1885, the field had been treated in every way the same for many years, and so far as had been noticed the yield on the two halves was the same.

Mr. Bogert called the writer to look at this field and to explain why the two halves should yield so differently under the treatment described. Why was the manure which was spread in February more effective than the combined chemical fertilizers and the same quality and weight of manure which had been kept in a heap and spread in April? We have no satisfactory explanation to offer, and the question is submitted to our readers. It should be considered that the soil under the manure spread in February was mellow and friable as compared with the other part. But is that a sufficient explanation?

Rotation of Crops.

The correct theory which underlies and explains a rotation of crops is not yet determined. The farmer finds it an advantageous thing to practise, yet does not surely know why. It was considered of leading importance by the Romans, and many explanations of its use have been imagined, and successively given up. De Candolle taught that the roots of each kind of plant gave off excreta poisonous to itself, while harmless or nutritious to some others. But Tull and Smith, of Lois Weedon, and later Sir J. B. Lawes, have grown the same crop in succession for many years, with no sign of such effect, and it has been commonly done in our own Western culture. Gardeners frequently continue the same crop year after year. These facts disprove also another theory, viz., that minute insects, and parasitic growth, peculiar to each plant get the upper hand when it succeeds itself too continuously. Probably rotation is justified more by convenience than by any absolute necessity for it. Beginning with the

turning down of a coarse sod, the farmer finds a strong free-growing plant best adapted to the rough bed, and the time of plowing, convenience of applying manure, &c., guide him in arranging the further succession. Plants that root deeply and bring nutriment within reach of shallower rooting cereals, should naturally precede them. But even that item of theory is hardly yet established. Another consideration is that crops sown in the fall favor certain winter and spring weeds, which a plowing for any summer crop destroys. Here we find a very important advantage in alternating these, instead of repeating the same crop on the same land, additional to the advantage of famishing out parasitic organisms.

ALSIKE.

P. R., Stroudsburg, Pa. 1. Would you recommend Alsike Clover as a hay producing plant for meadows? 2. If so, how much seed per acre, and how should it be sown?

Ans.—1. Alsike Clover, when grown alone, makes, even on heavy, rich, moist soils (the soils best suited for its growth), only a moderate quantity (say a ton or less per acre) of only fair hay. It "looks big" when growing; but it is found to be very light when cut and cured, and we cannot, after much experience, recommend it for sowing alone, except when desired to produce seeds. It is very valuable for mixing with other seeds when seeding down the lands. Used in this way it fills in the bottom very nicely and stands wet and cold much better than other clovers; it fills up any spots from which they may be killed out, and in these ways it adds several tons to an ordinary meadow in the yield of hay. It should be sown in Spring, and if designed for growing a crop of seed, it should be sown alone, or with Timothy, using six or eight pounds per acre; but for other purposes it should be mixed with the other "grass seeds." Prepare as for ordinary seeding and then add two pounds of Alsike seed for each acre. R. Y. N.

The Oleomargarine Bill.

In the United States Senate, July 20, the House bill "defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine," was passed, with an amendment reducing the tax on the latter substance from five cents to two cents per pound, by a vote of 37 to 24. The section as to penalty was also amended so as to read as follows:

"Every person who knowingly sells or offers for sale, or delivers or offers to deliver, any oleomargarine in any other form than in new wooden or paper packages as above described, or who packs in any package any oleomargarine in any manner contrary to law, or who falsely brands any package or affixes a stamp on any package denoting a less amount of tax than that required by law, shall be fined for each offence not more than \$1,000, and be imprisoned not more than two years."

A committee of conference was appointed to present the Senate amendments to the committee of the House, when an effort was unsuccessfully made to consider the subject on the 22d. Action was reached, however, on the 23d, when the House concurred in the Senate amendments, and the bill now goes to the president for consideration.

If this law is introduced as a measure of protection for the producers of genuine butter, the low rate to which the tax on oleomargarine has been reduced, strikes us as quite sufficient to defeat its object entirely.

R. Y. N.

Silots, however constructed, will soon have run their rapid course and be no more. The silage stack is plainly the silage