

I LIKE VELVET STOLONS

... Says Everett J. Pyle, Hartford (Conn.) Park Department, Who Describes His Planting Methods

SOME factors which have impeded the general use of the velvet bents in planting greens are: (1) the high cost of seed; (2) the poor quality of much seed on the market; (3) the scarcity of seed of the more desirable strains; (4) the almost total absence on the market of stolons of the better strains. Some clubs are avoiding the high cost and uncertainty of velvet seed and are establishing nurseries on their courses in which to propagate stolons of some particularly choice strain for their own use.

I prefer the stolon method of planting velvet bent. Excellent results may be obtained if the work is done properly, and there is no reason why a green planted in the fall cannot be ready for play the following spring.

For real success, the first fundamental is drainage. The green should be well under-drained, either by a natural condition which exists because of a sandy or gravelly subsoil from which it has been constructed, or by tile installation. A good grade of land tile, no smaller than 4", is the best to use. The joints should be about $\frac{3}{8}$ " to $\frac{1}{4}$ " open and the top half of each covered with a narrow strip of roofing paper. Calcium chloride bags cut into strips 4" wide may be used.

Covering the tile with 4" to 6" of $\frac{3}{4}$ " to 1" trap rock is good insurance against dirt getting into the line. It is well worth

while to do the job right the first time. The herringbone system, with all but the main line running at an angle to the slope of the green, can be used in most cases; however, the design of each green will determine the location of tile lines. The important thing to remember is to get them placed where they will intercept the sub-surface flow of surplus water.

The spacing may be between 10 and 30 ft. apart and the depth from 20" to 30" below the putting surface. Both spacing and depth depend on the character of the subsoil in the green. Surface drainage is very essential, no matter what type of under-drainage is provided. It is necessary at all times, but especially so when the ground is so frozen that no sub-surface drainage can function.

Stolons planted where both under- and surface-drainage is provided will have a healthy appearance and will fill in rapidly. Poor drainage will greatly retard the growth of velvet bent stolons into a smooth putting surface.

The careful selection of the putting green topsoil is important. A sandy loam,



An ensilage cutter prepares the stolons for planting. Tussocks as they come from the nursery are in foreground.

free from weed seed, encourages rooting and spreading of the velvet bent stolons without any competition from weeds and foreign grasses. Velvet bent will in time crowd out most weeds, but their presence in a newly planted green retards the filling-in process. Hand weeding is expensive and the traffic on the young stolons is detrimental. Sandy loam, because it is open and porous, does not pack nor become baked. It will receive water readily but will not get soggy and devoid of air. Any of the velvet bents will do better in this type of soil than in any other.

Proper Make-Up of Topsoil Is Vital

The character of the topsoil is so important that if the proper soil cannot be found nearby, it is a good idea to modify the native loam. The addition of sand, humus or clay in varying amounts until that desirable loamy, sandy texture is obtained, while it may be expensive in some instances, is really cheaper in the long run. The time to prepare the soil on a putting green is *before* planting, and this is always the least expensive. If sand and humus, for instance, are to be mixed with a clay loam, these materials can be spread in layers, evenly, over the surface of the green and mixed with a double-disc harrow or by some smaller machine such as the Tillivator or Rototiller. The two last mentioned are slower but do a perfect job and do not disturb the contours on the green. A thorough mixing is essential. Under no circumstances should these materials be left in layers or only partially mixed.

After the topsoil is firmed, raked and smoothed, a liberal quantity of a complete fertilizer, one containing nitrogen, phosphoric acid and potash, should be applied. Raking the fertilizer into the

first inch of topsoil is advisable. It is best to allow about one week after applying the fertilizer before planting the stolons, and if the soil is very dry, a good watering will help to set the fertilizer and to eliminate any danger of burning. Arsenate of lead may be applied with the fertilizer and worked into the soil at the same time. Both before and after the fertilizer application, there is no better tool for smoothing the surface than the steel mat used for working topdressing into putting greens.

It may be necessary to roll the green several times to firm the surface just before spreading the stolons. If a man can walk across the green without leaving much of a footprint, the surface is firm enough. A quantity of screened soil is needed to cover the stolons. This should be screened and preferably the same material used for topsoil on the green. Two yards is plenty for a 6,000 sq. ft. green.

Baskets or pails are usually used in spreading the stolons and screened soil.

Velvet bent stolons growing in nursery rows differ in some respects from creeping bent. They are more compact and form very solid, tightly-knit tussocks. The joints or nodes are closer together and the stems and leaves are finer in texture. The runners are not long and rambling, as in creeping bent, but shorter and closer to the parent plant.

Use Cutter to Chop Stolons

Probably the best way to break up the stolons is to pull them apart by hand. In this way there is no waste of planting material and each small plant is complete with roots and joints. However, the amount of labor required when enough material to plant one or more greens is needed, is prohibitive. A much more economical method is to chop up the stolons with an ensilage cutter. If the tussocks are taken from the nursery with as little soil as possible and run through the ensilage machine twice, they will be cut up rather fine. After passing through the cutters, some hand pulling is necessary to break up larger masses of roots and joints. Every effort to get the material uniform should be made as this facilitates broadcasting and covering on the green. Absolute uniformity, however, cannot be obtained when velvet bent stolons are chopped in this way, because the pieces of roots will be more or less bunched, while the rootless stems and



Two groups of workers are shown planting bent stolons on seventeenth green at Goodwin Park. The first group (left), broadcasting the stolons are followed closely by the other group who are spreading loam.

joints will be very fine. This irregularity calls for care when covering with screened sandy loam. If too much covering is put on, the small rootless joints will be smothered and will decay under the layer of soil.

About eight bushels of cut stolons will plant 1,000 sq. ft. of green surface. If stolons are in good condition this is the maximum amount. However, four to six bushels may be used, but only when the larger quantity cannot be obtained. Velvet bent stolons do not spread as fast as stolons of creeping bent and, if planted thinly, more weeding will be necessary and more time will be needed before the new green will be ready for play.

How Stolons Are Planted

With the surface firmed and the stolons and screened soil on hand, the green is ready for planting. The men who are to do this work must be carefully selected and the whole operation well supervised or the results may be discouraging. In broadcasting the stolons it is best to leave no spaces at all, but to cover the ground well. It is a good idea to have one or two men checking this work, to see that no area is skipped or planted too heavily. Then men should be divided into two groups. Those who broadcast the stolons must be followed closely by those covering with loam, so that no drying out is possible. Just enough soil to half cover the stolons is enough. The greatest danger here is to cover too much or to drop the

soil in bunches. Sifting the soil through the hands from pails or baskets is a good way to put it on evenly. A good rolling with a medium-sized roller following the covering will firm the soil over the joints and press the larger pieces of roots into the surface. This completes the planting.

Proper Watering Is Essential Step

From the time the green is planted until the stolons are well rooted, it should never be allowed to get dry. Watering a newly planted green is a job for trained and careful men. They must not walk over the planted area nor should they permit the hose to drag. In most cases it pays to let two men work together on the watering—one to hold the nozzle and direct the spray, the other to keep the hose from dragging out the stolons. The nozzle must give a fine spray which should fall on the green surface like a heavy mist to avoid washing the soil from the stolons. Stolon heads or hose nozzles are ordinarily used. On sunny days it may be necessary to spray the stolons every hour. After the first 10 or 12 days the green will show signs of life and it will not be necessary to water so often. Sprinklers may be used with safety about the time the green is ready to be cut.

Velvet bent stolons do not need cutting for four to five weeks after planting. A tee-mower, set to cut about one inch, will do the right job. There is no advantage in using a putting-green mower. The clippings may be left on the green if

they are not too heavy, and the whole surface *lightly* topdressed with screened sandy loam. However, unlike creeping bent, there will be very few joints or nodes in the clippings. Newly planted velvet bent greens are usually eight weeks old before any appreciable amount of new runners are noticeable, and most of these are close to the ground where the mower doesn't touch them. Light topdressing once a month will be sufficient to encourage the new runners to root. If the greens are planted in the fall they will do better if cut one inch high the remainder of the growing season. In the spring, if they have filled in well, the height of cut may be decreased gradually until they can be cut with the regular putting-green mower.

The amount of weeding necessary will depend on the season of year, the topsoil used on the greens, and the cleanliness of the stolons. Probably the worst weeds will be creeping bent, clover, crab grass and annual bluegrass. These should be removed as soon as they appear so there will be no competition for the young velvet bent plants. It is very difficult to keep the velvet bent nursery entirely free from weeds, but if this isn't done, most of the weeds are planted in the new green. However, if the new greens are planted in the fall on weed-free soil and with clean stolons, no weeding will be necessary.

The planting of greens with velvet bent stolons is in many ways similar to planting with creeping bent stolons. I have tried to make clear these similarities and at the same time to point out the differences in planting these two species of bent grasses. It is not difficult to establish velvet bent greens by the stolon method and it is the writer's hope that the ideas I have expressed will encourage and guide others who may wish to work with this fine grass.

Huge Tournament Entry Lists This Season Indicate New Boom in Golf

SIGNIFICANT as signs of a new boom in golf have been the figures on tournament entries this year. National Amateur field of 550, although about half of last year's entry list, is surprisingly large considering location of the tournament at Portland, Ore.

Chicago District GA \$10,000 Open had the largest entry of any Open tournament played at one American club, there being 448 entrants. Two hundred and ten

of the field were pros, reports Robert E. Harlow, publicity director of the affair.

Minnesota's 1937 Amateur championship, played at the Country Club of Minneapolis had a record qualifying field of 198. Great scoring was done in the competition which was won by Bobby Campbell. Oldest of the semi-finalists was 24 years old, the youngster 19. Apparently a new crop of amateur stars is developing.

A. C. Statt, manager of the Country Club, reports that condition of the course after the tournament was played gave no reason for alarms that tournaments injure courses. Gallery at the Minnesota amateur was not less than 2,000 on any one day, and on Saturday between 4,000 and 5,000. The course was not damaged by players or by gallery.

Special tournament rules supplied on a separate card to all players were very helpful to the field.

Memphis to Get Club Managers 1938 Convention, Jan. 18-20

THE Board of Directors of the Club Managers Assn., guided by the vote of the members will hold the 1938 convention in Memphis, Tennessee, Jan. 18, 19, 20, 1938.

Elmer Ries of the Colonial CC, P. O. Box No. 721, Memphis, has been appointed General Chairman of the convention. He would appreciate hearing any suggestions from managers.

Harold Ross has again been engaged to manage the new 1938 Buyers Guide. He can be addressed at the Indianapolis (Ind.) Athletic Club. E. Park Akin is chairman of the Convention Educational Program. Park would appreciate suggestions on features for the convention. Address him at the Columbia Club, Indianapolis.

Big Coast Dough—A bulletin from the Southern California section of the PGA announces the California winter schedule as follows:

Nov. 13-14—Reno, Nevada	\$3,000
Nov. 19-21—Sacramento, Calif.....	3,000
Nov. 26-28—Oakland, Calif.	5,000
Dec. 1-5 —San Francisco, Calif.....	5,000
Dec. 10-12—Santa Monica, Calif.....	4,000
Dec. 16-19—Pasadena, Calif.	3,000
Dec. 26-27—San Diego, Calif.	3,000
or (Bing Crosby)	
Jan. 2-3	
Jan. 7-10 —Los Angeles, Calif.....	8,000
Total	34,000