# Color Variances in Turfgrasses

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"GOLF IS PLAYED on grass, not on color!" This comment is credited to Dr. Fred V. Grau, former Director of the USGA Green Section. In August, 1977, an article entitled "Green Is Not Great" appeared in *Golf Journal*, which expanded on this thesis. Walter Woods, the very capable greenkeeper of St. Andrews, in Scotland, puts it this way:

"We maintain for the golfer the fine fescues and bents in a style consistent with 400 years of history. Links maintenance becomes part history and part modern technology. We try to keep things reasonably yellow except for the green. Applying fertilizer to the greens changes the texture of the grass."

Without question, the first priority for golf dictates that grass be playable, that it be carefully tailored to the requirements of the game. All else is secondary.

Golf is unique in that courses, terrain, climate and location differ. However, the specifications best suited to the game remain constant. The turf must be maintained so that each player can use whatever skills he has to play the ball with consistency from tee to cup in the least number of strokes on every hole.

The golf course covers a large expanse. To keep it in uniform cover, season after season, is a difficult assignment. It takes tough grass to contend with diseases, insects, weeds, traffic and difficult weather while being constantly beaten with implements once described by an Oxford logic tutor as "ill-suited to the task!"

Grass is the same as other living things in this universe. Tough grass is the result of life's constant survival of the fittest battles. Coddle it and it weakens — nurture it patiently to encourage its strengths and the result will be rewarding. Carl Sandburg said it best in his poem "Grass":

"I am the grass. Let me work."

There is a happy medium somewhere between Scotland's natural yellow and what Walter Woods refers to as America's "manufactured" green, which combines aesthetics with playability to the economic and quality enhancement of golf.

Grass is a remarkable plant. It has many uses: it provides food, it insulates and protects the earth against erosion, it provides shelter for some peoples, it helps keep dust subdued, it takes carbon dioxide from the air and converts it to oxygen, it is invaluable for recreational purposes, it is aesthetically pleasing and greatly enhances any landscape. Grass is indeed one of earth's most precious commodities.

Green is a pleasant color. Color psychologists who deal in fashion design advise their clients to wear green when they feel low. Green, they say, is a healing color. We in golf have known this for some time. For years we have enjoyed therapeutic value in viewing the beautiful and quietly awesome expanse of golf course greenery. Some people believe that every well-managed golf course is one of the wonders of the world. Nature is a color panorama. It offers colors in multiple tint.

The artist attempts to capture on canvas the many shades of green which nature so freely provides. Each has his preference, whether artist or golfer. As a general rule though, Europeans have a decided preference for light green turfgrass while Americans prefer dark green. Differences in grass color are caused by several things, principally heredity. Most grasses reproduce sexually, resulting in wide genetic diversity among progeny. The fine-leaf fescues, the bentgrasses and the bermudagrasses are among the prominent golf course grasses that exhibit much genetic variance, and it is not surprising that the first commercial turfgrass nursery in the United States, established by J. B. Olcott, in Connecticut, comprised primarily fine-leaf fescues.

Kentucky bluegrasses, on the other hand, reproduce by apomixis, which insures that a high percentage of the progeny will be identical to the mother plant. Merion bluegrass is an example of the dark green color that Americans prefer. When turf is established from Merion bluegrass seed, which numbers in excess of two million seeds per pound, almost every single seedling is identical to the parent plant. *Adelphi* Kentucky bluegrass is an example of a very dark green bluegrass, *Touchdown* is judged moderately dark green, *Delta* medium green, and *Ben Sun* is considered light green.

Several other factors have a bearing on color:

**1. Light intensity** — grasses grown in shade will be lighter in color than the same grasses grown in full sunlight.

**2. Fertilizer** — grasses will take on a darker hue as the fertilizer rate increases to upper safe limits of application.

**3. Iron (ferrous sulfate)** — applications at light rates will cause grass color to darken. Repeated applications, however, are necessary to sustain the dark color. Heavier applications to safe limits will cause the turf to turn black.

**4. Water** — excess water will cause grasses to take on a washed-out or bleached look, generally causing the turf to become lighter in color than normal. Judicious irrigation will retain the normal color of each grass in the turf stand while limited water could cause the turf to turn blue-green, grey-green or tan.

**5. Temperature** will cause several variations in color. These changes occur in spring, summer, fall and winter, annually. The most dramatic changes are evident in warm-season grasses, the zoysias and bermudagrasses. When killing frosts occur, they quickly turn yellow or tan, while Washington creeping bentgrass and similar types found widely on northern golf courses become purple.

Color is important, but the premier requirement of a first-rate golf course is to develop a turf that meets the playing standards for golf. Forcing color and growth through excessive use of water and fertilizer not only is harmful to the turf, but it also detracts from the game. The long-range goal is to develop tough turf and a firm playing surface so that skill and excellence in play prevail. Isn't this what golf is all about?

*(Above) Somewhere between Scotland's pleasing yellow and America's penchant for a lush turf there has to be an acceptable natural green. From a fescue fairway of yesteryear.*

*(Left) After the first killing frosts, Washington creeping bentgrass turns purple. In spring and during the remainder of the growing season, it is green. Purple or green, it provides a superior putting surface when managed well.*

*(Below) Dormant warm-season grasses, adapted to southern and transition zone golf courses, afford an excellent lie though not always green in color during the winter months.*