Ants

By D. I. Sewall

AMONG the many pests and annoyances that a greenkeeper has to contend with in caring for his greens, are Ants.

While they are not as troublesome as many other pests, they are a cause of worry and must be exterminated by some means or other. There are several different types of Ants, yet to the average man Ants are just Ants. This article is not a treatise on the social life of the Ant, yet it may perhaps be of interest to describe very briefly the several different types and their habits.

The type of Ants which are commonly found building their homes on a golf course, and particularly on putting greens, generally throughout the United States, are the common *Formicidae*—the little brown Ants about $\frac{3}{16}$ of an inch in length, of the genus *Lasius;* the small red Ant—*Monomorium Pharaonis,* and the larger type black or Carpenter Ant. There are several other varieties, among which may be mentioned the "Driver Ant," *Anomma Arcens;* the "Foraging Ant," genus *Eciton;* and yet another type, called the Texas Harvester—*P. Barbatus.*

To the same family as the Red Ants belong the Agricultural Ants of Texas and the Southwest. They are found in Florida and other parts of the southern United States and build very large underground nests.

Having noted briefly several types of Ants, let us now consider for a moment their general habits without going too deeply into their social life. Let us consider as a typical example, a colony of White Ants, which is founded by a King and Queen—a very fruitful pair. The Queen when fully established in her home is truly termed the mother of her subjects, producing nearly 80,000 eggs in each 24 hours, so it behooves the greenkeeper when trying to get rid of this pest, to be certain of "getting" the Queen or else his labors will go for naught.

In cold weather Ants hibernate in the adult state in a dormant condition. In early Spring, when the weather begins to get warm, they leave the nests in which they are born and "swarm." They fly about for a short time, then mate and start new colonies. After a new colony has been started, the Queen Ant begins producing her eggs. After the eggs are laid it takes about a month for them to hatch. Helpless grubs are then produced. In another two weeks these are full grown. They then spin either a cocoon in which to change to *Pupae* or change directly without such a covering.

These cocoons or Pupae are what are known as "Ant eggs." You have undoubtedly seen Ants carrying small white objects in a seemingly aimless manner around the base of an Ant hill, and if you had examined them closely they would have proven to be these eggs. They will be found in mid-summer in almost any colony of Ants. The adult Ants hatch directly from these eggs and at once take part in the work of the nest, that is, if they are "workers."

The food of all Ants is both animal and vegetable. They are all fond of sweets, especially sugar—some species even gather honey like the bee family.

Many a greenkeeper has tried exterminating Ants with a mixture of borax and sugar, but the results often prove contrary to what was hoped for. The Ants were attracted by the sugar and seemed to get fat on the borax, so this method of extermination is not infallible.

Many remedies have been tried with varying success. That which has proved infallible is a treatment of Bi-Sulphide of Carbon. Care should be taken, however, when using Bi-Sul-

phide of Carbon, either alone or in a mixture. If used too strong it will kill the grass. It is also highly explosive.

A very effective method to destroy Ant hills in fairways or in any location other than on putting greens, is to pour 2 or 3 ounces of Bi-Sulphide of Carbon into a hill and then explode the vapor by touching it off with a lighted match fastened to the end of a long stick. The explosion not only destroys the hills but drives the fumes down into the deepest chambers of the nest, kills the live Ants and buries the larvae and pupae so thoroughly that they can never make their way to the surface.

This method, of course, could not be used on a putting green as it would destroy too much of the existing turf.

A very efficient method to be used on putting greens is as follows:

Mix ⅓ Bi-Sulphide of Carbon and ⅔ Lemon Oil Insecticide. Add to 1 gallon of this mixture, 1 gallon of water. Mix it thoroughly. Saturate small pieces of cotton-batting, approximately 1 to 2 inches in size, with the liquid. Stuff this into the Ant hole and immediately press the Ant hole down with the heel in such a manner as will close the hole at once. The fumes of this mixture will penetrate downward and should in a short time effectively get rid of the ants. It may be necessary to repeat this once or twice during the season.

Editorial

(*Continued from page 38*)

than a cent or a fraction of a cent per pound additional.

If Mixed Bent is not included in a Putting Green Mixture (and it is often impossible to include it because of the great scarcity of this seed), a good mixture would in most cases be composed of say 80 per cent. Chewings New Zealand Fescue and 20 per cent. Fancy Recleaned Red Top. Again taking the above prices on individual varieties as a criterion, the price of this mixture would be 67c per pound. In the same way it can be figured out quite closely just what varieties of seed the seedsman includes in his other mixtures.

To sum up the situation, the consumer should always judge the seedsman's prices by quotations on individual varieties and not be influenced by a low quotation on mixtures.

Mixtures can be made up at a very low cost and sold at a very big profit, and the purchase of such mixtures is the greatest extravagance which a Club can indulge in.

From the above it can be easily seen that if the seedsman is honest, it makes no difference to him whether he sells a mixture or not, and there is no reason for a good seedsman to urge the purchase of his mixtures, except that in most cases the buyer does not know as well as the seedsman just what grasses will produce the best results.

We believe, as do most others, that New Zealand Chewings Fescue, European Red Fescue (when stock of true strain is available), and Mixed Bent or Colonial Bent are the best grasses for a putting green. We do not believe as a rule in sowing new greens with Fescue alone, or even Bent alone, and in this we disagree with certain authorities. Our experience has been that it is more satisfactory in most cases to use Fescue, Bent and a small percentage of Red Top, as a cover crop, in new seeding. When Bent is not available, which is often the case, we usually recommend approximately 80 per cent. Fescue and 20 per cent. Red Top.

The reason for this discussion of mixtures is to make it perfectly clear to all of our customers that we are always glad to tell them exactly what our mixtures contain, and how we arrive at the prices we quote on our mixtures. It is also our idea to let them know that it pleases us just as well to sell individual varieties of grasses as to sell mixtures.