

farm contains a great variety of soils, ranging from sticky clay to light sand, mixed with gravel, and also has several beds of muck. Parts of it, too, are quite steep, others gently rolling, while other parts are quite level. On the sticky clay and muck we would not spread manure in winter, because it greatly impedes the drying out of the soil in spring, and also form a mulch which keeps the frost in the ground far later than it would otherwise remain. Nor would we spread a thick coat of manure in the winter on any soil which we desired to work early in the spring, for the same reason. And this is specially true of coarse manure. We have often known it to make two weeks' difference in the time of working lands in the spring.

On our steeper lands, experience has shown us that winter spreading manure is not advisable, and this is especially true, as the leachings run into ditches that open into a river, so that some of soluble parts of the manure would be lost. On sod-lands one may safely spread manure in the winter, when, if not in sod, much would be lost. So, on fall plowing, manure may be spread with little or no loss; when on smooth land without sod, through otherwise the same, much would flow away in the drainage water. The above are a few of the facts that our experience bears out. Let us hear the experience of others, keeping in view the same questions, and suggesting any others that may have a bearing on winter manuring of frozen ground. It is of much interest just now.—*New Eng. Ag.*

### GRASS MANURING EXPERIMENTS

In some experiments on the manuring of grass land carried out for the Agricultural Department of Nottingham College during the past season, dung had the greatest effect, the drought having prevented the artificial manures from acting freely. As the dung was applied in the previous autumn, it had a better chance of operation than the artificials, all of which, except the basic slag, having been applied in the spring. On the average of five years, however, the greatest gain in hay over the produce of the unmanured plot at Retford, on old grass on clay soil, was 11 cwt. 3 qrs., obtained with the help of 1½ cwt. of kainit and 1 cwt. of nitrate of soda. Next came 9 cwt. 2 qrs., on the plot dressed annually with five loads of dung.

Basic slag alone, 3 cwt. per acre, gave an average increase of only 1 cwt. 2 qrs. Strangely enough, 1 cwt. of nitrate of soda alone appeared to do more harm than good, and the same may be said as to the use of superphosphate alone, or raw bones. These, however, are anomalous results. At Eggington, Derby, the greatest average increases in two seasons were those on plots to which both dung and artificials were applied; but they were not enough to pay, if the dung be valued at 5s. a load, as we think it should be. The greatest increase of hay produced by artificials was 13 cwt. 3 qrs. obtained on a plot dressed with 3 cwt. of basic slag, 2 cwt. of kainit, and 1 cwt. of nitrate of soda. The nitrate alone gave an increase of 9 cwt. 2 qrs., and the slag alone appeared to diminish the yield, as did superphosphate also. At Kingston, Notts, where sulphate of ammonia was tried against nitrate of soda, with other artificials, or dung in all cases, the former gave the better results; but then the same quantities of these two manures were used, which made the trial unequal, as there was more nitrogen in the sulphate than in the nitrate.

## The Orchard and Garden.

(CONDUCTED BY MR. GEO. MOORE).

### POMOLOGICAL SOCIETY.

*Interesting papers on orchard preparation, spraying fruit trees, and landscape gardening.*

The proceedings of the fifth session of the sixth annual meeting of the Quebec Pomological and Fruit Growing Society began yesterday afternoon with a paper on Orchard Manuring by Mr. J. C. Chapais. It was of a technical character and betrayed considerable research and experience.

Mr. Chapais started with the assumption that fruit trees took away the fertility of the soil in the same way as other plants did. Hence it was of paramount importance to maintain the fertility of orchard soil. How was this to be done? The fertility of the soil should be secured first when the orchard was set out. It should also be maintained at a certain degree during the early years of the growth of the young trees. Lastly it should be the object of special and continuous attention