

result are, the security of the manure from loss from bad management and the favorable action exerted upon the land—points to which we have already referred. To these we may add others which are of great importance. We have every reason to believe that, in proportion as we expose our soils—and clay soils more especially—to the action of the air and changes of temperature, in the same degree do we thereby develop their properties, and bring into action fertilizing matter which would otherwise remain in the land in a dormant condition. This is equivalent to an addition of manure; for the materials of the soil which are thus rendered useful were previously existing in a condition unfit for the support of vegetation. The application of the dung before winter co-operates very powerfully in promoting this action, and we are, at the same time, adopting the surest plan for enabling the soil to absorb from the atmosphere some of the ammonia which is present there. So that not only do we thus preserve our manure from waste, but we enable the soil to develop and obtain further supplies of fertility; nor must we overlook the increased efficiency of the dung consequent upon its more complete distribution throughout the soil, and the superior feeding qualities of the crop.

Potatoes.—The disease which has for so many years attacked this crop renders it necessary that the use of farm-yard manure be accompanied by some degree of caution. It has been observed that fermenting manures—such as dung—have a tendency to communicate decay to the plant. We have, therefore, two courses open to prevent the crop being thus injured—1st, to substitute an artificial manure possessing a preservative character, or, at least devoid of any unfavorable influence; or 2ndly, if farm yard dung be employed, to counteract, as far as possible, its disposition to communicate decay. The latter point will be best attained by having the manure spread upon the land in the autumn and ploughed in before winter. In preparing the land for planting in the spring the manure will be well distributed through the soil; and thus, whilst the land is enriched by the dung, its natural tendency to promote decay will be diminished.

Cabbage.—In the growth of this crop the use of farm-yard manure is generally desirable, but circumstances render it advisable to apply the manure at the same time as the young plants are set out upon the land. Well-rotted dung is generally preferred, because the plant comes into full activity soon after it is planted out. The cabbage is a gross feeder, and can scarcely have too much manure when the production of large autumn cabbage is desired; but if the crop is required for spring use it must not be forced with equal freedom. As in the case of swedes and turnips so here also the slower-grown plant is the one which best withstands the severity of the winter frosts and affords the best food in the spring. This must not lead us to deprive the

cabbage intended for spring use of the usual supply, but rather to take measures for its distribution throughout the soil. In this way the keeping qualities of cabbage may be very materially increased.

Beans are generally sown upon land which has received a dressing of farm yard manure. It is customary to spread the dung over the land, which being ploughed in, the seed is either drilled or dibbled. This crop luxuriates, under the influence of manure, to a far greater degree than other corn-bearing plants which we cultivate, and hence the regularity of the practice of using manure for it. In applying dung to a corn crop there is frequently a danger of producing straw rather than corn; but with the bean this is very seldom the case. If the quality of the land is such that the dung produces haulm (or straw) to such an extent that the pods die off instead of filling with corn, we may find a simple remedy at hand by cutting off the tops of the beans with a large reaping-hook. The growth of the stalk being thus checked, the energies of the plant are at once directed to the production of seed, the blossoms cease to die from want of nourishment, and the pods are gradually developed. The position of the seed pods in the bean gives it this advantage over the other corn crops.

Wheat, Barley, Oats.—The use of dung for these crops on stiff soils is by no means extensively carried out, although there are some neighborhoods in which it is general. There is scarcely any practice which is apparently more contradictory. The employment of dung upon some soils ensures the production of a good crop of corn, but upon other land it would with equal certainty destroy all our hopes of a satisfactory yield. When we are dealing with a rich clay, it is seldom that we can venture upon applying dung for corn, as it would cause a large growth of straw, to the prejudice of the grain. Other soils of a lower standard of fertility receive the manure with manifest advantage. We cannot, however, explain the differences observed by any comparative degrees of fertility which the soils may possess; and with our limited scientific knowledge upon the subject it is not desirable to speculate upon the controlling cause. Practically we know that one farmer does not fear for his crop of corn, provided he can get straw enough, whilst on other land a good crop of corn may be confidently looked for, provided we do not get too much straw. It will be sufficient for distinguishing those soils upon which manure may be advantageously used if we say that, where the growth of the straw has to be encouraged, the application of dung may be practised; but, on the other hand, when the soil is predisposed to yield a rank growth of straw, its use is seldom if ever safe. It is more than probable that by judiciously prepared artificial manures we shall, ere long, be able to supply our corn crop with the nourishment required for the production of grain, without that danger of an over