

Ask the Expert

Joseph F. Losito of the University of Vermont Asks the Expert:

"I know that the weed speedwell is very tough to control with available herbicides on the market. The herbicide quinclorac seems to not only control the weed but kill it. Will this herbicide ever be available for the use on turf, especially for golf courses?"

As a genus, the speedwells (*Veronica* spp.) may be the most difficult of all of the weeds that turfgrass managers must deal with. As a member of the group of "winter annuals" such as the chickweeds, the annual forms of *Veronica* are very difficult to control with standard turf herbicides. One of the varieties of *Veronica* is so resistant to normal turf herbicides that it even resists repeated applications of Roundup. We contacted Dr. Joseph Neal of Cornell University. He recommended a tank mix combination of Turflon II and Gallery be applied in the fall to the areas infested with the Slender Speedwell (*Veronica filiformis*) and that following this good to excellent control should be obtained by next spring.

Speedwell pamphlet available

We note that Dr. Neal has recently written an excellent pamphlet entitled "A Guide to the Identification and Control of the Weedy Speedwells". It can be obtained by requesting document number 141IB229 from the Resource Center, 7 B.T.T., Ithaca, NY 14850. The \$6.25 price includes shipping and handling. This reference contains excellent identification examples and a series of recommended cultural procedures that can be followed to reduce infestations by this weed species. The latest chemical control recommendations to manage *Veronica* spp. can be found in the Cornell Cooperative Extension publication "1994 Pest Management Recommendations for Commercial Turfgrass", document number 141RTG, also available from the Resource Center for \$2.50. Either of these two valuable reference materials can be ordered by calling (607) 255-2080.

Paul F. Miller, director of golf course operations, Nashawtuc Country Club, Concord, MA, Asks the Expert:

*"My question concerns earth worm casts (especially on fairway turf). They seem more severe on *Poa Annua* turf than on Bentgrass. Why? They seem more evident after rainfall. Does heavy irrigation promote them. Lastly, are high rates of Benymil or Sevin the only recommended treatments."*

We contacted Dr. Michael Villani, an entomologist at Cornell University. He said that, although the presence of earthworms is highly desirable from a turfgrass ecology point of view, their activity can present turfgrass managers with several problems. The castings, or excreted soil, that mounds up around the earthworm's hole can damage reel mower blades and, if numerous, can cause an irregular cut of the turf in the infested area, as well as reduce site playability and hamper play. Earthworms and other annelid worm live by processing the soil and digesting the moist soil's organic matter as a food source. Earthworm populations tend to be more concentrated in high organic soils, such as bottom land or muck soils. Dr. Villani said that heavy rains or frequent irrigation tend to drive earthworms to the soil surface because their holes become filled with water. Earthworms are air breathers. Dr. Villani did not know of any research that had been done on earthworm turfgrass species preference, but he felt that Miller's observation of a higher incidence of castings on annual bluegrass versus bentgrasses was more likely due to the organic content of the site soil than to any particular preference for one turfgrass species over another. Earthworms tend to stay away from the high sand and low organic content soils of greens and tees versus the annual bluegrass and ryegrass on the native soil of many golf course fairways.

Controlling the problem

Dr. Villani said there are no chemical pesticides that are registered for control of earthworms. Because of this, he said he could make no recommendation for the use of a pesticide for the control of earthworms that would not

violate federal pesticide labeling laws. He did say that cultural practices could help reduce the level of the problem. Where feasible, periodic topdressing of the problem areas using a high sand content mixture would help make the area less attractive to earthworms. Also, efforts should be made to correct any existing drainage problems at the site by redirecting water flow or by improving site water percolation. In areas with shade, an effort should be made to increase air flow or light penetration and thereby reduce periods of soil wetness. He also felt that the use of high organic content topdressings or organic fertilizers, particularly those based on composted manure sources, may significantly increase surface earthworm activity. Curtailing such applications or finding a less attractive organic source as a substitute should reduce the problem. We feel that the use of multiple applications of wetting agents, particularly in the spring, to reduce excessive soil moisture may be an additional tool to help with this problem. If an earthworm infested area is receiving frequent irrigation because of a reduced root structure due to heavy root damaging disease pressure, then any steps that are taken to identify and reduce site factors, such as poor soil structure and layering, should make the areas less attractive to earthworms as well as improve stand survivability. Finally, make sure that the castings that you are finding are in fact from earthworms. The feeding activity of several northern mole cricket species, which looks very much like earthworm activity, has been identified as far north as Long Island and coastal Connecticut.

**Ernie Carlomagno,
park foreman,
Montgomery Township,
Somerset County, NJ,
Asks the Expert:**

"We have closed our soccer field for the fall. We have a thatcher with an aeroblade seeder on the back. We are under the impression that we could use just the aeroblader, but we must thatch in front running both machines at the same time. In the process of doing this, a lot of thatch was torn up. The seeds are in the ground, but too much thatch is on top. How can thatch be removed without damaging seeds while they are germinating? Is it okay to leave thatch cover until seeds germinate?"

Ernie Carlomagno's concern about the difficulty of combining dethatching and slit seeding activity into one operation has been an ongoing problem for many turfgrass managers for many years. I have yet to find a single machine to accomplish this combined task successfully in the 20 years that I have been involved in the industry. The only solution that I have found that works well is to do the job in two separate operations. First, cut the grass in the area to be seeded as short as possible without scalping and collect the leaf clippings. Then dethatch the site if the thatch depth is over 1/4 inch and the turf stand's root structure is in good to excellent condition. Remove as much thatch as possible. If necessary, make multiple dethatching passes in the same direction. Clean up the debris between passes. After the last dethatching pass, clean up the debris using backpack or walk-behind blowers with their nozzles pointed toward the ground. Blow the debris up parallel to the direction of the slits that were produced by the action of the dethatching machine. This use of blowers will stop any of the smaller debris particles from falling back onto the soil's surface and will do a far better job of removing loosened debris from in between the crowns of the plants than raking. Once the debris has been removed, check the site to see if there are enough open slits in the remaining thatch or enough thatch has been removed, so that the bulk of the applied seed can come in contact with the soil. If there are enough open slits, then overseed the site using a drop spreader. If the remaining thatch will prevent seed to soil contact, then slit seed the area with a disc seeder that cuts grooves and places the seed in the groove without kicking up any additional debris. If the turf at the site does not have a deep enough root structure to withstand the rigors of dethatching or the site has 1/4 inch of thatch or more, consider putting off overseeding until the stand's root mass and depth can be improved through improved management techniques. If seeding the site at a later date is not an option, then verticut the site with a verticutter or vertical mowing machine in one or two directions, blow off the debris and seed as above. After seeding wait 30 days, then make a starter fertilizer application and an application of a root stimulating compound. Follow those applications 30 days later with a high nitrogen or high nitrogen and potassium turf grade (sulfur coated or synthetic organic) fertilizer application at one pound of nitrogen per 1,000 square feet. Mow the seeded area with a light weight mower with newly sharpened blades as soon as the majority of seed has germinated and the seedlings are 1 1/2 to 2 inches high.

This month's Turf Grass Trends expert is Christopher Sann. ■