

## Greenkeeping Notes

### 5. Farm Fertilizers

Fertilizing is another pitfall for the amateur in charge of such a scientific problem as turf production. Some pin their faith to anything that is a fertilizer, others know nothing else but Nitrate of Soda and so forth, and some say fertilizer is superfluous.

Where a fertilizer only fit for farm crops is used, the general result is a lot of clover in the greens. This condition is caused by the fertilizer formula not being correct for building putting green turf. Of course, clover may come in any green without a fertilizer of any kind, but the usual farm fertilizer greatly encourages it and unless it is checked the result is a clover green.

Greens fed on Ammonia, make a fine show in color and soft growth while the Ammonia lasts (it is short-lived), especially on a light soil, with a rainstorm soon after application.

Fertilizers specially prepared for this work are on the market and although they may cost a few cents more per pound, are the best investment in the end, as the results usually obtained are those that every Green-Committee aims for.

### 6. Cinders

Practical experience has proved in more cases than one, that turf composed of the finer grasses has been promoted and maintained in exceptionally heavy tenacious clay soil by the incorporation of cinders in the foundation of the Putting Greens where it had been absolutely impossible to obtain the required results before the cinders were incorporated.

### 7. Grass Clippings

When the greens are cut every day it is advantageous to fescue and bent greens to let the clippings fly during

June, July and August except on wet days. During these months the fescues and bents lose much of their succulency, and due to constant cutting, the clippings are fine and soon dry up and form a dry mulch which is really a fine protection for the roots.

DON'T let the cut grass which is usually piled up near a green, lay and get heated up, especially during June and July. Its odor is an inducement and a positive attraction to the May and June Beetle, which becomes very active in July, and is shortly followed by the Yellow or Red-headed Grub, the larvae of those Beetles.

### 8. Worm Casts and Crab Grass

Worm casts being trodden or rolled down shut off the air space from the finer grasses, and immediately crab grass has its opportunity to fill up the vacant spot. Crab grass cannot thrive in a dense, clean turf. It is crowded out. It must have room for its roots. If they once get established, it will make room for its leaves, in crowding out the finer grasses, by its low, creeping flat growth. This is especially true where a clay soil is prevalent, and it is in such soils that worms will be found most abundantly. Sweeping the greens will scatter the casts, so that they will do no material harm, but the greens cannot be swept all day long, and the worms work all day long. More or less, as no sooner you roll the green and shut off their air, they come right back and in sweeping greens the young grass seedlings are destroyed.

This harm that worms do, coupled with the heretofore unmentioned annoyance of worm casts is still increased by the destruction of the young plants as they are germinating. If figures could be shown for grass seeds that are destroyed by being exposed to the sun, picked up by the roller and mower, through the working

of the worms continually, a few hundred dollars for the average golf course would be represented.

And a good clean turf cannot be secured while worms are present in that ground. It is generally known a wormy, dirty green is usually a poor, weedy green infested with plantain, chickweed, poa annua and crab grass.

## Sports Grounds

(Continued from page 61)

Gypsum, Plaster of Paris or Sulphate of Lime is simply chalk in another form.

Gas Lime is a byproduct of Gas Works, and when it is fresh it contains such a large quantity of poisonous compounds that if applied to the soil too freely it may result in the prevention of all plant growth for a year or more. It is chiefly used as an insecticide, and is doubtless valuable to the farmer and the gardener, but in my opinion it is too dangerous to use on Sports Grounds.

### *The Mechanical Function of Lime*

Lime coagulates the clay and other inert matter which goes to form clay soils, and so renders it more porous, conversely it coagulates with sand and renders it less porous, and so tends to conserve moisture. Whilst it may not be absolutely necessary from a physical point of view to extremes of soils such as clay and sand, it is undoubtedly economical to use it for its mechanical action alone.

### *The Physical Functions of Lime*

Lime is a real plant food, and is absolutely necessary for the fertility of all soil, and it is just as hopeless to attempt to grow perfect turf on soil devoid of lime as it would be to attempt to grow it without water.

It counteracts sourness and is necessary for the preparation of the avail-

able plant foods of the soil, and practically no form of manure can possibly feed turf satisfactorily without the co-operation of lime.

Soil cannot retain ammonia or potash, or prevent them being washed away unless it contains sufficient lime to turn them into Carbonates of Ammonia and Potash.

### *The Form of Lime to Use*

As I am not dealing with arable land, but permanent turf I am going to dismiss from my mind all forms of lime with the exception of Pulverized Chalk and Gypsum, the reasons being that Quick Limes can only be used in the preparation of soil some months before it is sown down, Slaked Lime is difficult to get or prepare, and Gas Lime too uncertain and dangerous.

### *When and How to Use Lime*

Pulverized Chalk should be applied in the winter at the rate of one pound per square yard or two tons per acre. It is delivered in the form of a fine powder, and in consequence can be applied quickly and evenly by machinery.

It should not be used for mixing with fertilizers or in the preparation of compost, for fear that it will liberate the ammonia and give it off as gas.

Gypsum on the other hand can be used with safety in the preparation of compost, as it fixes and preserves ammonia.

### *Testing for Lime*

To ascertain in a rough and ready manner whether the soil is sour or deficient in lime is very simple indeed if you use a lime testing outfit.

It does not require any skill, patience or hard work, and can be done successfully by anyone who can follow the simple directions.

### *Humus*

Humus is the organic matter in the soil and is composed of decomposed animal and vegetable matter. It holds