

Don't Fire Until You See The Whites of Their Eyes

Using a map saves money and time in the battle against mole crickets.

by PATRICK M. O'BRIEN

FROM TEXAS to North Carolina, mole crickets have become the number-one insect pest on golf courses, home lawns, and sod farms across the southern United States over the past 10 years. Two species, the southern and tawny mole crickets, are the most destructive at golf courses. An 18-hole golf course can spend up to \$50,000 annually to control this pest. The conventional philosophy has been to beat these insects into submission with heavy applications of insecticides. Although mole crickets are a challenge to control, a well-planned program can reduce costs without sacrificing control.

Mapping is an effective strategy to reduce costs. In the late 1980s, Dr. Patricia Cobb at Auburn University initiated research on mapping these pests. Research has documented the fact that tawny mole crickets tend to hatch in the early summer in the same locations on the golf course where the overwintered adult tawny mole crickets are active. "If maps are used, the superintendent can save money and time in the battle against mole crickets," says Dr. Cobb.

Mapping involves "recording locations of specific events, conditions, or populations. Mapping also includes action level (threshold) setting," according to Dr. Cobb. In other words, map areas of the course where these insects are causing major turf damage that disrupts the game. Dr. Cobb's research concluded that golf courses could save an average of 68% with maps and proper timing of pesticides.

It generally takes a superintendent six to eight hours to initially map the golf course. Significantly less time will be required in future years since only an update to the map is needed. Pay close attention to sites that mole crickets prefer, such as poor drainage locations, turf adjacent to ponds and streams, low elevation areas, or slopes with southern exposure.

Most superintendents already have course drawings to use for the maps.

Blueprints for the irrigation system are one of the most popular. The elevations included with most irrigation blueprints are a real plus to help predict high activity areas. GPS maps, scorecards, or handmade maps are other possibilities. Mark high activity areas with red ink and marginal areas in orange ink. The red areas are a priority and should be treated initially, while the orange areas are constantly monitored for damage and should be treated only if they reach the threshold level.

Mapped areas can be flagged initially for the spray technician or contract applicator. Apply the products one boom width beyond the flags for best results. Flags save treatment time and take the guesswork out of where to apply the products.

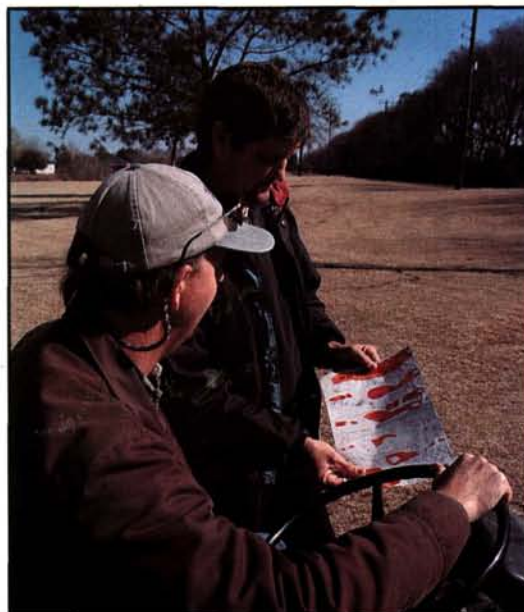
The Red Eagle Golf Course in Eufaula, Alabama, has used mapping with great results. Neil Yarbrough, superintendent, began mapping in 1994. This low-budget golf course had serious mole cricket damage, but it didn't have the resources to treat wall to wall. In the first three years of the mapping program, key play areas, including putting greens, tees, green slopes, and approaches, were treated annually to control damage. Mole cricket breeding areas and other sites above the desired threshold level also

were mapped and treated. Treatments were applied to the mapped areas between the months of June through October when conditions were optimal for good control. Spring treatments for the adults usually were avoided since this was not cost effective at Red Eagle.

Treatments were applied in the late afternoon or at night. Monitoring the hatch of new nymphs helped achieve best results. Red Eagle realized an 81% cost saving the first year using mapping compared to treating the entire 108 acres of the golf course. More importantly, there was no reduction in turf quality. Last season, a 95% cost saving was achieved as the mole cricket threshold areas annually became smaller and smaller. Today, only a few remaining high-threshold areas are treated annually.

Whether you are at a golf course with a large or small budget, spring mapping makes sense to save money and time in the battle against mole crickets. Learn the life cycle and patterns of this destructive enemy. Otherwise, this insect has a remarkable ability to escape pesticide treatment.

As Director of the USGA Green Section Southeast Region, PAT O'BRIEN always keeps his eyes open for good tips.



Mapping is an effective strategy to reduce maintenance costs. Blueprint maps provide a good starting point. High activity and marginal mole cricket areas can be marked in different colors to aid the spray technician in where to apply treatments.