

# IT'S A SETUP

How to set up your golf course for more fun and success.

BY LARRY GILHULY AND PAT O'BRIEN

Regardless of the type of golf course, golf facilities are played by every type of golfer. Whether male or female, young or old, every golfer has a unique ability and skill level. It is the job of the golf course superintendent and maintenance staff to prepare the golf course in a manner that accommodates the skills of all golfers. While there are golfers of many different ages and skill levels, the purpose of this article is to address the different daily, weekly, monthly, and annual programs that go into the setup of your golf course and focus on how they affect the four most common types of players. Make no mistake about it — this is a very difficult task, as every golfer has an opinion about how the golf course should play based on their individual playing ability. In reality, there are fundamental programs and guidelines that should be followed to provide all players with a positive and fun experience when playing a golf course.

The following will take you through a single hole at your golf course with a foursome of average players from distinct groups: a single-digit-handicap player, a bogey male player, an average senior player, and an average female player. Each portion of the golf course will be discussed in regard to both daily setup of the course and programs conducted to create good playing conditions. Pace of play will be a major component of the discussion. While many consider setting hole locations, placing tee markers, and raking bunkers as “course setup,” you will see that far more goes into setting up a golf course for your enjoyment. Also, for the sake of this example, the irrigation system and drainage are not taken into account; however, recognize that adequate drainage and proper irrigation management are the very foundation of good playing conditions. In many ways it is the unseen aspects of golf course



*The average female player hits a golf ball 75 percent as far as the average male. Forward tees that play in the 4,500- to 4,800-yard range will provide female golfers with a playing experience that compares to an average male playing a course in the 6,000- to 6,400-yard range.*



*Proper spacing, location, and direction are critical when setting tee markers. Using a T-square is the best way to ensure tee markers are properly aligned.*

**TABLE 1 — TEES**

<b>DAILY</b>	<ul style="list-style-type: none"><li>● Set tee markers perpendicular to the intended target — i.e., aiming at the intended target. Use a PVC T-square.</li><li>● Space the markers a proper distance apart — a minimum of five paces, or about 15 feet.</li><li>● Provide at least two club lengths of space from the back of the tee.</li><li>● Move tee markers as wear develops.</li><li>● Properly fill divots as often as the budget allows.</li><li>● Course Rating can be changed, so be aware of where the tee markers are placed on every hole. Increasing or decreasing the total course yardage of a set of tees by more than 25 yards will increase or decrease the Course Rating for that set of tees by 0.1 or more. For more information, please refer to the <a href="#">USGA Handicap Manual</a>.</li></ul>
<b>WEEKLY</b>	<ul style="list-style-type: none"><li>● Mow based on growth and traffic — usually no less than twice weekly.</li><li>● Fill divots on all par-3 holes, or as much as the budget allows.</li></ul>
<b>MONTHLY</b>	<ul style="list-style-type: none"><li>● Topdress tees that receive less play at a rate slightly heavier than the rate used on greens.</li><li>● Deep vertical mow tees that receive less use.</li><li>● Vent using 0.375-inch diameter or smaller solid or open tines on heavily used tees.</li><li>● Use wetting agents to reduce overall water use.</li><li>● Use growth regulators to reduce mowing frequency.</li><li>● Fertilize on a light and frequent basis when growth regulation is completed.</li></ul>
<b>ANNUALLY</b>	<ul style="list-style-type: none"><li>● Aerate tees using 0.625-inch diameter or smaller open or solid tines once or twice annually. Follow aeration with topdressing to fill the holes and overseed or use turf colorants, if needed.</li><li>● Minimize or correct crowning using various methods.</li><li>● Have, or create, multiple tees to create fun for all skill levels.</li><li>● Trim or remove trees causing issues with playability or agronomic conditions.</li></ul>

maintenance that truly provide the conditions desired from both an agronomic and playability standpoint. So let's start our hypothetical round where it all begins, excluding the practice tee, at the practice green.

### PRACTICE PUTTING GREEN

For the sake of brevity, the normal routine of using the practice tee is not included in this discussion. However, the importance of a well-planned practice area cannot be dismissed. The *Green Section Record* article [Building a New Driving Range Tee? Super Size It!](#) provides details on the characteristics of a good warmup and practice area. While some courses do not even have a practice tee, most have a practice putting green. It is on the practice green where players can determine exactly what they will be facing that day, providing the first impression of the golf course. Therefore, in many ways the practice putting green is just as important, or more important, than the putting greens on the course.

So what is so important about the practice putting green? First, the practice putting green allows players to determine what they will be facing in regard to putting green speed. As the first step in course setup, the practice putting green needs to be no more than 6 inches slower or faster than the putting greens on the golf course. The word "consistency," discussed in the *Green Section Record* article [Putting Green Consistency](#) is a daily and not annual term. The speed of the practice putting green should mirror the speed of the regular putting greens every day. Due to the increased amount of traffic on practice putting greens, this often means less rolling and double mowing or, in some cases, even a different mowing height. There are many programs that need to be done on a daily, weekly, monthly, and annual basis, as will be noted in the putting green table found later in this article. The ultimate goal when setting up a practice green should be a freshly mowed green at the right speed with holes not display-

ing excess wear. Now, let's get the round started.

### TEES

As the hypothetical foursome completes practice putting, a critical decision must now be made: From which tees will each golfer play? In many cases, this simple decision will dictate how the course plays, in reality and perception, for each individual. In addition, selecting to play from an inappropriate set of markers will greatly impact pace of play, slowing down your group and possibly causing pace-of-play issues on the entire golf course. A major mistake for our hypothetical group would be for every golfer to play from the longest set of tees. [Move Forward, Not Back](#) should be the motto.

One highly recommended way to help players select an appropriate set of tees is to provide signage or guidance. Many golf courses have five or six teeing areas for every hole, creating different yardages so that every hole accommodates golfers of various

abilities. Providing signage or guidance on which set of tees to play based on either handicap or driving distance can help golfers select the set of tees that is appropriate for their skill level. Providing this information on the scorecard, at the driving range tee, on the first tee, or as advice from the golf professional team will help improve pace of play and make the experience more enjoyable for all golfers.

Before golfers can decide which tees to play, the maintenance staff must provide a good tee setup. There are multiple ways to make the first shot of the day an aesthetically pleasing and memorable experience, but there are only a few essential tasks that must be completed daily, weekly, monthly, and annually to provide tees that play as well as they look. Table 1 offers an example of what needs to be done to achieve the best possible teeing surfaces that golfers of all skill levels will enjoy. Stated in another way, the goal should be to maintain tees as firm, flat surfaces with healthy turf that offer playing distances that are fun and challenging for each player's ability.

## FAIRWAYS

Our hypothetical foursome now proceeds to play from the tee to the putt-



*Filling divots to the correct level can have a major impact on mowing equipment, playing conditions, and seed germination. Take time to fill each divot with the right amount of sand and to spread the mixture evenly over the damaged area.*



*While fairways may or may not be mowed daily, the removal of dew greatly enhances playing conditions and minimizes the chance of certain diseases.*

### TABLE 2 — FAIRWAYS

#### DAILY

- Remove dew through mowing, rolling, sweeping, or dragging, if desired. Frequency of dew removal often depends on several factors like environmental conditions, available labor resources, the occurrence of other maintenance operations, budget, turf growth, etc.
- Fill divots as frequently as possible. If possible, use players to assist but make sure the proper amount of divot mix is used to create a flat, smooth surface.
- Set up desired cart traffic regulations.

#### WEEKLY

- Mow based on growth rate, typically avoiding more than two days of growth between mowings during the growing season. Many courses mow a minimum of three times weekly during the peak growing season.
- Mow at a height that is appropriate for your average player, usually in the 0.500- to 0.625-inch range.

#### MONTHLY

- Use growth regulation to reduce mowing frequency and clippings.
- Use wetting agents to reduce overall water use.
- Topdress in conjunction with solid-tine aeration using 0.5-inch diameter tines or smaller, if budget allows.
- Fertilize on a light and frequent basis in conjunction with growth regulation. Avoid using granular fertilizers along the edges of cool-season fairways and warm-season fairways during spring and summer, respectively.

#### ANNUALLY

- Aerate using hollow or solid tines or slicers once or twice annually. Can include deep-tine aeration.
- Deep vertical mowing one or two times annually, if thatch issues exist.

### TABLE 3 — ROUGHS

#### DAILY

- Generally, there is no daily setup routine for roughs.
- Bunkers should be raked or at least checked. Raking options include full raking, raking the bottoms only, or spot raking to remove animal tracks or repair areas impacted by play.
- Bunker rakes should be placed in desired locations before play.

#### WEEKLY

- Mow based on growth rate, generally avoiding more than three days of growth between mowings during periods of peak growth, depending on the weather.
- Mow a minimum of two times weekly, depending on the weather, focusing on areas that receive the most play.
- Mow at a height that is appropriate for the average player at your course. Usually, rough maintained at two inches or less will improve pace of play.

#### MONTHLY

- Avoid fertilizer applications during periods of rapid growth, especially near fairway edges.
- Minimize overall fertilizer use while using micronutrients for color, if needed.
- Trim tree limbs as needed to provide playable conditions.

#### ANNUALLY

- Aeration using hollow or solid tines once annually. Can include deep-tine aeration. Focus on heavily used areas.
- Weed control in areas that receive regular play. Focus on controlling weeds that make it difficult to find a white golf ball, like English daisy.
- Trim limbs high enough to allow all players a chance to find their golf balls and hit recovery shots to an area that will allow for a full swing. This will significantly improve pace of play.
- Address tree roots that can reduce turf quality and cause potential injury to players and equipment.



*Deep rough too close to playing areas and any rough that increases the time to search for wayward shots negatively impact pace of play.*

ing green via either the fairway or rough. For those fortunate to find the fairway, daily setup may or may not include mowing. Table 2 details all of the daily, weekly, monthly, and annual programs that are recommended to achieve the goal of good fairways — firm playing surfaces that allow some ball roll and a decent ball lie as a reward for hitting the ball in the intended area.

#### ROUGHS

While the intended target — the fairway — deservedly receives more attention than the rough, a majority of shots hit by all players end up in the rough. However, as with the fairways, players cannot assume the roughs will be mowed the day they play. Since roughs often include trees, even more punishment can be doled out by hitting an errant shot, possibly having a major impact on pace of play. Table 3 details all of the weekly, monthly, and annual programs generally practiced to maintain roughs. The goal of maintaining roughs should be to provide healthy turf that is maintained at a playable height for all skill levels so as to have

minimal negative impact on pace of play. Trees found in these areas should have limbs trimmed high enough for all players to identify their golf balls and hit recovery shots into an area where a full swing is possible.

## GREEN SURROUNDS

While many believe that setting up a golf course for daily play only focuses on tees and greens, in reality some of the highest-priority areas on the golf course are the green surrounds. Think about it — a very low percentage of players reach the green in regulation, meaning many approach shots will be short, long, left, or right. The components of the green surrounds — often the approach, collar, chipping areas, bunkers, and rough — are found within a 10- to 20-yard radius around the green and often demand daily care. At the least, the components of green surrounds typically need more labor-intensive management practices than fairways and roughs. Our intrepid players have now found themselves in each of these areas — one in a bunker, one in the greenside rough, one in a chipping area, and one on the approach. To provide the players with the best playing conditions in each of these areas, refer to Table 4.

It is critically important to understand the importance of well-maintained green surrounds. The “touch” required around putting greens is different than a full swing, thus ball lie and good turf health are critical. Try to achieve the following goals when maintaining the features commonly found in green surround areas:

**Bunkers** — While bunkers are hazards, the primary daily goal should be to provide a defined hazard with proper sand depth that is smooth before the first player arrives. Once bunkers are set up, it is the players’ responsibility to restore bunker playing conditions if damage is incurred during normal play. Bad raking by players, poor rake placement, or landing in an area of the hazard that makes it extremely difficult to play a shot should not reflect on the maintenance staff as described in the USGA *Green Section Record* article [Consistency in Bunkers . . . What Does it Mean?](#)



*The selection and maintenance of trees greatly impacts pace of play. Spruce trees are notorious for surface roots and sharp, dense needles that can prevent golf balls from falling to the ground. If lower limbs are not removed, players may be injured trying to retrieve balls or they may be forced to take an unplayable lie.*



*Low-hanging limbs severely impact a player’s ability to recover from under a tree, slowing pace of play.*



*Maintaining tall, overly penal rough next to putting greens increases course difficulty and slows pace of play.*



For ideal playability, approaches should be maintained similarly to putting greens in regard to surface firmness.

The Green Section's digital collection, [Managing Bunkers](#), provides an extensive collection of articles and videos regarding bunker management free of charge.

**Collars** — The daily goal for collars should be to maintain a mowing height that accommodates a variety of shots and the use of a putter, hybrid, iron, or wedge. Collars should be as smooth as possible and just as firm as the putting greens. Finally, collar dams (as discussed in the USGA *Green Section Record* article [Is It Time for A Facelift?](#)) should be avoided or addressed on an annual basis.

**Approaches/Chipping Areas** — Mowing height can be the same or slightly higher than the collars. However, the primary goal should be to provide similar firmness as the collar and putting green to provide all players with the option of hitting a “bump-and-run” shot onto the putting green. More detail regarding managing approaches can be found in the *Green Section Record* articles [Approaches: A Key Part of the Golf Course](#) and [Don't Make Your Greens Unapproachable!](#)

#### TABLE 4 — GREEN SURROUNDS

<b>DAILY</b>	<ul style="list-style-type: none"> <li>● Bunkers should be raked or checked daily. Either full rake the bunkers, only rake the bottoms of bunkers, or spot rake bunkers to repair damage from play or animals.</li> <li>● Rakes should be placed in desired locations before play.</li> </ul>
<b>WEEKLY</b>	<ul style="list-style-type: none"> <li>● Collars, chipping areas, and approaches often are mowed at a lower mowing height than fairways — usually around 0.375 inch — at least three to four times weekly.</li> <li>● Green surround roughs should be mowed slightly lower than other rough. A mowing height of 1.5 inch or less around greens will improve pace of play.</li> <li>● Test bunker sand depth and adjust where necessary. If it is not possible to check all the bunkers, a good option is to check the depth of those most prone to erosion.</li> </ul>
<b>MONTHLY</b>	<ul style="list-style-type: none"> <li>● Topdress approaches, collars, and chipping areas at a rate slightly higher than the rate used on greens.</li> <li>● Use wetting agents to reduce overall water use.</li> <li>● Use growth regulation to reduce mowing frequency in all areas.</li> <li>● Fertilize on a light and frequent basis when growth regulation is completed.</li> <li>● Maintain bunker definition through regular edging methods.</li> </ul>
<b>ANNUALLY</b>	<ul style="list-style-type: none"> <li>● Aerate approaches, collars, and chipping areas using 0.625-inch diameter or larger hollow tines twice annually. Follow aeration with topdressing to fill the aeration holes.</li> <li>● Aerate and topdress traffic areas at least twice annually.</li> <li>● Overseed or use turf colorants as needed.</li> <li>● Minimize or correct collar dams using various methods.</li> <li>● Add bunker sand as needed.</li> </ul>

## TABLE 5 — PUTTING GREENS

### DAILY

- Holes should be changed daily or based on the total amount of play.
- Hole locations should be appropriate for the slope and speed of the putting greens.
- A sharp hole changer should always be used to create well-defined holes.
- Holes should be placed no less than four paces — about 12 feet — from the edge of a putting green and set so the flagstick stands straight (as if set with a plumb bob).
- Greens should be maintained at a reasonable speed so as to provide fair putts for the average golfer and have minimal negative impact on pace of play.
- Green speed should be set for all skill levels and not a select few.
- Putting green smoothness should be the primary goal, not green speed.
- Proper irrigation greatly impacts firmness and smoothness. Use portable moisture-sensing devices to help make irrigation decisions.
- Daily mowing, rolling, or both help create smooth putting greens with desired pace.

### WEEKLY

- Brushing, grooming, and vertical mowing to improve upright growth.
- Growth regulation, typically at least every two weeks or based on growing degree days.

### MONTHLY

- Light and frequent fertilization to control growth rate every seven to 14 days.
- Apply wetting agents to minimize water use.
- Topdress at least once every two to four weeks based on turf growth.
- Venting aeration using 0.25-inch diameter or smaller tines in conjunction with topdressing.

### ANNUALLY

- Aeration using hollow or solid tines should be conducted in the spring and fall for cool-season turfgrasses or during the summer months for warm-season turfgrasses.
- Tree trimming and/or removal must be conducted to create good growing conditions.



Regular sand topdressing to dilute surface organic matter is required to produce smooth, firm putting surfaces. When putting surfaces become too soft, player footprints can cause a “volcano” around the hole that often is blamed on the maintenance staff. Note the gap between the putting surface and the flagstick a few inches away from the hole.

### PUTTING GREENS

Our hypothetical group has finally reached the putting green, where the most important part of golf course setup occurs. In reality, the person responsible for setting hole locations has the greatest impact on how a golf course plays ([The Hole Was Located Where?](#)). Make a major mistake when setting hole locations and you will hear about it; make more than one mistake

and pace of play will be severely impacted. However, setting hole locations is not the only important task to ensure proper setup on putting greens. The putting surface must be prepared with a properly set up mower, a roller, or sometimes both. Also, it is important to remember that the average male player at your course will be much closer to bogey than scratch. At the same time, the average female player

will be closer to double bogey than bogey. In other words, the majority of your players, in most cases, are not capable of dealing with championship conditions. Rather, the majority of golfers will enjoy playing conditions that are fun, yet challenging, and playable. With this in mind, Table 5 shows the maintenance activities needed to create desirable putting green conditions.

There is no question that putting green conditioning has the greatest impact on the golfing experience. Therefore, putting greens deserve the most attention during daily course setup. With the putting green table in mind, the daily goals for putting greens should be:

- Make the putting greens as smooth as possible with enough firmness to not impact ball roll.
- Use great care when setting hole locations. Hole locations should be set in locations that are appropriate given green speed and the slope around the hole ([Putting Green Speed, Slopes, and Non-Conforming Hole Locations](#)). Follow the recommendations in the *Rules of Golf* regarding setting holes — [Requirements for Hole Location on the Putting Green](#).
- Always use a sharp mower to provide the best quality of cut.
- Know your players, special events, and days when certain groups play and set up the putting greens accordingly.

## SUMMARY

Golf course setup goes far beyond simply moving tee markers, filling ball washers, and setting hole locations. As you can see, the maintenance staff spends a considerable amount of time accomplishing multiple tasks to set up the course before you arrive. Now it is time to enjoy another 17 holes set up for your challenge and fun.

[LARRY GILHULY](#) and [PAT O'BRIEN](#) have had the pleasure of observing, assisting, and experiencing course setup in their combined 68 years of service to the game with the USGA Green Section.



*Failure to frequently move hole locations will lead to severe turf damage from excess traffic, especially during the winter months.*



*Consistently applying light amounts of sand whenever the putting greens are growing produces the best combination of surface smoothness and plant health.*

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