

## Dealing with Skunk and Raccoon Problems in Turf

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Although it isn't listed on the Chinese zodiac, 1998 might appropriately be remembered as the Year of the Skunk. **Many golf superintendents reported increased problems with skunks and raccoons tearing up turf.** Whether or not these varmints really are on the rise is uncertain. Let's examine some of the reasons why skunks and raccoons become a problem for turf managers, and what can be done about it.

Skunks and raccoons are omnivorous, eating both animal and plant material. **Favorite skunk foods are white grubs, cutworms, and other plump insects.** They'll also eat earthworms, crawfish, small rodents, moles and shrews, frogs and toads, bird eggs and nestlings, fish, fruits, and garbage. Raccoons have a similar varied diet. Favored haunts for skunks include woodland edges, woody ravines, brush piles, weedy fields, rocky outcrops, and drainage ditches. Skunks are nocturnal, becoming active from sunset to shortly after sunrise. During the day, they sleep in dens that usually are below ground, but sometimes are in hollow logs or tree stumps, brush, or lumber piles. Raccoons prefer to live near streams, lakes, or marshes, but may venture away from bodies of water. Like skunks, they are nocturnal. They do not dig dens of their own, preferring to nest in hollow trees or logs, abandoned burrows of other animals, or other natural shelters. Both skunks and raccoons sometimes take up residence beneath porches, patio decks, or outbuildings.

Superintendents usually can coexist with these varmints until they start tearing up large patches of grub-infested turf. **Once they find a suitable feeding area, skunks and raccoons will return night after night until the food supply is depleted.** Damage to turf is worst in spring and autumn, when white grubs are large and close to the surface. Skunks also leave behind tell-tale golf ball-sized, cone-shaped pits when digging out individual grubs.

Unlike moles, which eat only earthworms and insects, skunks and raccoons like a varied diet and can easily forage elsewhere. **Controlling white grubs reduces the food supply and usually discourages their digging.**

The new soil insecticides, imadacloprid (Merit<sup>®</sup>) and halofenozide (Mach 2<sup>®</sup>) generally provide excellent grub control when applied preventively, before egg hatch. **Indeed, because these insecticides are so effective at reducing grub populations in treated fairways, I believe that their use may actually concentrate the digging by skunks and raccoons seeking "leftover" grubs in adjacent, irrigated rough.** I've seen golf holes where the fairways were virtually grub-free, but the bordering irrigated rough ap-

peared to have been rototilled by skunks. Soil moisture generally is the main factor determining where grubs occur, because the female beetles are attracted to moist areas in which to lay their eggs. Thus, untreated, irrigated areas are likely to harbor grubs and attract predatory varmints.

**One solution is to treat bordering, irrigated rough when applying preventive insecticides for grubs in tees and fairways. Another option is to spot-treat with a fast-acting, curative insecticide such as trichlorfon (Dylox<sup>®</sup>) at the first sign of grub damage or varmint digging.** Posttreatment irrigation is needed to leach the residues through the thatch and into the soil. Research has shown that Merit is not very active against large grubs, and that Mach 2 will not kill them quickly enough to put a stop to digging by skunks and raccoons.

**Managing the habitat may provide some relief from skunks and raccoons.** Removing large hollow trees or logs, and wood or brush piles, and sealing access to crawl spaces or outdoor structures forces the varmints to go elsewhere for their cover and, hopefully, their meals.

**Raccoons are considered protected furbearers in many states.** Thus, you can hunt or trap them only during specified seasons set by local regulations. Often, a permit is required even for live-trapping an animal. It usually is legal to trap or kill skunks where a health threat exists or where damage occurs. Because laws vary from state to state, consult a game warden or your state wildlife agency to discuss your options.

**Live-trapping can be an effective nonlethal method of getting rid of raccoons and skunks.** Use Hav-a-hart<sup>®</sup>, Tomahawk<sup>®</sup>, or similar-type traps of the appropriate size. Effective baits for raccoons include chunks of corn-on-the-cob in the milk stage, sardines and other fish, and fish-flavored canned cat food. For skunks, try canned or fresh fish, fish-flavored cat food, chicken parts, bacon, or peanut butter on bread. Animals can be made less wary about entering a trap by providing natural footing on the trap floor. Do this by pushing the wire cage back and forth on the ground until the bottom mesh is covered with soil.

Traps containing a raccoon should be placed in a burlap sack or similar covering, and then transported at least five miles from the point of capture before releasing the animal. Skunks, obviously, are trickier to deal with. Approach slowly and cover the trap with an old blanket, plastic tarp, or burlap. Covering the trap before it is set is simpler and may even encourage the skunk to enter. Gently transfer the covered trap to the back of a pickup for transport. Striped skunks

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**effect of traffic on soil compaction increases as the soil water content increases.** At water saturation the soil becomes extremely pliable and prone to serious rutting. Puddles need not be present for the soil to be water saturated and compaction prone. Serious problems arising from soil compaction include (a) exclusion of oxygen needed to maintain root growth, (b) loss of water absorption and retention capabilities in the soil, (c) increased water loss by surface runoff, (d) loss of resilience, which affects the ability to hold a shot on a green, (d) destruction of surface smoothness, which may require weeks or even months to fully correct, (f) a wet surface and weakened turf that is more prone to disease, annual bluegrass (*Poa annua*) invasion, insect injury, and such environmental stresses as cold and heat, and (g) increased labor costs for corrective procedures, such as turf cultivation, topdressing, spiking, and overseeding.

**The degree of soil compaction caused by traffic under wet conditions varies with the soil texture and drainage characteristics.** Problems with soil compaction and rutting are more serious on fine-textured clayey soils and on areas where adequate drain lines and surface drainage have not been provided. In contrast, many sandy soils drain rapidly and traffic can be reintroduced sooner after an intense rain. Thus, it is possible for one golf course to be closed due to wet conditions while another nearby course is open, simply because of differences in soil texture and drainage characteristics.

**Winter Play.** Turfgrass damage from traffic stress may occur when there is frost on the ground, especially on putting greens. **Traffic pressure exerted on frozen leaves physically disrupts the tissues by mechanically fracturing the cells and causing death.** This damage occurs at a time of year when turfgrass recovery is unlikely, thus the detrimental effects are cumulative if such traffic stress is allowed to reoccur during the winter. **Frost can be removed relatively quickly by a light syringing if the temperature of the air and underlying soil profile are above freez-**

ing. In most cases, it is preferable simply to close the golf course until the normal diurnal rise in temperature has melted both the surface frost and the frozen turfgrass shoots.

Play on putting greens when the turf-soil is solidly frozen causes less permanent damage if the grass is dormant and the greens remain frozen all day. However, the turf on greens may not stay frozen all day once play is allowed. **Should daytime surface thawing of the turf occur, golfer foot traffic may cause the turfgrass roots to be sheared at the interface between the lower frozen soil and the soft thawing sod.** This is a second winter condition that justifies closing the course, but it is one that is difficult for golfers to understand. For this reason, it may be better to keep the golf course closed for the day, if daytime thawing is anticipated.

One of the most critical times to close putting greens in colder climates is when the frost is melting in the soil profile. During this 1- to 2-week thaw period, foot traffic has been known to sink in up to 6 inches (150 mm) on very soft clayey greens. **As a general rule, cart traffic is best confined to cart paths during the winter, during spring thaws, and when spring transition occurs on dormant bermudagrass and zoysiagrass fairways.**

**The Decision.** The goal of good golf course maintenance is to have the golf course open and in optimal playing condition at all feasible times. Any decision that necessitates closing the course should be made carefully, using sound reasoning, and must take into consideration the good of the majority. The potential damage—both immediate and long term—of allowing play must be weighed very carefully against monetary losses and golfer dissatisfaction if play is prohibited. Unfortunately, the decision may not be easy to make and may involve a compromise, such as allowing foot traffic only or restricting golf carts to paths. The golf course superintendent's judgment, based on sound agronomic knowledge and experience, is vital in the decision-making process, especially when closure is contemplated due to unfavorable weather conditions. 

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are unlikely to release scent if kept in the darkened trap and handled in this manner. Trapped skunks can be drowned by submerging the covered trap in water for at least five minutes. Because of the potential for spreading rabies, trapped skunks should not be released elsewhere.

**Be extremely careful if handling raccoons, and especially skunks, because of the possibility that they are rabid.** Be especially wary of animals that look sick, wander around in daylight, or show no fear of humans—there is a good chance that they are rabid. If you are bitten, cleanse

the wound with warm soapy water and seek medical care immediately. Try to capture or cage the animal, but don't shoot it in the head because the health department will need the head to determine if the animal was rabid. 

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