FAIRWAYS AND THE ROUGH . . .

the ball or hitting behind it.

Rolling fairways which cause the player to make adjustments in his stance may affect a player's choice of club or the way he plays a shot. Such uneven stances are, however, a legitimate part of the game and the player should learn to make the necessary adjustments when playing on sloping terrain.

Rain, wind, or a combination of these factors cause the golfer to compensate. Rain and the resultant soft ground cuts down on the roll of the ball on fairways and the "heavy" moist air reduces distance in flight. Ordinarily

shots played from wet grass cannot be controlled so well. Wet grass is more likely to stick to the clubface. On the other hand, shots played to the green usually stop better.

Wind causes the player to attempt low shots which will be less affected. A low, controlled shot is very difficult to play from high grass. The most preferred fairway turf then is one which will support the ball so that it may be struck cleanly. The ball can be better controlled under all conditions. Tall grass creates uncertainty in the mind of the golfer and small errors in his swing are magnified.

IN THE ROUGH

DR. RAY KEEN, Professor of Horticulture, Kansas State University, and DR. MARVIN H. FERGUSON, Mid-Continent Director, USGA Green Section.

The rough is an area that is frequenly neglected in golf course maintenance. The golfer who strays into the rough expects to find something less than good golfing conditions and therefore the natural vegetation is most often used.

Despite the fact that the rough is hopefully avoided and is considered a low maintenance area, the nature of this vegetation contributes significantly to the character of the golf course. Outstanding examples are Pine Valley, Clementon, N. J., where the golfer whose ball goes in the rough may be confronted with sand, shrubby vegetation, pine trees or even swamp land; Prairie Dunes, Hutchinson, Kans., where roughs consist of dunes covered with tall native grasses, forbs and yucca; Southern Hills, Tulsa, Okla., where scattered trees exist in the roughs but where the chief problem is posed by the native bermudagrass; if it is not mowed frequently, it creates a serious handicap to the golfer.

The nature of roughs also leaves a distinct impression upon the spectator.

Who can forget Augusta National when the blossoms of azaleas and camellias color the wooded roughs? Likewise, Chet Mendenhall's introduction of trees into the roughs at Mission Hills in Kansas provides a pleasing and ever-changing background for the game.

If you agree that the rough is important to the character of a course then we should make the point that the rough deserves more attention than it receives in the matter of long-term planning. The planting of trees and shrubs can be done during the "off season" when labor and time for supervision is available. The establishment of even a few trees and shrubs each year can change the appearance of a golf course in a few years.

Whenever a club embarks upon a tree and shrub planting program, there are a few guidelines which must be followed:

1. The plants must be well enough adapted to the environment to thrive without special care. Native plants probably should comprise most of the planting.

- 2. Choose a variety of foliage types, forms, and seasonal colorations for interest and contrast.
- 3. Group the plantings in natural appearing arrangements. Avoid straight lines and geometric patterns.
- 4. Space plants so that the use of large mowing units is not precluded.
- 5. Choose shrubs that have high branching characteristics or that can have lower branches removed without destroying the natural effect. Low branching trees and shrubs interfere with maintenance and may contribute to an increase in unplayable lies.
- 6. If fruiting trees are employed, they should not be adjacent to fairways and tees where the dropping of fruit will constitute a nuisance. Trees like the sweet gum in the South and some types of eucalyptus in the West may bear seed capsules that are a hazard

to mowers.

Because the rough area frequently occupies the major part of the golf course, ways to minimize maintenance requirements are important. Growth retardants have come to be recognized as a valuable maintenance tool. Maleic hydrazide is a commonly used material for retarding vegetation near the bases of trees, along fence lines, fixed objects and ditch blanks. Used early in the season, it may substantially reduce the number of trimmings required.

Vegetation such as clover that grows so dense a foliage cover as to cause many lost balls may be eliminated by the use of selective herbicides. Where such treatments thin out large areas, native or adapted grasses may be sown. Usually light rates of seed are used so that the cover will not be too dense. In

It's "rough" beyond the green. The dense vegetation provides an excellent background for the hole.



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some cases low-growing native annual wild flowers can be planted.

In planning for the future development of rough areas two aims should be kept in mind. First, the rough should be developed as an attractive background for the golf holes. A player off his game can at least enjoy the scenery.

The second aim should be the incor-

poration of plans to make maintenance

Thoughtful consideration and planning with respect to rough maintenance problems can save many hours of labor. There is perhaps no other feature on the golf course where imagination and ingenuity can do so much to improve appearances and to minimize maintenance requirements.

GOLF COURSE IRRIGATION

ALEXANDER M. RADKO, Eastern Director, and LEE RECORD, Agronomist, USGA Green Section; and T. M. BAUMGARDNER, Landscape Architect, The Sea Island Co., Sea Island, Ga.

It has been said that an irrigation system is only as good as its designer. Never have truer words been spoken. Because each system is an individual problem, one good plan obviously is not suitable to all conditions. An irrigation system must be engineered to conditions of soil, turf, climate, topography, water facilities potential and wind direction, etc. on a specific site. A blueprint design alone is not suitable; there must be a thorough inspection of the course by a competent golf course irrigation engineer. A good deal of money is involved and once a system is installed, it is expected to last, therefore it is important to do it right the first time!

Sources of Information

Where can you go to find the necessary information to do the job right? The Superintendent, the Green Committee Chairman and his committee, the ones who generally spark the project, have numerous sources of information, as follows:

- 1. Commercial firms that specialize in irrigation equipment and employ irrigation engineers who are available upon request; most advertise in golf periodicals.
 - 2. Private irrigation engineers, inde-

pendent operators who also advertise in golf periodicals.

- 3. Golf course architects; they sometimes provide this type service or will arrange for it through local firms.
- 4. Golf course superintendents and green chairmen who served at the time their system was installed.
- 5. Articles published in periodicals such as The Golf Course Reporter, Golfdom, Club Operations, Golf Business, the USGA Green Section Record and others.
- 6. Agencies engaged in the turfgrass field. These include the Golf Course Superintendents Association of America, local Golf Course Superintendents Associations, Agricultural Experiment Stations, State Universities that are engaged in turfgrass research, the National Golf Foundation, the Sprinkler Irrigation Association, the U. S. Department of Agriculture Soil Conservation Division, and the USGA Green Section Regional offices.

Don't hesitate to explore several of these information facets—it could be dangerous to rely upon one source for all your facts.

Sources of Adequate Water

The first step in golf course irrigation study is to find an adequate sup-