Turf pests may be classed in one of three groups. (1) Herbaceous plants or better known as weeds and undesirable grasses. (2) Animal and insect pests, and (3) Fungus diseases. Of course, there are many other pests, such as the habitual divot taker on a golf course, a scratching dog on the front lawn, and the lazy and careless cross-cut taker who makes paths. These latter present local problems and need not be specifically prescribed against.

In turf culture there are four cardinal principles for pest control:

I. Neither animal nor plant pests will remain where food or environment is displeasing.

II. A thorough knowledge of the life history of a pest is necessary, that it may be attacked during its most vulnerable condition.

III. The visible appearance of one pest often indicates the presence of another.

IV. Well-fed and vigorous turf will successfully compete with foreign herbaceous growth, and is much less susceptible to attack by fungus diseases than weak and thin turf.

Too often herbaceous lawn pests have their origin coincident with the making of the lawn. It is therefore necessary that the first pest control measures should start at the time of building the lawn.

A well prepared seed bed helps to assure that the young grass plant will have a well developed root system and a strong leaf growth.

SELECT ONLY HIGH QUALITY SEEDS

The selection of high quality seeds of varieties of grasses that are adapted to lawn conditions, especially to the individual lawn area, means the young grass plants are given a start in congenial surroundings.

The use of a complete fertilizer having a suitable nitrogen, phosphorus, potash ratio and causing a soil reaction that is favorable to the growth of the basic grass is very essential to pest control. It provides for the grass plant a health-giving diet and assures the continuance of an agreeable environment.

If the suggestions in the above paragraphs are followed, the result should be, a thick and vigorously growing lawn from the beginning. It is obvious that in thick turf there cannot be room for weeds or undesirable grasses and it has been demonstrated many times that vigorously growing grass will crowd out weeds.

CORRECT LAWN SHOULD BE WEEDLESS

In theory the correctly started and properly fed lawn should be weedless forever. However, in practice such a condition is seldom found. However, correct cultural practice does reduce the weed content of a lawn to an extremely low figure. Also, there are many lawns that have had a "bad start" and whose owners wish to "fix up." The problem with such lawns is not how to keep the weeds out, but how to get them out.

All herbaceous pests can be eliminated from a lawn by digging and pulling them out. But if the pest is present in a considerable quantity such methods are radical and often require a rebuilding of the entire lawn. Furthermore, they are unpractical and usually unnecessary.

It is far better to feed correctly and encourage the existing grass in a lawn and cause it to crowd out the pests than to spade it up and start anew.
For by continued correct fertilization and cultural methods the existing grass (a valuable asset) is becoming stronger and the soil fast becoming nearer to the idea condition. On the other hand rebuilding a partially worn lawn is only a temporary relief from herbaceous pests, and adds nothing to the future value of the soil.

What does the presence of herbaceous pests in a lawn indicate? A large number of weeds in a year-old lawn usually indicates that either the seed used was of poor quality, or of varieties not adapted to lawn conditions, or faulty construction of the lawn area, and too often all three conditions. Any one of these reasons is sufficiently strong to warrant the entire rebuilding of a lawn. The loss of time would be only one year and the cost would be quickly offset by the lower maintenance cost a good lawn has over a poor lawn. Also there would be the great satisfaction of having "done the job right."

**WHAT CAUSES WEEDS IN AN OLD LAWN**

The appearance of weeds in a three-year-old lawn can mean but two things. Either the varieties of grass selected are not adapted to close clipping or to the local conditions and are becoming thin, or the fertilizers used were of such nature that the weeds were being "better fed" than the grass.

It is usually unwise to rebuild such a lawn, but it is very obvious that if fertilization is at fault a change of diet is necessary. If the grasses cannot withstand the close clipping required on a lawn the area should be renovated and seeded with a grass that is known to be adapted to the local conditions.

The appearance of weeds in a ten-year-old lawn that has been practically free from weeds is an indication that the physical condition of the soil is becoming intolerable to the grass; or perhaps small bare spots or holes have been made by persons walking on the lawn and weeds have obtained a foothold in some of these spots. In a lawn of this type if the weeds are few in number they had best be pulled out, but if they have gained a considerable foothold other methods of control should be adopted.

**Cleveland Greenkeepers Organize Buying Bureau**

*By R. T. Zink, Secretary,*

*The Cleveland District Association of Greenkeepers*

The Cleveland District Association of Greenkeepers held their regular meeting at the Elyria Country Club, July 10, 1933. There were about thirty-five greenkeepers present, including Colonel John Morley from Youngstown Country Club, also, a number of Green committee chairmen.

After a detailed discussion of the situation the members of the Association voted the Directors a vote of thanks for the way they have handled the Buying Bureau.

The best golf of the day was played by Frank Ermer, who had a 79 with one ball out of bounds. Ralph Rodgers can be complimented very highly on the splendid condition of his course.

A sprinkling demonstration was held showing various types of sprinklers in action. The following companies were represented: Skinner Irrigation Co., L. R. Nelson Mfg. Co., Chicago Flexible Shaft Co., and Chisholm-Ryder Co., Inc.

Our next meeting will be held at the Pine Ridge Country Club, August 7, and I'm sure you will find Jess Wilder a splendid host. A mower demonstration will be held, including a new 7-gang fairway outfit.

**Trade News About Turf Culture**

CHICAGO, ILL.

Plans for the creation of a 1,500 acre park on the flat lands along Lake Michigan, north of Waukegan, were announced at Springfield by C. F. Thompson, assistant director of conservation. The work would be carried out by men from the civilian conservation corps provided by the federal government.

HUNTINGTON, IND.

Negotiations by which a heavily wooded tract of land containing 27 1/2 acres adjoining the Huntington college campus would be acquired for use as a city park are under way.

PETESEN, IOWA

A dream of years seems about to be realized for this community in the establishment of a state park in the scenic hills surrounding this town. The state board of conservation agreed to accept 233 acres of land offered to the state free of charge.