

greater than that of tubers which had not received any treatment. In the case of sets treated with lime the yield was of 14 bushels lower than when plaster had been used.

The size of sets and the number of eyes contained in each have also to be considered. In a series of experiments, the increase in yield was found to be in direct proportion to the size of the set. Sets weighing $\frac{1}{4}$ of an oz. gave 44 bushels per acre and pieces of 2 oz. weight gave 177 bushels. The increase is also constant, though not so marked with the number of eyes: sets provided with 5 eyes yielding 20 more bushels per acre than pieces in which but 2 eyes had been left.

The exposure of potatoes to air and light before cutting and planting has also a marked effect upon their subsequent growth. In a very interesting experiment extending over a period of 5 years, 5 lots, each containing the same number and the same weight of tubers remained under different conditions for 3 weeks before planting. Some were left in a dark cellar, others were exposed in a green house—on the barn floor—and some out of doors. The exposure on the barn floor gave the best results: 221 bushels per acre. The lowest yield was given by the potatoes left out of doors, 101 bushels.

The yield was also considerably affected by the depth of planting. In a dry season, the largest crop was obtained from a depth of 5 inches; in a rainy one, 3 in. gave the best results. But as an average, a depth of 4 in. was founded to be the most satisfactory.

In treating for potato beetles, 3 remedies were tested. Paris Green and water, Paris Green and plaster, and a compound known as "Potato bug finish." Of these, the first proved to be the most effectual in destroying the beetles; the yield of tubers treated with it being 20 bushels larger than when the other methods of applying Paris Green had been used. CHAS. MORTUREUX.

A LAST WORD ON APPLYING MANURES.

L. H. READ.

Although there may be some cases where the land is very level and where circumstances are such that the only way to manure may be during the winter, such instances in my opinion are very rare. My experience has covered many different states. I have known of many cases where large coats of manure plowed under in a careless manner were,

during dry seasons, a detriment to the crop, but when the work was properly done I never knew of any harm coming from the practice. The main reason why manure should be put into the soil and thoroughly mixed with it, is that it adds all the humus directly to the land.

In reply to W. J. Bradt, I would say that the principle applies as well to sandy or gravelly soils as to clay, and in fact my last six years' experience has been with the light, sandy soils of central Wisconsin, and I would venture to say that there is a loss of 20 per cent of the value of eight out of every ten loads of manure ever spread upon frozen ground, unless the land be an absolute dead level. The best farmers keep their manure either in manure cellars under their barns or in sheds built especially for the purpose of protecting this most valuable of farm products. If for any reason it is impossible to spread manure in the spring, keep it under cover and apply in the fall, plowing under when damp, if possible, as the decomposition will commence at once. The surface of soil begins to thaw out first, and if covered with manure, and thawing weather commences with rains, the manure may thaw out and half its value be washed away before the land becomes thawed enough to absorb the dissolved fertility. Hoard.

TOP-DRESSING.

The price of wheat offers poor encouragement for top-dressing, but it must be remembered that the cost of artificials is almost proportionally lower than in the period of high prices. Of top-dressings nitrate of soda is one of the most remunerative, as it is safe to tell, and greatly assists the yield of both corn and straw. Additions of phosphates are often beneficial but problematical. A better plan is to apply phosphates liberally to root crops, and to reserve the nitrate, or sulphate of ammonia as the case may be, for direct application to the corn. The question arises frequently as to where to apply top-dressings. It is not advisable to top-dress a vigorous plant of wheat or oats if the ground is known to be able to force the crop. A good plant on weak land derives the most benefit from such an application. That nitrate of soda pulls the ground there can be no doubt, but it is not therefore undesirable. There are arrears of produce in the land, for during the last few dry summers the soil has not been overtaxed, and it wants pulling.