

Good Base = Good Green

By Robert Trent Jones

POOR turf can spoil the greatest golf course ever built. This is an axiom that I never allow myself to forget when building a new course. Great emphasis therefore should be placed upon the conditions which make good turf possible, the most important of which is the proper foundation.

Different theories have been offered during the years as to the best way to obtain a good foundation for golf greens. Our method is based primarily upon the application of common sense, by observing the manner in which Nature works under ideal conditions and in striving to emulate her by creating the conditions under which she works best.

We find from the study of geology and agronomy that soils have two extremities, extremely light sand and extremely heavy clay, neither of which is ideal for the purposes of developing and maintaining the grasses which are best suited for good turf from the golfer's point of view. The light sands release excess water rapidly, while the heavy clays allow little or no penetration. The ideal type of soil for golf courses is somewhere in between these two extremities mentioned. It should be one which is open enough to allow the penetration of liquids without allowing too much waste through leaching. Then the soil should be porous enough to encourage a deep root growth for the development and maintenance of a sturdy turf and it should be fertile enough with the addition of routine feedings to develop the type of plant life necessary for the maintenance of a fine turf through the years.

Test for Proper Mixing

When a soil is mixed properly it should react to this simple test: pick up a handful, crush it in the fist and the soil should feel like a springy ball. When the hand is opened and slight pressure is applied by the other hand to the surface of the molded dirt, it will crumble into its original form.

As to our procedure for obtaining this ideal type of soil, it naturally varies. Every different site has different type soils. Some sites have several types of soil within the boundaries of the proposed course. Should the site have either the ideal soil or a mixture of soil, sand, and humus that will

make the ideal soil, so much the better. If the proper ingredients are not present, one or more of the missing ingredients must be imported from the nearest possible locale.

Starting the operation as a whole after the green is molded, we lay out a drainage system according to the contours of the green as determined by the design. The drainage system depth in our courses is generally about 15 to 18 inches, sometimes more, depending upon the character of the subsoil. After laying the tile the trenches are filled with small stone, usually available from the waste in the fairway rakings, to within 6 or 8 inches of the surface of the molded green. Because the drainage system follows the low contours, the slopes of the green run toward the drainage system. This is done to assure a quick run-off from excess rains or over-watering.

Tells Topsoil Contents

After the drainage system is in and the surface smoothed, the topsoil is chosen and mixed either through a grinder type topsoil mixer or the belt type mixer in a ratio of two of soil and one of sand or whatever proportion is deemed necessary after a study of existing conditions. In the top 2 inch layer we incorporate in the topsoil a small portion of humus which acts as a mulch and assists in retaining the moisture so desirable for the growth of new grasses. This humus can be either a peat moss or a cultivated peat from a peat bog, ground through the compost mixture so that it is incorporated in the topsoil homogeneously. We generally use approximately one bale per thousand square feet of surface covered throughout the final 2 inches of topsoil layer.

The question of economy which is always vital either in construction or maintenance is one which must be considered. Recently, when building a new course for Cornell University, we had on the property soil, which when put through a belt type mixer with some sand added, would have been ideal. However, the university, through its department of grounds, was and had been purchasing topsoil of a relatively good quality from a local nurseryman at a price lower than that for which we could mix our own due to the fact that his plant was set up for large scale opera-

tion. The soil however was slightly heavier than that which we wanted for golf greens.

Therefore we developed a new procedure in this particular case for obtaining our ideal soil in the most economical way. We took the purchased topsoil and spread out a portion of it and then put a fine layer of sand on it, and then spread out another portion of topsoil, continuing to alternate in this manner. Then we took a tiller which spun blades at 2,000 revolutions a minute and which mixed the ingredients thoroughly, quickly, and economically. After this was done we applied peat moss and also the fertilizer which we were incorporating in the topsoil, set the machine for the upper 2 inch surface, and, running the machine in the opposite direction, mixed these ingredients. The result was extremely pleasing as the topsoil was ideal in its consistency and the new grass got off to a fine start.

Our theory therefore really rests on the principle of having a uniformly good quality of topsoil throughout the area in which we wish to control the plant life, tying it into the design of the drainage system which also is a controlling factor of the quality of the turf.

Our contention is that we obtain a thicker, heavier, more resilient turf that will withstand play and react better to the shots, and that the open quality of the soil together with air drainage and the elimination of excess water creates conditions which aid the plant in fighting the usual plant diseases with which all green superintendents are constantly coping.

Pro's New Job Is to Get More Golfers

HIRING a promotional manager whose job it is to go out and bring in more golfers than would be gotten by the usual method of waiting for the business to come to you, is a recent move made by the Baederwood GCse, Jenkintown, Pa., an 18-hole daily-fee layout. Business



KLEN-ZIP REMARKABLE NEW CLEANER FOR GOLF BALLS •

Newest chemical for removing dirt, grime and stains. Colorless, odorless. Does not get rancid, foul or slimy. No injury to hands or clothing. No soap, alkali or acid. Write for literature and free testing sample.

McCLAIN BROTHERS COMPANY, Canton, Ohio

A New
SELLING HANDLE
FOR Louisville
POWER-BILT
GOLF CLUBS

the
PROGRESS
GRIP

is the most practical improvement in golf club grips ever discovered. Its flowing curves are designed to fit the hands so that a player's grip can't slip—and is never wrong. Ideal for teaching. Excellent for play—amateur and professional. Sold exclusively through Pros.

Protected by
U. S. Patent
No. 1982526

Write for
details
today!

AVAILABLE
WOODS

IMMEDIATELY
ON MODEL 94 K

LOUISVILLE
POWER-BILT
GOLF CLUBS

HILLERICH & BRADSBY CO., inc., LOUISVILLE, KY.