

# TURF TWISTERS

## pH AND PESTICIDES

**Question:** Recently we have read that spray solution pH may have a bearing on the effectiveness of pesticide applications. Can you shed some light? (Pennsylvania)

**Answer:** Most pesticides, especially carbonate and organophosphate insecticides (except Servin and Proxol), do break down (hydrolyze) faster under alkaline conditions. However, when following the good standard procedure of applying the material as soon as it is mixed in the tank, little loss of effectiveness should occur. If this situation worries you, have your water analyzed both for pH and buffering capacity. In alkaline waters that are not also highly buffered, the rate of hydrolysis quickly slows down, with only minor (as little as 10 per cent) loss of active ingredient. For highly buffered alkaline waters, buffering agents are available commercially, with micronutrients included, to lower and maintain spray solution pH.

## REDUCE EARTHWORMS

**Question:** Recently we have been troubled with large amounts of earthworms on the golf course. Do you have any suggestions how they can be minimized? (Wisconsin)

**Answer:** Earthworms come to the soil surface to pull leaves and other material into the soil. This feeding activity can help control the accumulation of thatch. Aeration of the soil, as well as improving water infiltration, are some of the desirable qualities of earthworms. As you mentioned, large amounts can be objectionable when they build small mounds of soil on the grass. The application of an insecticide material at the manufacturer's recommended rate will be very helpful in eliminating the worms. Recently the application of a systemic fungicide material has been observed to decrease the worm population. Research workers in Germany have made similar observations.

## IN COMPACTED BUNKER SANDS

**Question:** Why is it some sands compact more easily and feel more stable in bunkers than others? (New York)

**Answer:** When a sand is uniform in particle size, it feels light, shifty underfoot and it does not set up as well as a sand composed of variable particle size. When you have a variety of particle sizes, the smaller particles integrate, become enmeshed and migrate into pore spaces between the larger particles. The end result is that the volume doesn't increase appreciably, but the weight certainly does. The weight is what helps create stability of a sand. Sharp angular sand particles contribute to a sand's stability also. Round particle-sized sands are not desirable for bunker use. All sand particles should range below 1 mm. Write for Green Section reprint "Sand for Golf Courses" for further details.