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Scott's Seed is the choice of more than one-fourth of all the golf clubs in the country. It is carefully selected and thoroughly cleaned. It is outstandingly free from weeds.

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*Wouldn't it be a good idea to ask for prices?  
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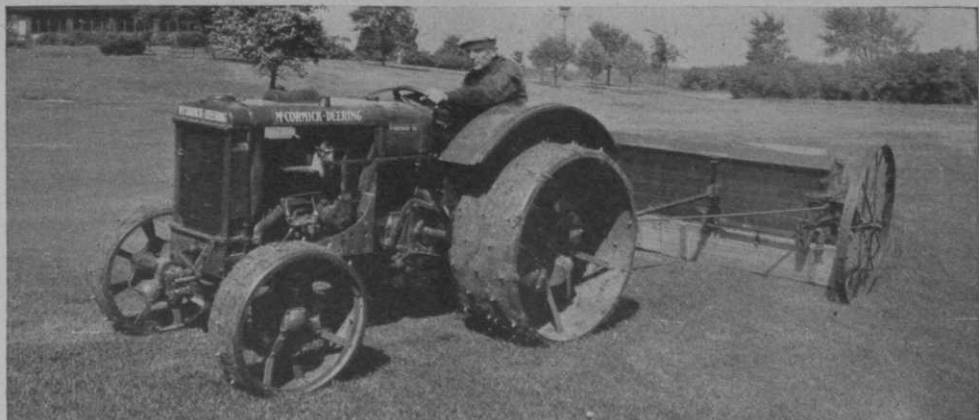
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*—the greenkeepers' health diet  
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Brings in thicker,  
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the following spring.

**ONLY THE  
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KENTUCKY BLUE GRASS, RECLEANED RED TOP,  
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GREENS AND ROUGH.

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ATTRACTS PLAY**

*These fertilizers develop vigorous turf.*

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AMMONIUM SULPHATE, NITRATE OF SODA,  
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BROWN PATCH**

*Keep your 'ounce of prevention' ever handy.*

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SPIKERS, DISCERS, SPREADERS, SEEDERS, SOD  
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 FUNGOL on Your Own Greens!  
 The Test Will Pay You Well**

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The dependability of FUNGOL for prevention and control of Large and Small Brown Patch is shown by the annual increase in its favor by Clubs everywhere.

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Your Fungicide dollars will go farther by using FUNGOL because of its very large covering capacity. Each pound treats not less than 3,500 square feet of Green.

Send for complete details, application schedules and free testing samples of FUNGOL and VEG-E-TONIC.

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Complete cool grass food specially for Putting Greens. Dissolves in water. No useless fillers. Extra Nitrogen, Phosphoric Acid and Potash content. Small amount keeps turf in highest playing condition at low cost.

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A block from the post office—a block from L. stations—right in the heart of things.

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Manufacturers’ representatives have collected at this center of sporting interest and the buyers know it. These factors mean business to LYTTON tenants. Ask any of them.

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Suites are conveniently arranged, with high ceilings and plenty of windows. Immaculate maintenance and excellent elevator service . . . and *reasonable rent*.

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who make living  
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ST. LOUIS

# Golfdom

The Business Journal of Golf

REG. U. S. PATENT OFFICE

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No. 8

## How Demonstration Gardens Rated Putting Grasses

By JOHN MONTEITH, JR., and KENNETH WELTON

**I**N RECENT YEARS there have been few subjects concerning turf maintenance that have aroused more discussion than that of the relative importance of the different grasses for putting green purposes. Any number of dogmatic claims have been made as to the superior qualities of a certain grass and the utter unsuitability of another variety of grass. Unfortunately many of the arguments on the subject have been based on misinformation as to the identity of the grasses concerned.

In planning the demonstration gardens the Green Section endeavored to bring together in one series of plots samples of all the representative grasses that were commonly used on American golf courses. These grasses were planted in series of adjoining plots in which the conditions of soil and treatment could be identical for the entire series on any one garden. The various gardens were planted on entirely different soils and with different climatic conditions which gave an opportunity to observe the behavior of the different grasses under a great assortment of soil and climatic conditions as experienced on golf courses.

The instructions for the maintenance of the putting green grass plots were that each greenkeeper should maintain this series in much the same manner as he maintained the grass on the putting greens of his course—that is, he was to water it, cut, mow, fertilize with the same materials, and

give it the same attention in other respects as he gave to the putting green turf on his course. In some instances the series were well fertilized and heavily watered whereas in others the series were lightly fertilized and watered. Ratings therefore indicate the behavior of the grasses under a great many conditions, which tend to represent the cross section of modern green-keeping methods.

Those who rated the grasses, as outlined in a previous article in *GOLFDOM*, were instructed to rate them on their general behavior for putting green purposes—that is, on their ability to provide a dense uniform covering suitable for putting green purposes. The Green Section in no way influenced this rating and therefore the table included in this article represents entirely a compilation of independent ratings by a large number of individuals, both greenkeepers and club officials. In the table the ratings are given for the different grasses over a period of 5 years. The grasses are arranged in the order of their average ratings for the 5-year period. These figures represent reports from 12 to 17 gardens located in the vicinities of Amherst, Mass., Boston, New York, Philadelphia, Richmond, Pittsburgh, Niagara Falls, Toronto, Detroit, Grand Rapids, Cincinnati, St. Louis, Minneapolis and St. Paul.

Metropolitan creeping bent heads the list, with the seaside bent and Washington bent following in second and third place,



## PUTTING GREEN GRASS RATINGS ON GREEN SECTION DEMONSTRATION GARDENS

	1929	1930	1931	1932	1933	Av. % 5 Yrs.
Metropolitan creeping bent .....	80	84	78	75	81	80
Seaside creeping bent .....	79	79	75	76	81	78
Washington creeping bent .....	76	76	75	74	78	76
Mixed bent (German) .....	77	75	70	71	75	74
Colonial bent (Rhode Island grown) .....	74	72	71	71	75	73
Colonial bent (Western grown) .....	68	74	73	73	74	72
Colonial bent (New Zealand grown) .....	67	77	69	72	73	72
Velvet bent (No. 14276) .....	59	75	68	71	72	69
Velvet bent (Seeded) .....	59	66	66	67	73	66
Velvet bent (Highland) .....	55	69	63	65	60	62
Columbia creeping bent .....	61	59	60	52	54	57
Annual bluegrass .....	58	57	54	50	43	52
Virginia creeping bent .....	57	52	43	52	53	51
Chewings fescue .....	61	54	46	42	35	48
Red fescue .....	34	37	38	39	31	36

respectively, at intervals of 2%. These creeping bents by general golf course usage have become the three best liked varieties of creeping bent. It will be noted that the Metropolitan strain led the list during the first three years. It took second place in 1932. Last year the Metropolitan led the seaside by a small fraction of a per cent which was discarded to simplify the table.

It will be noted that in each case the ratings for these three leading grasses is higher in the fifth year than it was in the first year. These figures offer further evidence contradicting a belief that is still held by some individuals that the creeping bent turf deteriorates rapidly after the first two or three years. A comparison of the figures given for the three leading creeping bents with the Columbia and Virginia strains of creeping bent shows clearly why there have been so many confusing claims made concerning creeping bents for putting green purposes.

Unfortunately the creeping bent varieties that have been most commonly planted in this country in the past decade have been the two undesirable strains near the bottom of the table, or strains with similar undesirable characteristics. In many cases these poor strains have been erroneously or fraudulently sold under the names Washington or Metropolitan creeping bent. Of the three leading grasses in the table the Metropolitan and the Washington strains of creeping bent were planted with the stolon method whereas the seaside bent was planted with seed.

### Mixed Bent Stands High

The mixed bent planted in these gardens was of German origin and represented a

high grade sample. This seed was analyzed and found to contain chiefly colonial bent but with over 30 per cent velvet bent seed and a trace of creeping bent seed. In connection with the rating of this mixed bent seed it should be pointed out that before purchasing this seed the Green Section obtained a number of samples of German mixed bent seed being sold under the name of German mixed bent. A surprisingly large proportion of these samples was unusually poor and contained none or very little of the desirable species that are found in the best grades of German mixed bent seed. The rating shown here should be regarded as the rating of seed coming up to a desired standard and by no means the rating of an average seed sold under this name.

The three colonial bents rated practically the same in the table. Seed of colonial bent on the market apparently can be expected to be far more uniform than the mixed bent. Therefore although these are rated slightly lower in the table it is probable that on the whole they would have rated higher than would the average of a series of mixed bent seed obtained at random on the market. It is obvious that the name mixed bent can include a great assortment of seed of bents, including red-top, without being in any way misnamed. This is exactly what happens in the market and therefore mixed bents should be purchased on the basis of the percentage of desirable bents that the mixture contains.

It is interesting to note how closely the colonial bents and the mixed bents are rated over the 5-year period. There is a difference of only 2% in these four lots of seed from entirely different origins. It is also interesting to note that these four



View of the Green Section demonstration turf garden at Century CC, Purchase, N. Y., during a greenkeepers' meeting and field day. Arguments are quickly settled when several grasses may be examined growing side by side under identical conditions.

grasses represent the grasses which golfers frequently refer to as "seeded greens." The colonial bent is only 8% below the highest rating in the table. This indicates that there are several good grasses which can be selected for golf course purposes.

### Bent's Disfavor Refuted

There is no evidence in these results to support the extreme views of some individuals that either the creeping bents or the so-called seeded bents can not be made into satisfactory putting green turf. The table gives ample evidence however to support the contention that reasonable turf maintenance authorities have taken for some years, namely, that the extreme criticism against the creeping bents is largely due to a mistake in judging creeping bents on the basis of the performance of strains such as the Virginia and Columbia. Likewise it is evident that under average conditions the creeping bents are not as superior to colonial bent as many of the extreme advocates of creeping bents have insisted. It will be noted that while the Virginia strain is rated 21 points below the poorest of the colonial bent group there is another strain of creeping bent which rates 6 points above the mixed bent seed, which had the best rating of the colonial bent group.

In the table the Rhode Island grown colonial is given an average rating for the 5 years of 1% higher than the Oregon grown colonial bent seed. The actual difference between them however is slight. To simplify the table all fractions were discarded and the nearest whole number used. In the case of the Rhode Island grown seed the figure was 72.6 whereas the Oregon stock received an average of 72.4. It will be noted that the Oregon bent was superior to the Rhode Island grown

stock 3 out of the 5 years. These figures represent only trivial differences which simply emphasize the close similarity of the colonial bent turf obtained from seed grown in different sections.

### Velvet Bent Results Vary

The velvet bents are grouped just below the colonial bent group. Of the three velvet bents two were planted with the stolon method and the other with seed. The seeded bent rating represents the average rating of two lots of velvet bent seed. In both cases the velvet bent seed contained a large percentage of colonial bent which dominated the turf in many instances. The velvet bent ratings varied more in the different gardens than did the colonial or creeping bents. It is well known that velvet bent thrives best in certain localities and there the ratings of the gardens were generally high.

On the other hand in some of the gardens the velvet bent grew very poorly and the ratings from these gardens tended to pull down the average for the velvet bent. A good example of this is in the case of the strain of velvet bent designated by No. 14276. In the rating for the fifth year this strain of velvet bent received a perfect score of 24 on 3 gardens, on another garden it received 23 points, and on a 5th garden, 22 points. No other grass in the whole series that year received a perfect score on more than one garden.

Columbia creeping bent was rated 19 points below the Washington creeping bent and 23 points below the Metropolitan creeping bent. The Virginia creeping bent, also planted with the stolon method, rated 6 points below the Columbia creeping bent. The ratings of the Columbia and the Virginia creeping bents as compared with the two other creeping bents planted with the

stolon method (the Washington and the Metropolitan) show how important it is for a golf club contemplating the planting of creeping bent to determine positively the identity of a strain before planting it. There have been a number of different strains of creeping bent with characteristics somewhat similar to the Columbia creeping bent that have been used extensively on golf courses throughout the country. The Virginia creeping bent has probably been more generally planted than any other variety of creeping bent planted with the stolon method. It is a coarser grass which grows very well in the nursery. Much of it has been planted under the name Metropolitan or Washington and it was these mistakes that led to many of the erroneous impressions as to the behavior of creeping bent.

### Bluegrass, Fescues Rate Low

The annual bluegrass rating is low. This plot was planted with the best seed of this grass obtainable but it nevertheless contained a number of seeds of bluegrass other than the annual bluegrass. It also contained seed of velvet grass or fog (*Holcus lanatus*). In some gardens this grass covered a good portion of the annual bluegrass plot. In very few instances was there developed a turf of annual bluegrass that was comparable to the annual bluegrass turf that develops from the natural invasion of putting greens where the conditions are favorable to the growth of this grass.

The two plots of fescue gave the poorest turf on the gardens. In the case of Chewings fescue the first year's results were fairly satisfactory but during the second and third most of the fescue disappeared from the plots on most of the gardens. In many instances the creeping bents from the nearby plots invaded the fescue and annual bluegrass plots, and in some instances it was apparent that those who rated the plots rated them on the turf that was there and not on the fescue and annual bluegrass. The invasion of these plots by the creeping bents, particularly the Metropolitan strain, tended therefore to hold up the average of these plots during the last two or three years. The two fescues and annual bluegrass did not develop outstanding plots of turf in a single demonstration garden. This is an interesting contrast with the velvet bents which received low ratings in some gardens but in other gardens developed turf which received the highest possible ratings.

## Hundred Attend Field Day at New Jersey Turf Gardens

**A**NUAL TURF field day was held on the experimental grass plots of the New Jersey agricultural experiment station at New Brunswick, on July 23. The meeting was conducted by the New Jersey experiment station staff, with the support of the New Jersey G. A. and the Metropolitan G. A. Approximately 100 persons attended including a good representation of professional golfers, greenkeepers, golf club officials, landscape architects, park officials, and representatives of commercial concerns dealing in seed or turf supplies and equipment.

All turf plots were well labeled, permitting visitors to inspect the experiments and form independent opinions as to results. A tour of the various experiments was conducted from 3 to 6 P. M., and the findings were discussed by Dr. H. B. Sprague who is in charge of the turf experiments. Some of the more interesting phases were: the use of chlorate compounds in the control of crabgrass on putting turf, the importance of avoiding excessive soil acidity in the proper maintenance of bent grasses, the influence of soil treatment on ability to endure drought, the relative tolerance of various kinds of grass to drought, the excellence of putting turf produced by different types of bent grass, a comparison of different types of organic matter for soil improvement, and the effect of different fertilizer practices on fairway and lawn turf.

Considerable interest was expressed in each of the various experiments inspected. Field plans of the experiments were provided to facilitate inspection of the experiments, eliminating the necessity for individual guidance.

The experiment station stressed the fact that these studies on turf management were being conducted for the benefit of all who might be interested in turf culture, and that visitors were always welcome.

**A**T MANY CLUBS, caddies are instructed to keep the irons in their players' bags in numerical order at all times, thus making it easy for a player to locate the club he wants without fumbling around for it.