

# Putting Green Turf from Seed

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A grass seed is the basic unit from which a single plant, or possibly a vast turf area is developed. Each seed carries within it a genetic pattern which determines the type of plant that it will become. Whether we choose to propagate these plants and expand the turf from seed or by vegetative means depends largely on whether or not the plant can reproduce itself in kind from seed. If the plant can be reproduced true to type from seed, or at least with a high degree of purity, then this is the way it is usually done.

By all means obtain blue tag certified seed. Contaminated or dead seed is never a bargain at any price.

Prepare a proper seedbed according to USGA specifications, and add a sufficient quantity of lime and plant nutrients to get the seed off to a good start. Now we can devote full attention to the basic fundamentals of seeding and caring for the turf until it becomes a well-established.

The very first thing to determine is how much seed is required. The projective human population explosion is minor when compared to the population explosion of grass plants brought on by extreme rates of seeding. The seeding rate of Pennncross bent can be used to make this point. Pennncross has approximately 8,000,000 seeds per pound, and quite frequently seeding rates of from two to six pounds are being used. For an initial seeding, two to three pounds per 1,000 square feet may be an acceptable maximum limit, but above this the seed is wasted. Additionally, competition between plants is actually detrimental to the establishment of turf.

There is a simple way to visualize your seeding rate. Draw a one inch square on a piece of paper and place 55 dots within the square. Since a pencil dot is about the same size or smaller than a bent seed, the 55 dots represent the amount of seed which falls into one square inch when using a seeding rate of one pound of Pennncross bentgrass per 1,000 square feet. If a 6-pound rate is used, then it can be illustrated by placing 333 dots in the square inch. You can well imagine that you are indeed wasting seed.

You may use this illustration as a common sense planting guide with any type seed, provided that you first determine the approximate

number of viable seeds per pound and the size of the seed.

Once the seeding rate has been determined, the spreader used to apply the seed must be calibrated for this amount. The best method for seeding a new green is to have the surface loose and friable, divide the seed into two equal amounts and sow each half in opposite directions across the green.

Following seeding the seed may be lightly topdressed, and then rolled with a light roller just heavy enough to firm up the surface and assure that the seed is in firm contact with the soil. If rolling is omitted, or topdressing is too deep, the number of seed which establish themselves will be drastically reduced.

A roller of 75 to 150 pounds is sufficiently heavy to firm the seed in place, and the correct amount of topdressing may be determined by using simple mathematics.

Generally, seed should never be covered by a layer of soil more than two times the diameter of the seed. For bentgrass, this is less than 1/16 of an inch. Of course the nature of the material covering the seed, whether sand or a heavy clay, makes a great difference. Generally, one cubic yard of friable topdressing distributed over a 5,000-square-foot surface would provide about the right depth. If you want to figure this mathematically, 37.04 cubic yards of topsoil will cover 1,000 square feet to a depth of one foot; therefore, 3.09 cubic yards will cover 1,000 square feet to a depth of one inch and .19 or .20 of a cubic yard is needed for a depth of 1/16 of an inch. If you are able to distribute this amount of topsoil uniformly, you may safely apply one cubic yard. It should be emphasized, however, that if distribution methods are not uniform, the amount should be reduced or omitted completely.

Now the seed is planted and the only thing remaining until germination is complete is to provide adequate moisture and hope that nature supplies some sunlight and favorable temperatures. Of course, if the weather forecast is unfavorable, there are means to assist nature.

Adequate but not excessive moisture is essential. Too much moisture excludes oxygen and stimulates anaerobic bacteria which cause seed to rot. Inadequate moisture causes the

seed to die just as surely. The secret is to keep the root zone and the area just below moist, and gradually increase the quantity of moisture applied at any one time as the root system develops. Never puddle the surface.

To aid in moisture retention, mulches are available, such as straw, tobacco netting, burlap, and a number of specialized commercial preparations. These commercial mulches may hold the seed in place, conserve moisture and increase the temperature of the micro-climate surrounding the seedlings. Clear polyethylene is a good

example of a protective cover or a mulch which serves all three purposes.

Under optimum conditions, the bentgrass seeds germinate in 96 to 168 hours (four to seven days), but it is by no means ready for traffic. In fact, seedling turf should be protected from all traffic for three to six weeks minimum depending on the care it is given and the climate.

Briefly, this is the procedure for planting a putting green. Following this we should begin to manage the green to bring it into play.

## MAINTENANCE OF GREENS

# Cultivation, and Control of Weeds, Insects, Disease

by EDWARD ROBERTS, JR., Golf Course Superintendent, Canoe Brook Country Club, Summit, N.J.

### Cultivation

Cultivation is a very broad subject, which includes the following practices — aerification, spiking, slicing and forking. We know that they are all cultivation practices because they tend to raise and foster the growth of the plant by tillage.

I rely almost entirely on the aeration equipment. Now I realize that from a player's viewpoint this is probably the most detested piece of equipment that goes out on the golf course.

Nevertheless, this is my way of producing better root development: by permitting air and moisture to penetrate the compacted zone.

I use the aerator in the spring and again in the late summer and try to plan the work for times of the least amount of play. This becomes more difficult each year with increased play.

The punching machine with hollow tines is preferred over the open spoons. I am aware of the argument that the open spoon machine creates more cultivating action, but I am also aware of the responsibilities of my position. I

*Spiking operation prior to seeding a green.*

