



Aeration can cause short-term disruptions to a playing surface but it will yield long-term improvements.

WATER QUALITY WORRIES

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Whether or not you play golf, you may wonder about where golf courses get their irrigation water. Golf courses use water from a variety of sources for irrigation. A recent USGA-funded survey revealed that about 25 percent of golf courses nationwide irrigate with recycled water. Golf courses may also irrigate with captured rainwater or poor-quality groundwater that is not suitable for drinking.

The salts carried in some of these water sources require golf courses to implement special management practices. Some of the management practice may occasionally affect playability in order to maintain healthy turf and good playing conditions.

Here are four common strategies used by golf courses to manage water quality woes along with explanations of how each may influence your golf experience:

- 1. Selecting a salt-tolerant grass** – Cool-season grasses such as ryegrass, Kentucky bluegrass and *Poa annua* are much more susceptible to damage from water that is high in salts than warm-season grasses such as bermudagrass, zoysiagrass and seashore paspalum.

Impact – Salt-tolerant grasses provide better cover and playing conditions than salt-sensitive grasses when the irrigation water used is high in salts. The good news is that breeding practices continue to enhance salt-tolerant grasses, improving their quality and enabling their use in more areas.

2. **Flushing** – Occasionally, golf courses that use low-quality water may need to remove excess salts from the soil and push them past the turf rootzone by applying irrigation above and beyond what turf needs. This process is known as flushing. The frequency of flushing depends on multiple factors including the salt content of the irrigation water being used, the salt content of the soil and the salt tolerance of the turf being irrigated.

Impact – When playing a course after a flushing event, you will likely experience more receptive putting greens than normal. You may also encounter wet greenside bunkers and softer-than-normal approaches.

3. **Soil aeration** – Golf courses use solid- or hollow-tine aeration to fracture and create temporary voids in the soil. This improves water infiltration making it easier to flush excess salts deposited by poor-quality irrigation water.

Impact – While aeration can cause some short-term disruption to playing surfaces, we all benefit from it in the long run in the form of healthy turf that provides improved playing conditions.

4. **Calcium applications** – Golf courses that use irrigation water with a lot of sodium in it often apply gypsum or other calcium sources to improve soil health.

Impact – Gypsum, which is the primary component in wallboard or sheet rock, can be dusty when it is applied to a golf course. While it is essentially harmless, golfers may see dust and a white residue on the turf surface for a day or two after a gypsum application.



Irrigating a salt-sensitive grass with poor-quality water will cause playing conditions to deteriorate.

The increasing use of alternatives to potable water as sources of golf course irrigation water has local, regional and national benefits for golfers and nongolfers alike. When golf courses use recycled water, they are helping to conserve drinking water. Turf ecosystems also have proven to act as excellent filters, cleansing recycled water as it moves through the soil. While successful management may require short-term disruptions, using recycled water on golf courses is a win-win situation for golf and local communities.