

Turf Management in a Battle Zone

PRACTICE RANGES

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Known best for designing a number of this country's great golf courses, Donald Ross also is credited with the invention of the lesson and practice tee. Prior to this innovation, all practice except putting was done on the course, and lessons were playing lessons. According to the late Herb Graffis, Donald Ross first incorporated a lesson and practice tee in one of his course designs in 1914. It was also the opinion of Mr. Graffis that this innovation played an important role in the worldwide growth of the game.

The popularity of golf has certainly grown, and according to the National Golf Foundation, there were 24.5 million golfers in the United States in 1993. Last year, two million people played the game for the first time, and this has been a steady trend for the past six years. This constant growth in numbers leads to more and more golfers who are warming up before their rounds. The condition of the practice areas, therefore, can have a big impact on the perception of the overall quality of a golf facility. For golfers who are actively pursuing improvement of their game and want a "total" practice experience, or for individuals who do not have time for a round of golf but want to come to the course and hit balls for a while, the condition of the practice facility is even more important. Quite simply, practice facilities can be an asset or a detraction to an operation.

Particularly with daily fee and municipal operations, a practice facility can be another revenue source. At North Palm Beach Country Club, which is operated by the Village of North Palm Beach, Florida, a net income of approximately \$55,000 was realized in 1993. Although this is a year-round operation, cutting this figure in half for areas of the country with shorter operating seasons still leaves a tidy sum.

Even though there are examples of well-designed and maintained practice facilities across the country, they tend to be the exception and not the rule. During the vast majority of Turf Advisory Service visits conducted here in Florida, a stop is made at the driving range, and options are discussed for improving the level of quality maintained. In discussing the subject of practice facilities with other USGA staff agronomists, this scene is repeated regularly across the country. Problems associated with maintaining a good quality practice facility are not new. A review of the information available on this subject from the Turfgrass Information File (TGIF) at Michigan State University reveals that inadequate and poorly maintained practice

facilities have been an area of frustration both for course superintendents and golfers over the years.

Following is a discussion of practice facility design considerations. Then, basic setup and maintenance practices are reviewed, along with a few options for dealing with problem situations.

Facility Design Considerations

To design a good practice facility, take best advantage of the site. The following recommendations reflect the ideal. One or more site conditions may dictate that you settle for less than the ideal.

Regardless of topography, property configuration, soil conditions and existing vegetation, the ideal is a north-south orientation and into the prevailing wind. East-west/west-east tees are least desirable, as users will have a difficult time seeing the ball in the early morning or late afternoon. Hitting with the wind undermines the perception of how far one can really hit the ball and does not allow the serious player to practice the trickier "into the wind" shots. For the same reason, uphill practice is preferable for sites with modest to severe elevation changes. On such sites, though, it may be possible to arrange for the player to hit short to mid-irons downhill into a valley, or to targets at the same elevation as the tee, and uphill for long irons and woods.

Property configuration will dictate more than any other feature the size of both tee and target areas. The ultimate width of the tee surface will be determined by the breadth of the property where the tee is to be placed, less any width needed for cut or fill slopes. Anticipate 8 to 10 feet of width per station, e.g., three foursomes at 10 feet each suggests a tee surface 120 feet wide. A depth of 5 to 10 feet per daily hitting line change needs to be available, with a minimum of a 4- to 6-week rotation. With a 5-to 10-foot-deep hitting line and a 28-day rotation, 140 to 280 feet of depth on the tee surface is needed. If the tee is shaped with a slight curve (half an ellipse), a few additional spaces may be obtained. This crescent shape encourages end-users to align themselves towards the targets and, subsequently, fewer balls will be hit outside the confines of the facility.

Some sites are of sufficient length to allow tees at each end of the range. Three hundred yards from the front of the

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primary tee to that of the secondary tee is currently recommended. The hitting line on the tees should be adjusted at the same time so that as one line is forward, the other is back to maximize the distance between the two. Mention should be made that longer ranges are necessary where the player is hitting with continuous strong prevailing winds or at higher elevations, as the less-dense air allows golf balls to travel farther.

Targets have evolved to greens, some with bunkers. Positioning these target greens will depend, to some extent, on the depth of the tee(s), as the distance may vary as much as 80 yards. However, locating five targets so that short, mid, and long irons and lofted and straight-faced woods each can be used by the skilled and less-skilled players from varied hitting lines would be appropriate. Vertical plaques for easy viewing can be placed on the tees according to laser-measured distances.

Critical to tee design is its construction. Proper construction requires adequate drainage - surface and sub-surface. Loose, sandy soils on flat ground can be "pushed up," leveled and seeded or sprigged. Tight, clayey soils may require sub-surface drainage (herringbone style similar to that below putting greens). An easier method is to shape a "V-type subgrade at 1 1/2-2% slope with one drainpipe set in washed pea gravel in the bottom of the "V." The outfall can be into an unused area or into a large drainpipe. A 1% to 2% fall in the "V" should be sufficient for water to move through the pipe. Two to four inches of pea gravel should then be installed over the subgrade with sufficient (6 to 8 inches) high-sand root zone mix over that to allow aeration. A steeper subgrade will obviate the use of pea gravel and only slightly increase the amount of mix required. A flat surface then can be graded. On soils and terrain not requiring sub-surface drainage, a pitch of 1% from front right to back left is preferred. Tees benched into a hillside may be canted from back to front at 1% to prevent view obstruction, especially if an exceptionally deep tee is being built. Regardless of the direction of pitch, a benched-in tee favors use of drain tile and gravel at the back and/or side of the tee(s) to prevent excess water crossing the tee.

Ready access to the tee, especially if wide and deep, is essential. Golf cart access and staging behind the tee and an easily negotiated slope from cart path to tee surface are desirable. A more controlled access will be seen at resort and daily-fee operations.

Despite the varied dimensions of a practice facility (150 to 600 feet wide and 900 to 1500 feet long), the target on a typical, rectangular range should be center and left of center, particularly for the long-yardage targets, to accommodate the slice tendency of the average player. The greens should be raised slightly and shaped so as to be viewed and to accept shots from tees at each end. The secondary tee is often used for clinics, teaching, and by those who practice seriously.

Target greens at some public and resort facilities are raised enough to serve as a shield for set-in, ground-level lighting, which can be used instead of, or as a supplement to, pole lighting. Obviously, a tee at each end is not a good idea in this situation. Practice putting greens, chipping greens and bunkers are frequently being installed as part of new or upgraded facilities.

Practice putting greens planted with the same type grass and built and contoured in the same manner as their golf course counterparts, should be a minimum of 10,000 square feet and linear, if possible, to accommodate more people without "cross-over" putting. Prime positioning is behind the practice tee or near the first tee.

Practice bunkers and chipping greens preferably are located left of the range tee. A linear chipping green can be positioned so that those hitting chip or bunker shots are not aimed towards others on the tee. One or two bunkers can be built to simulate the kinds of shots expected on the course.

The practice fairway bunker may be an extension of the greenside bunker, but is preferably its own entity. It should be shallow enough to replicate what might be found on the course and wide enough to handle two or three players. Construction and sand should be the same as is found on the course.

Although the preferred perimeter screen is some kind of tall, dense evergreen tree (varies by climate), fence or netting may be required, depending on the topography, acreage, and adjacent land use. It is possible to effectively camouflage nets or fences with landscape plantings. Screening brings us back to the initial design consideration - solar orientation. Too much shade on the tee (especially in the morning) will mean a consistently inferior surface. Thus, to screen the practice tee, hedges and trees should be planted behind the cart path, not between tee and cart path.

Basic Setup and Maintenance

Regardless of the type of turf on the tee, controlling usage is vital in winning the battle of maintaining a practice facility in good condition. In addition to clearly defining the hitting area, the hitting line must be regularly moved so that recovery from damage can occur. At some courses, the golf professional staff handles setup of the practice tee, but it would be logical to include this with the daily course setup process. After changing the tee marker and hole locations on the course, the individuals assigned to this task can take care of the range tee before moving on to their next job for the day.

A common and successful practice tee setup is defining the hitting line with a rope securely anchored to the ground. A 7-to 10-foot-deep hitting line is suggested, and the individual hitting stations should be delineated by 2- x4-inch boards, bag stands, or other fixed markers spaced 8 to 10 feet apart. The hitting line should be progressively moved, starting at the front of the practice tee and working back or vice versa. When heavy usage and damage are not experi-

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enced, a good option for increasing the usable area is simply to shift the individual hitting stations over to the left or right before rotating the hitting line back. Not making a complete 7-to 10-foot hitting line change can help in increasing the rotation and recovery time available. It should be noted that the use of two parallel ropes for defining the hitting line is no longer being recommended because of injury and liability problems that have occurred from golfers catching the forward rope with their clubs.

Although the innovation of the lesson and practice tee has doubtlessly contributed to the growth of the game, the advent of annual range use programs has resulted in more problems with maintaining a good quality turf cover. With a one-time annual fee, the number of practice balls hit by an individual or family goes up dramatically. Also, a common amenity at many private clubs in Florida is putting out large baskets of practice balls on the tee for the members' use. As long as the practice balls are readily available, there are some golfers who will continue to hit them. A review of the tee surface may suggest that controlled use be a part of an annual range program. This is particularly true when tee size is limited. Experience suggests that simply going to the use of bags or small buckets of balls and providing only a couple of those at a time can significantly reduce the amount of time most of the golfers spend on the practice tee. This, in turn, limits divot damage.

Once the hitting line has been moved, an effort must be made to promote rapid recovery of damaged areas. During periods of peak play, the hitting line needs to be moved every day or every second or third day. With bermudagrass practice tees, simply filling in the divots with topdressing material and making a broadcast application of a complete fertilizer is usually adequate during the summer growing season. Supplying the equivalent of 0.5 to 1.0 pounds of actual

nitrogen per 1,000 square feet every 7 to 14 days is suggested. Furthermore, the use of sand plus peat or some other organic material, such as processed sewage sludge, is preferable to the use of a straight sand topdressing on most practice tees.

In discussing practice facilities with other Green Section agronomists, it was noted that although there are a few courses that have bentgrass tees, the dominant turf cover used in cool-season turf areas is perennial ryegrass. To produce quality bentgrass practice tees, the combination of

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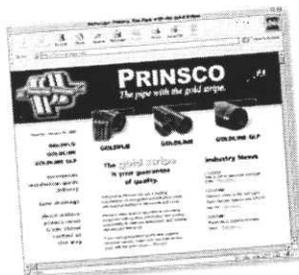
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very low usage and an extremely large area must exist. The fast establishment and durability of the ryegrasses makes this species the best suited turf for practice tees throughout the northern portions of the country. In a few areas, combinations of perennial ryegrass and some of the newer Kentucky bluegrasses are being used. The objective here is to take advantage of the spreading growth habit of the bluegrasses. It has also been a standard practice across the southern areas of the country to overseed bermudagrass-based tees with perennial ryes for the winter months.

However, due to the bunch-type growth habit of the ryegrasses, reseeding of damaged areas must be routinely practiced to re-establish the turf. There are numerous methods of reseeding, but a common denominator with successful programs is performing this work immediately after moving the hitting line. Some use a combination of pre-germinated seed and topdressing, whereas others apply the materials separately to fill in the damaged areas. Depending on the severity of damage, broadcast or spot treatment applications can be used, and then the materials can be dragged in to produce a smooth surface. The application of a starter-type fertilizer also is suggested. Furthermore, supplying 1 pound of actual nitrogen per 1,000 square feet per month is recommended as a basic management practice for perennial ryegrass practice tees. Ideally, a period of 4 to 5 weeks needs to be allowed for the turf to reestablish before the area is put back into use.

With respect to the management of practice putting/chipping greens and bunkers, these areas receive more concentrated use than the corresponding areas on the course. Logically, then, maintenance inputs must be higher. However, since conditions are variable across the country, standardized recommendations are not possible. An important situation not to overlook is the additional buildup of sand on turf areas adjacent to practice bunkers. For these locations, annual or even biannual removal of sand accumulations may be required to keep the turf in acceptable condition. The practice range fairway should be managed just as the rest of the fairways on the course though it rarely happens this way.

Options for Problem Situations

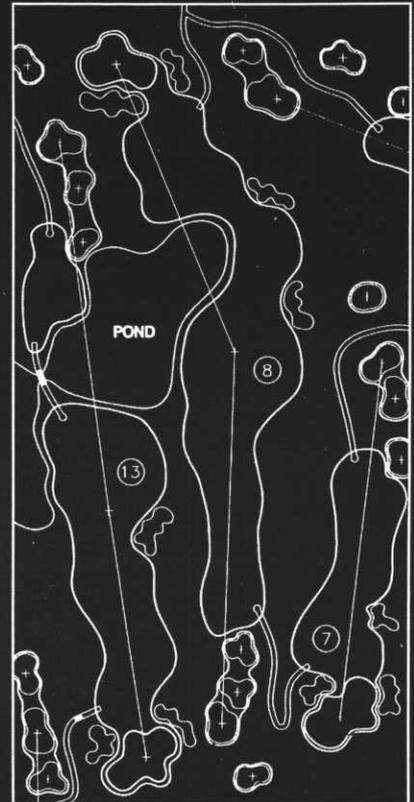
Boca West Country Club in Boca Raton, Florida, has been faced with an ongoing battle in trying to maintain the level of practice tee quality desired. This is especially true during the winter season when 70% to 80% of their play occurs. Boca West is a very large development complex with four courses for its 2,800 golfing members to use, and its practice range is in almost constant use. Last year it was calculated that well over 3 million golf balls were hit!

At Boca West, there is only 72,000 square feet of teeing area. Even with adherence to a continuous grow-in fertilization program and daily reseeding during the winter months, Billy Wright, Director of Grounds, and his staff are in a no-win situation. To aid in this battle, a permanent hitting line with an artificial turf cover was installed a couple of years ago along the back of the south teeing area. Different surface materials have been tried, and it seems that the best setup is individual hitting mats that can be replaced easily when they wear out. The use of artificial turf mats has definitely helped at Boca West by providing more time for the turf to recover and some reduction in divot damage.

Although Boca West is an extreme case, many other clubs and courses would benefit from the installation of a permanent hitting line on their practice tees. Over the years, improvements in both appearance and play charac-

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teristics have been made in artificial turf materials. Calling them all-weather practice tees increases the acceptance of artificial turf tees.

There are times when the members should be required to use these tees, but a policy stating that all outside groups and outings are required to use the all-weather teeing areas makes them more palatable at private clubs. All-weather tees typically are placed along the back of the practice tee, but locating them in the front should be considered. With this arrangement, the maintenance staff can work on the rest of the practice tee while the facility is kept open.

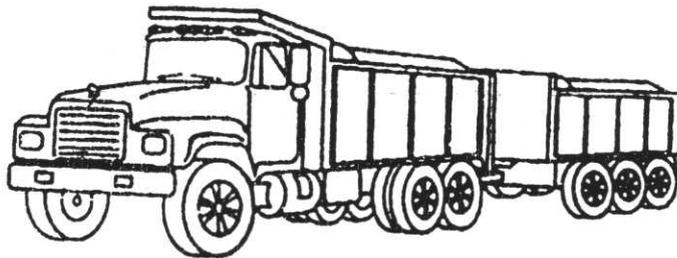
Another common problem on practice tees is achieving good turf re-establishment. To insure good initial seed germination and establishment of reseeded areas, frequent supplemental irrigation applications are required for two to three weeks. Obviously, this can be a problem when the practice tee is in use. A good solution is the installation of rows of small pop-up mist or residential type irrigation

heads across the practice tee.

Finally, to improve the depth perception and aesthetic character of target greens, bunkering is a desirable design practice. Yet, traditional sand bunkers require a lot of maintenance, and the practice balls must be picked up by hand from in and around these areas. A solution that has worked quite well in Florida is to replace the sand with a white crushed rock material. When the rock is firmly packed into place, the ball pickers can drive right over the bunker and the only other maintenance required is periodic edging and spot weed control.

We fully realize that at some courses, space and/or budget limitations restrict the type and quality of practice facilities that can be provided. Yet continuing to ignore the problem will not make it go away. Only by giving the practice facility a higher priority will it be possible to win the battle and meet the expectations of the golfers.

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