



Pine Valley's pie green test area (Figure 1), providing a close comparison of different putting green turfgrasses, shows how an early strain of C-7 was rated.

The Story of Cohansey

by E. R. STEINIGER, Superintendent, Pine Valley Golf Club, Clementon, N. J.

In 1933 an outstanding patch of creeping bentgrass was first observed on our fourth green of Pine Valley, which is an old South German mixed bentgrass green. In 1935, after close watching and recording the behavior of this strain, one square foot of it was planted in our nursery along with other selected strains. Later in the year the first sizable plot (3,500 square feet) was established in our turf garden. Its fine texture and upright growth made it a fine putting green turf, and its light green color was pleasing to see.

In 1939 Dr. John Monteith, Jr., and Fred V. Grau introduced this strain into the turfgrass gardens at Arlington, Va., and designated it as C-7. The "C" designation was the code for creeping bentgrass selections tested by the Green Section. C-7 did very well at Arlington, and later at Beltsville, Md., except for a little dollar spot; in fact it did so well that prior to

World War II, when the "pie greens" (Figure 1) were laid out all over the country by the Green Section, C-7 was included. The performance of the nationwide tests was reported in the June, 1944, issue of the Green Section's publication "Timely Turf Topics" as follows:

Four-Year Summary of Ratings of Creeping Bents in Experimental Greens

"Data from the experimental greens established in 1939 and 1940 by the Green Section in many parts of the country have been summarized during the past winter. Since the summaries reveal much of interest to those responsible for putting greens now and in the postwar period, it seems advisable at this time to publish some of the inescapable conclusions.

"For those who are not acquainted with

these experimental greens it may be stated that the typical green is composed of 12 or more wedge-shaped sections, each planted with a single strain of creeping bent. So far as possible the greens were used throughout the test period as regular or practice greens so as to expose each of the grasses to the customary wear and tear of play. For comparison purposes each green contained wedges of one or more of the three commercially available vegetative strains — Washington bent (C 50), Metropolitan bent (C 51), and Old Orchard bent (C 52).

"In addition, sectors were planted with one or more of the following commercially available seed: Seaside creeping bent (C 60), Astoria Colonial bent (C 61), and Highland Colonial bent (C 65). The remaining sectors were planted vegetatively with strains of creeping bent which had been assembled by the Green Section from various parts of the country and had proven most promising in the tests over a period of years in plots maintained under putting green conditions in the trying climatic conditions on the turf garden at Arlington, Va. Usually only six or seven of these strains were included on any one green. In all, 19 strains were tried on one or more of these experimental greens.

"They are as follows:

Strain	Club Where Found		State	Date
	Originally	City		
C 1	Country Club of Atlantic City	Atlantic City	N.J.	1928
C 4	Arlington Turf Garden	Arlington	Va.	1934

C 5	Arlington Turf Garden	Arlington	Va.	1934
C 7	Pine Valley Golf Club	Clementon	N.J.	1935
C 8	Baltimore Country Club	Baltimore	Md.	1935
C 9	Washington Golf & Country Club	Arlington	Va.	1936
C 11	Washington Golf & Country Club	Arlington	Va.	1936
C 12	Los Angeles Country Club	Beverly Hills	Calif.	1936
C 14	Toronto Golf Club	Long Branch	Ontario	1936
C 15	Toronto Golf Club	Long Branch	Ontario	1936
C 16	Rolling Green Golf Club	Springfield	Pa.	1936
C 17	Manor Country Club	Norbeck	Md.	1936
C 19	Congressional Country Club	Bethesda	Md.	1936
C 27	Washington Golf & Country Club	Arlington	Va.	1937
C 28	Washington Golf & Country Club	Arlington	Va.	1937
C 32	Congressional Country Club	Bethesda	Md.	1936
C 35	Manor Country Club	Norbeck	Md.	1937
C 36	Manor Country Club	Norbeck	Md.	1937
C 38	Arlington Turf Garden	Arlington	Va.	1937

Commercial Strains

- C 50 — Washington bent
- C 51 — Metropolitan bent
- C 52 — Old Orchard bent
- C 60 — Seaside bent
- C 61 — Astoria bent
- C 65 — Highland Colonial bent

"It will be recalled that, at the request of the Green Section, the grasses were rated in order of preference, all characteristics, both favorable and unfavorable, being considered. The most desirable grass was rated as 1, and the least desirable as 12 (when, as was usually the case, 12 grasses were under test on the green). It was hoped that the ratings



ABOUT THE AUTHOR

Eberhardt R. Steiniger has been at Pine Valley continuously since 1927 (except for military duty World War II). Eb, as he is known to turf people all over the world, is a man of unusual personality with a spark that generates interest in all fields when he is on the scene. Mr. Steiniger is Vice-President of the Pennsylvania Turfgrass Council; Chairman of the Joe Valentine Memorial Fund; Past President of the Philadelphia Association of Golf Course Superintendents and he is active in the civic affairs of Camden, New Jersey. He serves on the USGA Green Section Committee.

would be made at intervals throughout the growing season so that progressive seasonal changes in the relative ratings of the grasses might be followed over a period of years.

"In order to summarize the results, all of the ratings for each climatic season during which the grasses were actually growing (spring, summer and fall) were averaged for each green. Consequently a green which was established in the spring of 1939 had a possibility of 14 seasonal averages through the fall of 1943.

"It is noteworthy that of the 23 greens established in that year, only one experimental green enjoys the distinction of having that number of seasonal ratings to its credit. Also, only one of the remaining greens which were established either in the fall of 1939 or spring of 1940 has a perfect record since it was established. However, in spite of these facts, for some of the strains such as C 52 and C 19, which were established on 36 and 35 of the experimental greens, respectively, we have as many as 173 seasonal averages from which to draw conclusions.

"Of the total number of 19 strains included on the experimental greens, five of them were tested along with the commercially available vegetatively propagated strains (Washington, Metropolitan, and Old Orchard) on 32 or more of the greens. Therefore between 150 and 175 seasonal averages have been obtained for these grasses. Comparable number of seasonal averages were also obtained for the seed-propagated bents — Seaside creeping bent and Astoria and Highland Colonial bents. For two other Green Section strains there were as many as 73 seasonal averages, whereas for most of the others not more than 20 are available. Since the results from so few ratings could scarcely be considered significant, only those strains for which 70 or more seasonal averages are available are included in the accompanying summary.

"In order to arrive at a satisfactory basis for comparing the relative merits of these strains, summaries were made for each season for each of the experimental greens. From these summaries it was easy to determine how many seasons on each green each strain took first, second, third, or fourth place, respectively. It was believed that it might be unfair to the strains to limit the summaries to the number of times the grasses fell in first place

since so much of personal prejudice is inevitable in the selection of the best of the superior strains. For this reason in the accompanying summary the grasses are arranged in order of the percentage of seasons in which they fell in any of the first four places. Figures also are included, however, which indicate the frequency with which each strain was given first, second, third, or fourth choice, respectively.

Strain	No. of Seasonal Averages	Percentage of Seasonal Averages In Which Each Strain Falls in				
		1st 4 Places	1st Place	2nd Place	3rd Place	4th Place
C-7 Cohansey	155	61.9	12.9	16.1	14.2	18.7
C-19 Congressional	173	60.7	20.2	16.8	15.0	8.7
C-36 Norbeck	73	58.9	12.3	26.3	11.0	9.6
C-15 Toronto	162	58.0	27.2	10.5	11.1	9.2
Old Orchard (C-52)	173	45.1	15.0	6.9	15.0	8.1
C-17	155	38.7	4.5	9.0	9.0	16.1
C-28	73	37.0	5.5	9.6	11.0	11.0
Washington (C-50)	165	36.4	2.4	11.5	13.3	9.1
C-1 Arlington	162	30.9	8.0	12.4	6.2	4.3
Metropolitan (C-51)	167	19.2	3.0	4.8	4.8	6.6
Seaside (C-60)	153	17.0	0.7	2.6	3.3	10.5
Astoria (C-61)	153	10.5	1.3	1.3	5.9	2.0
Highland (C-65)	147	9.5	0.7	2.7	3.4	2.7

"A study of the table will show that the first five grasses are the superior strains, regardless of whether one considers their occurrence in 1st place only or in the first four places. However, the relative standing of these five superior strains is significantly different, depending upon the basis of comparison. C 15 and C 7 exchange places when first place only is considered, instead of the present arrangement. C 19 remains in the same relative position by either method of comparison, whereas Old Orchard would move up to 3rd place instead of 5th place if compared with the other strains on the basis of 1st choice only. C 1, although 9th in order under the present arrangement would fall in 6th place if only first choices were considered.

"It is obvious that in general the Washington and Metropolitan strains have been the least desirable of the vegetatively propagated creeping bent strains under test in this series of experimental greens. The seeded bents conspicuously are in a class by themselves at the foot of the list, although they did show possibilities in Pittsburgh, Tulsa, and Portland.

"It should be remembered that the figures given here represent the average behavior of the grasses in greens distributed over all parts of the country and under many types of maintenance programs. Therefore although a strain



Pine Valley's 18th — a view of a great finishing hole for a great golf course.

may rate at the bottom of the list it is not surprising to find that in specific limited situations it may be a superior grass.

"It appears significant that these five superior strains have excelled in diverse parts of the United States. To indicate the widely distributed geographical areas in which these grasses produce superior turf, C 7 may be cited as being one of the first four choices for the entire test period on experimental greens in the following districts: two out of four in the District of Columbia; one in Virginia; one in Massachusetts; one in Ontario; two in upper New York State; one out of three in the Metropolitan area; two in Pennsylvania; three in Ohio; one in Indiana; two out of three in Missouri; one in Detroit; four out of five in Chicago; one in Omaha; one in Tulsa; and two out of three in California.

"These figures illustrate the fact that although these grasses are generally superior in many parts of the country they do not necessarily lead in ratings on all of the greens in any one area. It would therefore seem advisable before deciding to use any single or several strains which have been superior on one or more experimental greens in your vicinity to try the grasses under your specific conditions and maintenance program."

The C-7 strain was distributed to interested commercial growers in 1946, and so a name for it had to be found. Overzealous people concerned began to assign their own names, and one commercial firm erroneously assigned

the name "Clementon," after the town where Pine Valley's post office is located. This was hurriedly retracted. Soon after, at my instigation, a contest was held among Pine Valley members and many names were suggested. Among them was "Crump" after the founder of Pine Valley, "Pine Valley," "The Valley," and numerous other names. After many discussions with John Arthur Brown, Pine Valley's President, the name "Cohansey" was selected and this announcement was made:

C-7 is to be named —

"In trying to decide a given name of designation C-7 we came to the conclusion that the selection should be identified with a little considered element in the place where this hopeful strain was developed and not with the place itself. So excuse please if we seem to digress.

"The average golfer playing on the greens and fairways of Pine Valley takes for granted the many acres of beautiful grass which he finds at that Paradise. However he is apt to give particular attention to the fast sandy traps and bunkers which he probably thinks have been created by a power something beyond that of an artistic golf amateur. But there is no warrant for taking for granted the 40 acres of greens, tees and fairways with their various types of bent and other grasses. These all grew, believe it or not, on sand. The turf has



This is Pine Valley. The avenues to a good score seem as narrow and remote as this path in the foreground to No. 17 green.

taken years of study, of topdressing and nourishment with careful watering, to withstand the heavy use and violent treatment which seems to be the daily burden.

"Grass grown on sand needs more than a normal rainfall to retain its sparkling vigor under severe conditions and close croppings. WATER is *The* essential element. Nature in ages by and gone laid down the water courses in strata through which today comes this essential element in abundance, serving the many lakes, as well as the black water for the grasses and the white water for the players.

"That water course we call "The Cohansey." How else should be called our

young hopeful C-7 but . . . Cohansey!"

The thought about naming this grass Cohansey came to us while we were drilling some new wells for our drinking water supply. Pine Valley is blessed with good water supply and most of this water comes out of the Cohansey strata.

The Cohansey strain of bent is fine-bladed, has an apple green color, is a rapid spreader, heals itself quickly after injury, grows upright, and produces a very fine-textured putting green.

It has been found suitable for putting greens in all regions where bent can be grown. It is liked from Virginia to St. Louis to Oklahoma and everywhere north.

H. BURTON MUSSER

The Green Section of the United States Golf Association lost a valued friend with the passing of H. Burton Musser of State College, Pa., on August 12. Professor Musser retired in 1959 as Professor of Agronomy in the School of Agriculture at the Pennsylvania State University and since had served as the Executive Director of the Pennsylvania Turfgrass Council. He was a Fellow of the American Society of Agronomy.

In January 1966, when he was 72 years old, Professor Musser became the sixth recipient of the Green Section Award of the United States Golf Association for "distinguished service to golf through work with turfgrass." He was responsible for the development of

Penncross bentgrass and Pennlawn fescue.

He wrote numerous technical works for trade journals and articles for magazines, and was the author of *Turf Management*, a textbook published by the USGA.

