

from dark to light colors are found in the peat material nearest the surface of a deposit. The differences in color are much less distinct in areas which have been subjected to drainage and in peat deposits of relatively greater age. The colors stand out sharply and are more strongly contrasted in deposits that are of recent origin or are water-logged and in which the active agents remove oxygen from the organic material."

### QUESTIONS AND ANSWERS

All questions sent to the Green Section will be answered in a letter to the writer as promptly as possible. The more interesting of these questions, with concise answers, will appear in this column. If your experience leads you to disagree with any answer here given it is your privilege and duty to write to the Green Section. While most of the answers are of general application, it must be borne in mind that each recommendation is intended specifically for the locality designated at the end of the question.

**Preparing putting green beds for spring planting.**—The beds for our greens are now (November) plowed. What time in spring is best to start planting? Will it help to apply fertilizer in November? Our soil is black and heavy. (Vermont)

**ANSWER.**—Late summer or fall is the best time to plant putting greens. Frequently there is considerable trouble from weeds in connection with spring planting. For that reason you should apply fertilizer just previously to planting so that the seed or stolons may get a vigorous start and thus be able to compete better with the weeds. Since your soil is heavy it would be well to apply lime during winter, broadcasting it at the rate of 50 to 100 pounds to 1,000 square feet. If you can obtain some coarse sand it would also be well to disk that in during winter. Do not work the soil until it is free from moisture in the spring, and then apply 50 pounds of some good organic nitrogen carrier to each 1,000 square feet, raking it into the soil just before planting. Pulverized poultry manure, activated sludge, and bone meal are good fertilizers to use at the time of construction.

**Injurious layers resulting from top-dressing with pure materials.**—In planting our putting greens with stolons of the Washington strain of creeping bent we covered the stolons with about  $\frac{1}{2}$  inch of good soil, and when they began to come through the soil we covered them with  $\frac{1}{4}$  inch of sharp sand. Is this a sufficient covering of sand? (Indiana.)

**ANSWER.**—The quantity of sand you have applied is too much for one application. Layers of pure sand or pure organic materials like peat and muck on putting greens are liable to cause injury in after years. In your further use of sand for top-dressing it should be mixed with sufficient soil to make a material having the consistency of a sandy loam.

**Seed guarantees.**—Our sample of South German mixed bent seed which you reported showed a purity of 80 per cent and a germination of  $67\frac{1}{2}$  per cent was from a lot which the seller guaranteed to be 90 per cent pure and to germinate 90 per cent. Do you consider that under the circumstances the seller could be asked to redeem this seed? (Ohio)

**ANSWER.**—It would seem that the seller of the seed in question simply guessed at its purity and germination, as it is extremely exceptional when the percentages of purity and germination of mixed bent seed are equal and when either purity or germination is 90. The average purity of lots of mixed bent seed is about 80 per cent, but a germination of  $67\frac{1}{2}$  per cent is somewhat low. On the whole, your sample is not much below the average. It does not contain much redtop. If a sample of German mixed bent seed should contain more than a small percentage of redtop, the redtop would be considered an impurity. It is a poor practice for companies to guess at the purity and germination of seed in making a guarantee, and we believe the company from which you purchased the seed would be willing to make an adjustment. Companies should either have their seed analyzed or else not make a point of high purity and germination of the seed. Your dealer, by guaranteeing 90 per cent purity and 90 per cent germination, is indicating that the seed is of very high quality, whereas it is found to be only ordinary.

**Cocoos bent as compared with Washington bent.**—What advantages, if any, has Cocoos bent over Washington bent? Is it true, as some claim, that Cocoos bent requires less water than other bents and is less liable to be injured by brownpatch? (Missouri)

**ANSWER.**—Cocoos is the trade name for seaside creeping bent grown in Oregon. It can sometimes be purchased more economically as seaside bent than by the trade name. Seed of Washington creeping bent is not on the market, but nursery stock may be purchased. The nursery stock is composed of vegetative material, or stolons, which are chopped up and planted the same as seed, except that the chopped stolons must be topdressed to a depth of  $\frac{1}{3}$  inch. Stolon planting is more expensive than planting by seed. There is not much difference in the winter requirements of seaside creeping bent and Washington creeping bent, nor is there much difference between the two in drought resistance. Washington creeping bent is more susceptible to dollarspot than is seaside creeping bent, but is more resistant to brownpatch. With either seaside creeping bent or Washington creeping bent you would have to use a fungicide to control fungus diseases during the summer months, and there would be very little in favor of either of these strains of creeping bent as far as resistance to both of these diseases is concerned.

**Growing putting turf in greenhouse.**—Will grass grow under glass thicker or less thick than in the open? How low a temperature would be sufficient to grow grass in a greenhouse satisfactorily for putting turf? (Illinois.)

**ANSWER.**—Grass grown in a greenhouse produces a much thinner and poorer turf than that grown outdoors. A temperature of 40 to 50 degrees would be sufficient to grow putting turf in a greenhouse.



**Let us not pray for a light burden,  
but a strong back.  
—Theodore Roosevelt.**

