

that it was applied to each green of this particular course with the same results. The effect of humus on the mechanical conditions of the soil are well-known. Clay is flocculated by it, and, in consequence, becomes more open; sandy soil, on the other hand, becomes more retentive of water. The chemical value of humus is understood in a general way only, and no special importance should be attached to an analysis. Humus contains more or less nitrogen and small quantities of other elements, but its principal effects in the soil are mechanical and bacterial. Be careful that the humus you use is not allowed to get too dry and be especially careful of material that is mechanically dried. The heating process kills the bacteria and no amount of after-innoculation is of any avail. This can be easily proven by a comparative test. The moist, natural product will give better results every time. Bacteria have been found by careful research to thrive best in humus when the moisture content is between 35% and 40%. Even natural humus is ruined by the heat necessary to drive off the moisture. The biological effect of humus is no less, and perhaps more, important; for that substance serves as a store of food for bacteria, and the latter in the process of living, break down the humus into compounds which are capable of being absorbed by the roots of the grass plants.

The main conclusion is clear: organic manure in one form or another is essential. If sufficient dung cannot be obtained for incorporating in the compost heap, recourse must be had to other forms of organic manures.

Finally, since the difference between organic and inorganic manure lies in the fact that the former contains humus and that the latter does not, the superior results due to the organic manures must be attributed to the beneficent action of the humus.

TREES

Little, and very often no attention is paid to some of the beautiful trees

on the courses, although sometimes but a single tree might give a much finer character to a hole if it were in proper order; therefore, a little "doctoring" in time will help to make that piece of the fairway or approach and green have its dominating landscape note. Since trees take so many years to mature, take every care to preserve and safeguard them sufficiently to give singularity and character. The beginner or poor player has sometimes opportunity to admire the surrounding scenery, as he it is who often forgets to keep his head down and his eye on the ball.

Greenkeeping Notes

A large percentage of the complaints received by seedsmen regarding weed-seeds in their seed may be traced to the fact that top-soil has been used in the top-dressings. Top-soil very frequently seems to be of good quality in every way and is therefore used on a golf course either as a dressing or in building a new green. Nearly all top-soil contains a large number of weed-seeds, which may have been there for years in a dormant state. As soon as the soil is disturbed in order to move it, these seeds are moved into more favorable growing conditions and at once sprout. This naturally results in the trouble being blamed on the seedsmen. No matter if the source of the soil is carefully inspected and found to be free from weeds, a large number are nearly always buried in it and are just waiting for a chance to grow. Probably the only way to remove them is to burn the soil, unless the ground can be allowed to lie fallow for a long time and the plants which grow removed. The burning will greatly improve a heavy clay soil, but it removes nearly all the fertilizing properties of the soil. Soil which has been burnt should be carefully manured with a combination of artificial manures and natural humus. This treatment will be found to restore the ground to good heart almost at once and seeding may be carried on without fear of much trouble from weeds.