DON'T CAST ASIDE

**Question:** Our membership complains each spring and fall about earthworm castings. I know the value of earthworms in turfgrass systems, but I cannot appease the membership. What can be done? (Maine)

**Answer:** Earthworms play a very valuable role in nutrient cycling, thatch reduction, and soil conditioning. There are no pesticides labeled for earthworm control, and using pesticides to combat earthworms is illegal. The British have contended for many years that the use of acidifying fertilizers, such as ammonium sulfate, provides very favorable results for discouraging earthworms. Sand topdressing the worst areas of fairways also will be helpful. Finally, continue to inform the membership about the value of earthworms in turfgrass management.

LONG-RANGE OPPORTUNITIES

**Question:** We are in the process of evaluating our operating budget. In particular, we're looking at salaries and wages in comparison with the total budget, and our equipment replacement program. At an average course, what percentage of the total operating budget is the salaries and wages line item, and what type of guidelines are available for long-range equipment replacement? (Nevada)

**Answer:** On average, 60% of an operating budget is usually allotted for salaries and wages. If there is a variance of 10% or more above or below the average, take a close look at conditioning expectations compared to available staff to do the work. With regards to equipment replacement, most courses find it necessary to spend an amount equal to 10% of their annual golf course maintenance budget for new equipment purchases. Replacement intervals will vary throughout the country depending on the equipment type, intensity of use, and how you care for the equipment. As a general guideline, most fairway mowers and triplex units last five to seven years, utility carts and bunker rakes three to five years, walk-behind greens mowers three to five years, and string trimmers and smaller equipment two to three years.

TO EDUCATE GOLFERS

**Question:** During the spring and fall we experience a mottling effect and patchiness on our greens. I keep telling golfers that the effect is related to temperature. Is there an easy way to demonstrate this effect? (Maryland)

**Answer:** There's not much that is ever easy! If a purpling or reddening effect is experienced, examine both the upper and lower side of the grass leaf blades. If it is cold temperature stress, most likely the exposed surface will exhibit discoloration (normally purple or red) and the underside of the leaf will still exhibit the normal green color. If the purpling or reddening effect is experienced on both sides of the leaf, then it may be a disease or nutrient problem. This technique doesn't rule out other possibilities, but it does provide a starting point in your investigation.