

# Q&A

# Football field attacked



BY DR. DAVID MINNER

Professor, Iowa State University

## Questions?

Send them to  
David Minner at  
Iowa State University, 106 Horti-  
culture Hall,  
Ames, IA 50011  
or email  
dminner@iastate.edu.

Or, send your  
question to  
Grady Miller at  
North Carolina State University,  
Box 7620, Raleigh, NC  
27695-7620, or email  
grady\_miller@ncsu.edu.

*The drought has been tough on us this year but we were allowed to water the football field and it was doing fine until the first week of August when large areas of grass started to die off and turn brown. A week later the dry areas came up in large chunks and had no roots beneath. Since then the school administration and coaches are coming down on us about not watering enough. Our field is nearly unplayable. What direction would you give us to proceed? I've been hearing about Japanese beetles and grubs, could that be the problem?*

*Scott Johnson, West Salem  
Iowa SD*

Following up with Scott confirmed that the problem was indeed caused by grubs feeding on the root system. The Japanese beetle crossed the Mississippi River about 5 years ago and now has been reported throughout most of Iowa. Japanese beetles are notorious feeders on selected trees and shrubs and the grub feeds on turf-grass roots along with our other grub species associated with the masked chaffer and June beetle. They have slightly different life cycles but the important thing to remember is that the beetles appear in the summer and lay eggs in the ground that form feeding grubs during the month of August, just before the start of football season.

Summer-applied insecticides will help control the grubs shortly after egg hatch when they are small. Even if you use a preventative insecticide it is important to start checking football fields weekly in early August for grub activity, since insecticide failure does happen. Raccoons, skunks, and crows tearing up the surface in search of grubs are also an indication of what lies beneath the grass.

If a mid-summer preventative grub insecticide is not used then August scouting for grubs is ab-

solutely essential. In dry years irrigated fields are a prime target for adult beetles to lay eggs. We conducted a 2-year high school football field grub scouting program and found that the normally recommended IPM grub threshold of 9 grubs per square foot was not sufficient for athletic fields because of the low tolerance for dislodged turf during in high traffic areas. Our recommended threshold for high traffic athletic fields is 2 to 4 grubs per square foot using 20 4-inch samples evenly spaced throughout the field.

It has been difficult to get anyone interested in pulling core sample and counting grubs even though it only takes about 45 minutes per field. As an alternative walk the field end zone to end zone along the side lines, hash marks, and center. About every 10 yards just give the grass a good tug and occasionally cut into the ground and look for grubs in the top inch of soil. Any places where the grass looks slightly off color, wilted, or damaged, give it a check.

The strategy is to find them when they are small because they are more difficult and sometimes impossible to control when they are large. Grubs occur in pockets and are seldom evenly distributed throughout the field and that is another reason why the uniform sampling method to determine thresholds limits is subject to interpretation. If it is August and I find

grubs in one or two places on the field I usually recommend immediate grub treatment with dylox because the threat of an unplayable field, as Scott has described, is not well received by coaches, athletic directors, and parents. Dylox insecticide lasts about a week in the soil and if watered into the grub feeding zone will give effective control of first and second instar grubs that are less than a half inch long. Older and larger grubs are more difficult to control and may require a second application of dylox.

The message here is use some form of scouting to control the grubs before they get too big. By September grubs have caused considerable turf damage and are difficult to control. Killing the grubs will allow roots to grow and begin to stabilize the surface, but this can take over a month. Fertilize with nitrogen to speed growth and recovery. Broadcasting perennial ryegrass to allow "cleating in" of the seed will help, but this too takes about a month to see a substantial benefit. Pantera annual ryegrass can be used for fast cover if you do not want the ryegrass to persist in your Kentucky bluegrass field. As a last resort the field can be rolled after and before each game to temporarily increase surface stability.

The real message here is to look beneath your field surface in August if you want the fans to see the field from above on Friday nights. ■

