Turfgrass insect identification

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Quiz yourself. Answers are on page 21.

A. _____

E. _____

F. _____

G. _____

Photo courtesy Dr. H. Tashiro

K. _____

Photo courtesy Dr. J.A. Reinert

L. _____

M. _____

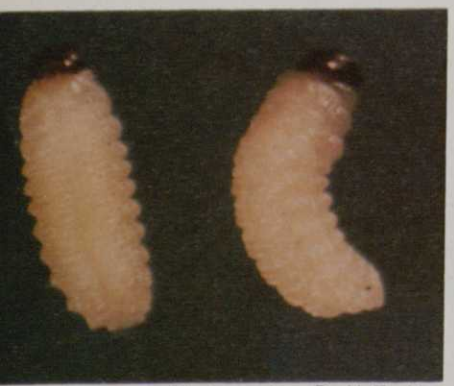

Photo courtesy Dr. H. Tashiro

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Photo courtesy Dr. J.A. Reinert

R. _____

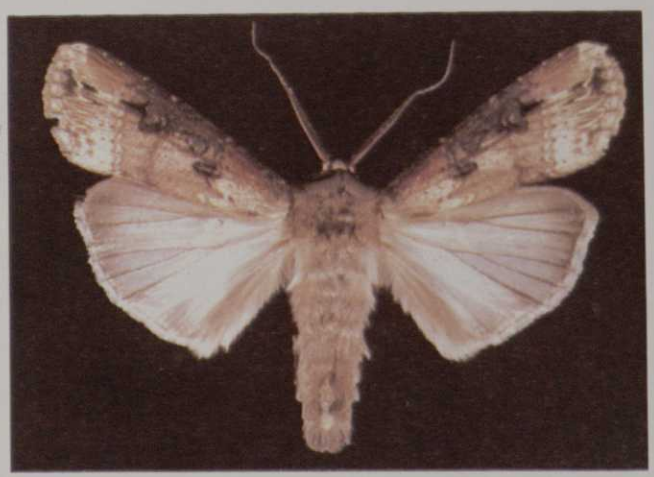
S. _____

B. _____

C. _____

D. _____

H. _____

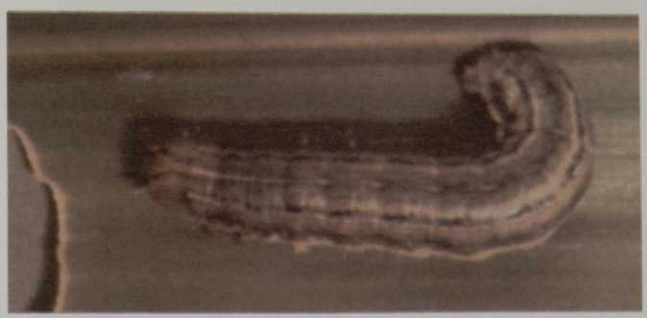


I. _____

J. _____

Photo courtesy Dr. J. Schread

N. _____



O. _____

P. _____

T. _____

U. _____

V. _____

stallation. A sandtrap rake is an ideal tool to level the sand blanket, especially when working around the grade stakes.

By this time the work force and the entire project is going to be spread out pretty far. The superintendent and heavy equipment will be working on the last green or the third green, depending upon how many you plan on doing. The tiling crew run by the assistant should be working on the second green, and the operator and laborer spreading the gravel and coarse sand will be working on the first green. Once you get spread out like this, there is a tendency to pick a couple of the men from your regular crew to help with the construction. Don't make the mistake of letting the routine maintenance on the course go simply for the sake of the construction. You still have a primary obligation to provide as good a condition as possible to the membership. If this declines, then you open yourself and everyone involved to criticism. If you need a couple of extra men and you are pushing against the weather and/or the calendar, then hire them. You should have added at least a ten percent contingency fund to the total construction budget anyway. (While on the subject of contingencies, let me say that there will definitely be some. Things such as old water lines, and tile lines, along with existing irrigation lines and wires will have to be contended with. One good bite with a backhoe into a couple of dozen irrigation wires can put havoc into your day. Learn to take these things in stride. Broken pipes and delays due to the flooding they cause are a way of life in reconstruction, no matter how well you plan the procedure. It is the quality of a good supervisor to be able to handle these contingencies as efficiently as possible without disrupting the overall project.)

Filling the green is probably the largest single phase of the operation. Here is when you get on the phone and use the "beg, borrow and steal" method and round up four or five dump trucks from nearby courses. All of the clubs in our area have been most generous and often send an operator for a day or two. Two front end loaders can keep the trucks filled, especially after they get spread out traveling from the mix area to the green site. A small track type of high lift is ideal for handling the mix and spreading it onto the new greens. We usually rent a Case 350 for this job and it handles the material well and also does an excellent job of compacting it. Once we get it out on the green, then the dump trucks drive right out onto the fill areas and dump their load. This eliminates having to push it so far with the high lift. We have never had any problem with compaction with the trucks pulling out on the green. With any kind of luck you can fill three greens in a twelve-hour day. Remember those grade stakes that you put in earlier? Once you have reached grade line on them, they can be pulled. It will be necessary to have a transit set up to check the final contours on the green and you can expect to take about four hours per green putting in the final contours using the tract type high lift and a tractor with a grade box. Once the contours have been established, then get the committee together to make sure that everybody involved agrees with the final shape of the greens. I have experienced a situation where we had seed germinated and changes had to be made because "someone" didn't approve of the architect's design. This, however, shouldn't be a problem if everyone on the committee knows anything at all about reading blueprints.

The next step is to incorporate the starter fertilizer and seed the putting surface. We used Penncross Bent at two pounds per thousand. Knowing the size of each green, the seed was weighed out and applied in three directions to insure good coverage. We have had our best results with lightly raking the surface after seeding and' then rolling it. The green and sandtraps are then rimmed with sod, two rolls wide. This helps to define both and helps keep the proper design of the green.

We have been involved with constructing the U.S.G.A. type of green for four years and are more than satisfied with the results. If you plan this type of construction as far in advance as possible, it will eliminate a lot of problems. It can be done smoothly and rapidly. The last four greens that we built took twenty work days from start to finish, which averages out to five days per green at a cost of $1.10 per square foot with thirteen greens now completed. This cost figure includes everything except the white sand for the traps.

If you are going to take the time to build a green, then do it right the first time. **GB**

Answers to turfgrass insect identification quiz

A. Masked chafer adult, *Cyclocephala* sp.; **B.** Greenbug, *Schizaphis granimum;* **C.** Bluegrass billbug larva, *Sphenophorus parvulus;* **D.** Clover mite, *Bryobia praetiosa;* **E.** Hairy chinchbug nymph, *Blissis leucopterus hirtus;* **F.** Bronzed cutworm larva, *Nephelodes minians;* **G.** Winter grain mite, *Penthaleus major;* **H.** Southern molecricket, *Scapteriscus acletus;* **I.** Black cutworm adult, *Agrotis ipsilon;* **J.** Sod webworm larva, *Pediasia trisecta;* **K.** Hyperodes weevil adult, *Hyperodes* sp.; **L. Rhodesgrass scale,** *Antonina granimis;* **M.** Japanese beetle adult, *Popillia japonica;* **N.** Fritfly adult, *Oscinella frit;* **O.** Armyworm larva, *Pseudaletia unipuncta;* **P.** Black cutworm larva, *A. ipsilon;* **Q.** Hyperodes weevil larva, *H.* sp.; **R.** Ground pearls, *Eumargarodes* sp.; **S.** Hairy chinchbug adult, *B. leucopterus hirtus;* **T.** Bluegrass billbug adult, *S. parvulus;* **U.** Vegetable weevil larva, *Listroderes costirostris obliquus;* **V.** Sod webworm adult, *P. trisecta.*