

Experimenting in Kentucky

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That this contribution may be better understood, it should be known that it is made at the request of the United States Golf Association Green Section, to whom we are so much indebted that any request they should make of us would get our best effort to comply. Also, that what is said is in the nature of a talk on the locker-room bench, for we are not sure enough of our opinion to cross swords with some of the high-powered experts.

Ours is a section of the country where it is hard to maintain good greens and good fairways. Greenkeepers that have made a success in the South and in the North might very easily meet failure the first year in this narrow strip of country running more or less irregularly from Washington west through Kansas City.

The writer was given the job of chairman of the green committee in the early spring of 1926 and told that the club was prepared to make an heroic effort for a much higher standard of maintenance. The committee had no agricultural experience, had never given the subject of golf-course maintenance much thought, and in fact knew nothing whatever about the job they had undertaken, but they went into it with the determination to make some progress in the right direction.

The first move was to get in touch with the Agricultural Department of our State, and we received a very sympathetic letter from the agronomist, who told us some things about our work, but said that the maintenance of a golf course differed so widely from farming that they knew comparatively little about it, especially the greens, and they referred us to the Green Section at Washington and recommended the purchase of Dr. C. V. Piper's book.

We immediately applied to the Green Section and received the current copy of THE BULLETIN. After reading it, we immediately ordered 15 back numbers and read them. We subscribed to a number of magazines and thus set about getting acquainted with our position. A little later we joined the Cleveland District Greenkeepers Association and attended their meeting at Youngstown, Ohio. At the Youngstown meeting we discovered that there were no cut and dried methods, because the 15 or 20 greenkeepers that we interrogated quite frequently differed on what we thought were fundamentals—essentials. We had prepared 20 questions and asked pretty nearly that number of greenkeepers each one of these questions. They ranged from the kind of equipment used to the quantity and quality of topdressing, etc., etc.

We employed the services of Mr. Wendell P. Miller for a visit and casual observations. We were favored with a visit from Dr. J. A. Monteith, Jr., pathologist of the Agricultural Department at Washington, and others. We attended the Golf Show at Chicago and greenkeepers meeting, as well as the meeting of the greenkeepers in Washington that the Green Section so generously provided. As it stands today, we feel that we have made a start on handling our job as it should be handled.

The season has closed, another year has passed, with its experiences; with its mistakes; with its thrill of success and its sting of

disappointment, all of which have developed a fairly comprehensive program for 1928.

Tiling the Greens

The first year a number of our greens had insufficient drainage. We watered them too heavily and paid the price in poor greens in September and October. We improved the surface drainage on four greens and put in tiling. This year the tiled greens were no better and perhaps not quite as good in October as the greens that had no tiling, which at first was discouraging to the point of being startling. With more careful investigation and consideration we found that the greens that had been properly drained should have had more water than we gave them this summer. In other words, the watering that we did in 1926 that proved unsatisfactory on account of the quantity would have been just about right if the greens had had sufficient drainage. This, in a measure, throws some light on the very troublesome problem we encountered early in the game by reading from one expert that tiling in a green was a necessity and then on the next page, perhaps, of the same magazine another equally successful expert saying that he doubted if it was ever necessary to use tiling below the surface of a green and that it was certainly not necessary in all cases. We have answered this inconsistency, at least to our own satisfaction, by now believing that a well-drained green properly tiled, in addition to other advantages, will stand heavier watering in midsummer than one that is not tiled, and the heavily watered green will hold up better at the end of the summer. In other words, with tiling you can use more water to an advantage.

Brown-Patch

We have been told, and believe, that we have a strain of bent grass that is very susceptible to brown-patch. In August, 1926, we secured a start of pure Washington bent from the Arlington Farm and now have our nursery developed to a point where we can convert all of our greens to the pure Washington strain, which certainly is far superior in many ways to the old strain that we have. Brown-patch did very serious damage and was our biggest problem. Naturally we were interested in everything said or written on the subject. We had grown to lean heavily on the Green Section for advice and counsel, and we experimented with four chemical preparations and have finally come to the conclusion that satisfactory results can be obtained in this section of the country by using most any of them, but that calomel is much more economical. During the brown-patch season we started watering our greens well before daylight. We heard Mr. John Morley, the well-known greenkeeper of Youngstown, Ohio, and the president of the National Greenkeepers Association, say in a lecture to the Association that: "During brown-patch weather, in order to keep the grass in a healthy condition, I fertilize each morning six putting greens, after they have been mowed, with 6 to 8 pounds of sulfate of ammonia." We also learned that another very successful greenkeeper, Mr. Currier, of the St. Thomas Golf and Country Club, Union, Ontario, Canada, was strongly of the opinion that sulfate of ammonia overstimulated the grass, made it tender and more susceptible to injury from brown-patch, and he strongly recommended the omission of sulfate of ammonia, at least

during brown-patch weather. We tried out some of our greens without sulfate and we are quite sure (Mr. Currier's opinion to the contrary) that in this particular section of the country and with our soil it is much better to give the greens frequent light applications of sulfate of ammonia during brown-patch weather.

We could not get the proper distribution of calomel by using water and to mix 1 pound of calomel in topdressing for a whole green was a difficult job. We hit upon a scheme of mixing 4 or 5 gallons of topdressing with 1 pound of calomel by using an old-fashioned 20-gallon barrel churn. The 5 gallons of topdressing is then broadcast on the greens and watered in, followed with a light application of sulfate of ammonia—in some cases we put it all on together.



We found that it takes about half as much brown-patch preventive to get satisfactory results on our Washington bent greens than is necessary on the others, which we think is the Columbia strain of bent grass. Another thing that we think we learned is that the application of materials in brown-patch control must be governed entirely by weather conditions almost without regard to the length of time between treatments. In extraordinary weather we believe that an application of mercury compound will prevent injury from brown-patch for only a few days, say five or six, whereas with favorable condi-

ditions a treated green will be immune for a month or more.

We are very much indebted to Dr. Monteith, sent to us by the Green Section, for his valuable advice and suggestions in this connection. We sent him a little picture of our calomel-churn-mixer and told him that acting on his advice and suggestions we believed we had finally gotten the upper hand of Mr. Brown-Patch and could handle any situation that might arise.

Topdressing

We heard a very prominent, successful, high-salaried green-keeper make the statement in open meeting that he did not attach as much importance to topdressing as some other people. Referring back to the first paragraph, we repeat that we are not sure enough of our opinion to cross swords with high-powered experts, but we are convinced that so far as our particular greens are concerned the prescribed monthly topdressing is quite essential. Furthermore, if we topdress our greens without as much as 20 per cent humus in the topdressing it does little or no good. As a matter of fact it seems to form a crust and actually injures the green. Perhaps greens built out of good soil with splendid soil from which to make the topdressing would present a different situation, but our greens require a monthly topdressing of 1 yard or a little less of compost containing

as much as 20 per cent humus and 25 per cent sand and from 1¼ pounds of sulfate of ammonia to 4 pounds per 1,000 square feet each month, and if we fail in any one of these things we can read the frown of disappointment on the face of our greens in no unmistakable manner. The scientific answer to this we leave to the higher ups.

Mowing

Another question that filled up our files and caused us some bother was the question of how close to cut the grass on the greens. We were cutting our greens quite close and there was indication that we had the mowers down too close. At the meeting in Washington the Green Section invited us out to look over a couple of golf courses in Washington, and in both places the grass was much longer on the greens than it had ever been on ours. There seemed to be conclusive evidence that it was best to let the grass grow long on the greens and equally convincing arguments from high authorities that bent grass should be cut very short and kept that way. With the file on this subject before us presenting the conflicting advice and testimony, we did a little experimental work with our own greens and reconciled the diametrically opposing opinions given us, to wit: As we see it now, if by reason of improper topdressing, failure to water the greens at a critical period, extraordinary heavy play on the course, or from any other cause, the grass becomes unhealthy, or as our primitive ancestors would say, "sickly," then it is not good business to cut the grass as close to the ground as you can get it, but if the green has been properly handled and the grass is healthy and sturdy, then, we think, it would be a mistake not to keep the mowers set down as close as they will go.

Fairways

Our investigation as to what was best to produce good turf on our fairways, that baked so hard in places they resembled concrete, brought out so many conflicting suggestions that we decided to have a little experimental farm of our own, and last month (October) we selected twelve one-half acre plots distributed over the entire course and each one-half acre was treated a little differently. We used stable manure, sheep manure, acid phosphate, cottonseed meal, sewerage sludge, pulverized tobacco stems, and two brands of prepared fertilizers made especially for golf course fairways. We used the disc harrow in a little different way on some of them; on others we used a 1,800-pound spiked roller, and on still others we used both the disc and the spiked roller, and on some did not disturb the turf. We put 65 pounds of seed, bluegrass and redtop on each plot, and we expect in the early spring to experiment a little further by using sulfate of ammonia on a number of these one-half acre plots. By next summer we should know what is best for us in this climate and with our soil.

We wish to express our sincere gratitude to the Green Section, to the National Association of Greenkeepers, to the individual greenkeepers who have so cheerfully answered our questions, and to the many others who have helped us to get started to begin to get ready to learn how to handle our job.