

Scouting for chinch bugs

by Christopher Sann

Any decision to control chinch bugs with insecticides must be based on an accurate survey of chinch bug populations. The only way to obtain accurate information about those populations is to scout the sites and sample the areas for chinch bug populations.

When to scout a site

When a site should be scouted is a function of the site's priority designation, the life cycle of the pest to be monitored, and the temperature over the recent history of the site. The information gathered at this and all subsequent scoutings should be recorded and kept as a reference when making control decisions.

No matter what the designation, each site should be scouted beginning about seven to 10 days after the daytime high temperatures are consistently at 45 F or greater. This initial scouting should be used to determine if there are any over-wintering chinch bug adults at the site. If no adults are found at the initial scouting, then low priority sites should be rescouted at four to six week intervals through July depending on degree day numbers or temperatures for that time period. Samples should be gathered every four weeks during warm temperatures and every six weeks during cool temperatures.

For sites with a high priority designation, a follow-up sampling should be considered every two to three weeks through August. A final sampling for over-wintering adults should be made in late September or early October. Information gathered at this sampling period should be used to guide control strategies for the following year.

The frequency of actual scouting, the time of day that the scouting occurs and the environmental conditions under which the scouting will be conducted are subject to adjust-

ment for availability of qualified scouts, scheduling of other jobs, and the pest being scouted for. Use the same scout or group of scouts at the same site all season long. That way old, damaged areas will not be misidentified as new infested areas, possibly causing a errors in treatment. The type of pest being scouted will affect the time of day and the conditions under which the scouting is under taken. Chinch bugs should be scouted during the hottest time of a sunny day, and not in the morning when dew is present or after an irrigation or rainfall. Scouting for Dollar Spot, on the other hand, should be conducted in the early morning, when the canopy is still wet from dew or a rainfall.



Sampling for chinch bugs, using an eight-inch metal cylinder filled with water.

Photo provided by Dr. Mike Villani, Cornell University

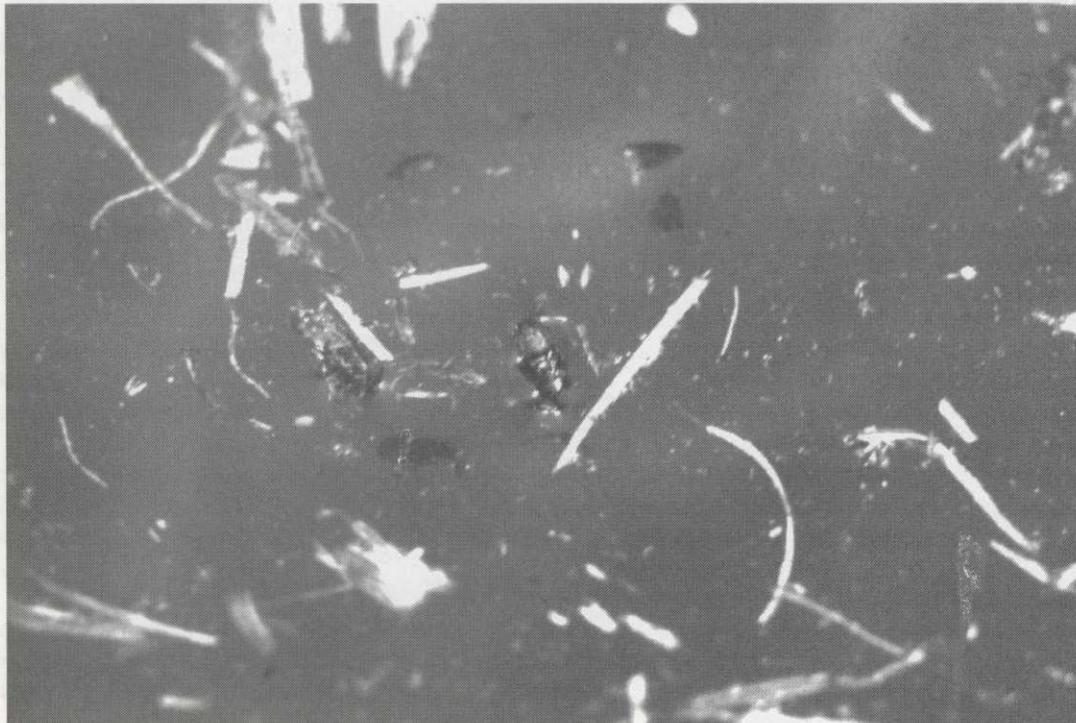
How to scout for chinch bugs

The traditional method of scouting for chinch bugs was to get down on one's hands and knees, spread the turf leaves and look for anything that moved. This technique is an acceptable way to scout for chinch bug presence, but is not effective for establishing accurate population densities. To establish this, one must count all adults and instars within a given area.

The most effective way of establishing this is to section off a given area, either one-quarter or one-third of a square foot with a metal square or circle that is inserted into the ground to a depth of one to two inches. This square or circle is filled with water of sufficient quantity so that the chinch bugs will float to the top of the water in about 10 minutes. This may require adding additional water so that the water level is higher than the turf canopy for the duration. Once 10 minutes have passed, one counts the number

of adult and instars that are floating. Then multiply that number by the denominator of the fraction of the square foot tested, i.e. for 1/3 of a square foot multiply by three, four for 1/4, etc. The total is the chinch bugs per square foot.

The threshold for applying insecticide should be between 25 and 30 chinch bugs per square foot. Large populations at sites that do not show telltale symptoms when taken late in a growing season, September or October, can be ignored if the temperature trend is decidedly downward, as the bugs will do little damage to the turf at the site and only 3% of that population



Two adult hairy chinch bugs floating on the surface of the water in the sampling cylinder.

bugs identified on it

- or there is some visual symptom that indicates that the turf is stressed either by environmental factors or by pest pressure.

If an area consistently does not yield any chinch bugs, then that area may not be conducive to chinch bug feeding activity and should be designated as a location that should be sampled only when there are significant signs of an infestation. Areas that consistently yield various stages of chinch bugs should be designated as an area that should always be sampled,

because explosive population growth can occur in as little as two to three weeks.

Once an area yields chinch bugs of increasing density, a series of samples should be taken at ever increasing distances to gauge how far the chinch bugs have spread from the initial infestation site. This new data can be used to establish how large an area should be treated, when the 25 to

will survive the winter to restart the infestation the following year. Conversely, large populations early in the growing season, April or May, will surely point to extensive populations by July and August.

What areas should be sampled?

Since chinch bugs rarely infest the whole site at once, it is necessary to systematically walk the entire site to be sure that all potential trouble spots are observed. Each site should be walked in a predetermined pattern such as a zig-zag or "w" pattern so that the maximum area can be covered in a reasonable time.

An area at a site should be sampled if:

- there is a history of past chinch bug populations
- there are several factors favoring infestation
- it is an area adjacent to that site has had chinch

30 per square foot threshold is reached. The area that is treated should be 15 to 25 feet past the last location that yielded a chinch bug. Do this to catch any chinch bugs that have escaped unnoticed. The entire treated area should be sampled in a random fashion two to four weeks after the application to check on the efficacy of the treatment. If first or second instars are present then a follow-up application should be considered only if a very short residual insecticide was applied. Otherwise, the insecticide residues should control the instars from any newly hatched eggs.

Sampling is the key

Only consistent and accurate scouting and sampling procedures can establish accurate population densities. And only consistently and accurate data should be used to make any application decision. ■