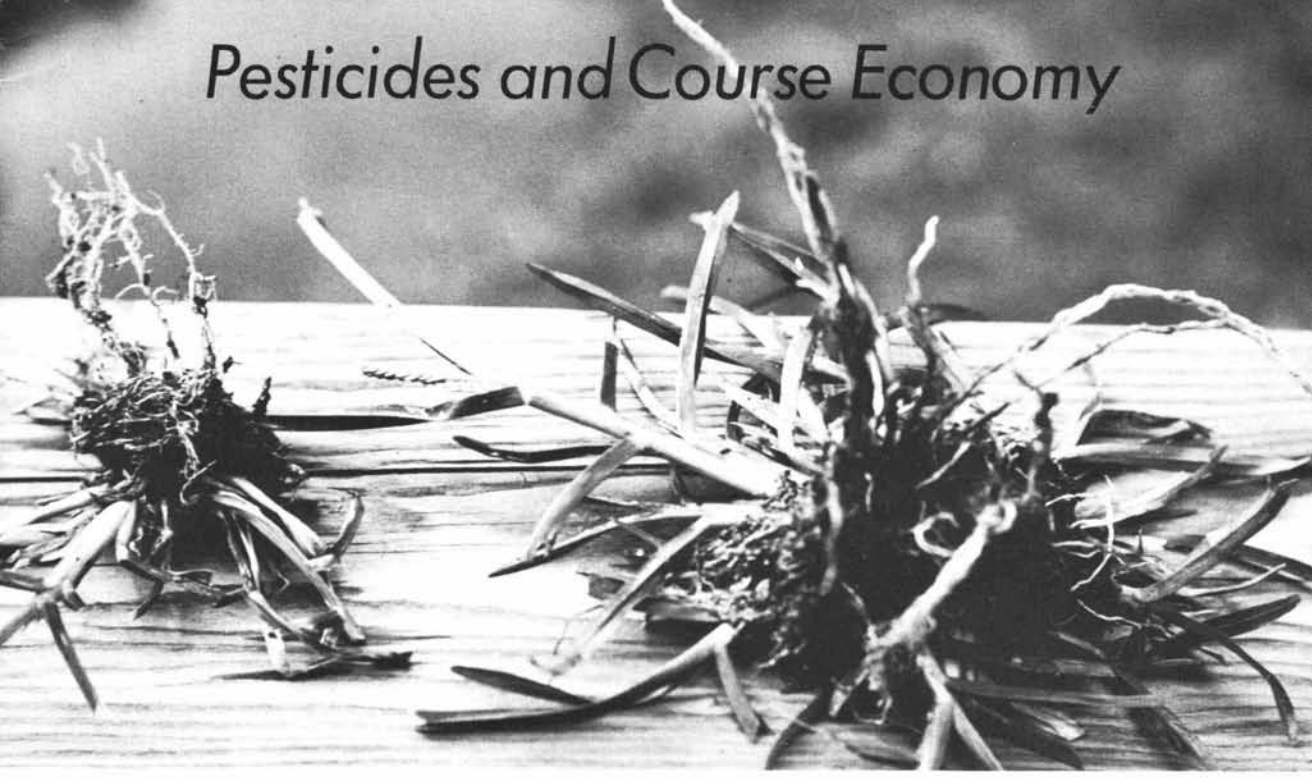
Pesticides and Course Economy



Root restriction action of pre-emergence herbicides —note differences between treated plant on left and untreated on right.

by ALEXANDER M. RADKO, Eastern Director, USGA Green Section

Pesticides are now playing a larger role in the healthful management of cool-season grasses. Reasons are many fold: better pesticides are available, budgets are larger and members are not opposed to spending, better equipment is available for application of improved materials, and members are demanding a perfectly conditioned course from tee to green during the entire playing season!

Pests may be defined as plants and animals in existence where they are not wanted. Golf course maintenance has had its share of problems due to turf pests and though it has been an uphill battle, the number of serious problems is narrowing.

This does not mean that the use of pesticides will be reduced in the years ahead. There is no program that will erase all pests for all time. Rather, today's chemicals are used to hold pests in check and minimize competition with the desirable grasses and damage to playing areas. Certain years will require greater use of one pesticide over another; much depends upon weather conditions. Weather in certain years will bring on problems with diseases, while in other years weather may cause more weed, insect, or wilt damage. However, it all evens out over the years because the war against pests is never ending and control programs must constantly be kept in force.

GREENS AND APRONS

Weeds, diseases and insects are mostly controlled on a preventive basis. Greens average between two and three acres on most 18-hole golf courses. Since the total area is relatively small and so critical to the game, pesticides found early use here. Their cost was justified because of the results they produced.

TEES

As the desire for better tees arose, the pesticide program used on greens became commonplace on tees as well. Members began to take special pride in healthy, well-maintained tees. This increased the pesticide budget, adding another one to two acres to the costs of pesticide materials, plus the man hours required to apply the materials.

Hand weeding crabgrass from greens. Remember when this was commonplace? Today it is a rarity!

FAIRWAYS

Members today demand perfection in fairway turf, too! Since fairways comprise anywhere between 30 to 50 acres on a regulation 18-hole course, the use of all chemicals is increasing on most well-managed golf courses. These include fungicides, herbicides, insecticides, and wilt-proofing materials. With this much ground to cover, the amount of pesticide required is a very significant item in today's golf course management budget. Its use must be carefully planned.

ROUGHS

Weed and insect control in the roughs are the two programs most regularly followed by the better maintained courses. There are a few courses where the roughs are treated in the same manner as fairways. In any event, as pesticide use is increased, all other factors relating to good turf management also increase. Factors such as aeration, thatching, more fertilizer, more lime, more irrigation—all of these practices, too, must be employed in a rounded program of management. Once a move towards perfection is made, it is necessary to work at it relentlessly to retain that improvement. Practices that improve are not onetime practices!

TREES

Trees are important to any golf course, and they come into strong perspective in the need for pesticides to keep them healthy and to preserve course beauty. In the East, the tragic loss of thousands of American elms, one of the best suited trees for golf strategy and course beauty, brings the importance of healthy trees into sharp focus. Tragically few elms have been saved, but many were sprayed with costly pesticides in a frantic last-ditch attempt at preservation. The labor costs in removal and replacement of diseased elms, or any tree, while not directly related to pesticide use, certainly must be classified as an unwanted budget item.

Developing a Program

In developing a pesticide program for your golf course, consider the following questions of economic and practical importance:

What is the life cycle, life history of the pest in question?

Is it an annual or perennial pest?

In what stage is it most susceptible to chemical control?

Can it be subdued more easily in one stage than another?

Is more than one annual pesticide application required?

What pesticides are available? In what formulation—pre- or post-emergence, wet or dry, powder or granular, wettable powder or emulsion? Cost comparisons of each?

What are the safe minimum and maximum use rates?

Have they been tested by turf researchers at the universities and/or experiment stations?

What has been the experience of golf course superintendents with each one?

Which formulation is right for you. Which can you apply the easiest and most uniformly with your caliber of labor and equipment?

Is there a residual effect on desirable vegetation? on soils?

Does it effect overseeding with desirable grasses?

How long a waiting period is required before new seed will germinate?

How do treatments affect desirable grasses?

Is there any diminishing effect on turf quality? What interferences to play and what effect on playing quality are members to expect?

Have you observed all the requirements for most effective, safe use?

Have you considered the effects on neighboring properties?

Did you read and understand the label?

Should an emergency arise, do you know the antidote?

Do you know who to call for medical assistance?

Do you know the telephone number of your pesticide control center?

When you consider that these questions need to be studied and answered for each pesticide used, some idea of the magnitude of the task behind a pesticide program comes into sharper focus. The larger the pesticide program, the more time required to bring it to effective staging. The larger the pesticide program, the more time required to study and plan all facets of a safe, efficient and effective project.

(courtesy Dr. Herb Streu, Rutgers University)

The hyperodes weevil from larva at left through pupa stages to adult at right.