

# Simple Methods Solve Course Maintenance Problems

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A diet of topdressing without high pressure fertilizing and plus a big dash of common sense is the reason lush, velvety greens at the Haverhill (Mass.) CC escape the serious epidemic of yellowing or chlorosis which raises havoc with stricken greens in other New England areas during the hot,

humid weather of late July and August.

The formula was developed three years ago by Manuel L. Francis, greenkeeper at Haverhill. In the season of 1944, Manuel had his own headache from the chlorosis affliction to the velvet bent on his greens. He had tried all kinds of remedies. But none worked until he hit upon his own cure.

First, you have to understand a little about Manuel and his reputation for knowing about soil. He got his reputation in the olive and orange orchards of his native Portugal. He expanded it after he came to this country and waited for the opportunity to apply it. It came later when he was made a greenkeeper at the South Portland (Me.) CC, afterwards at the Amesbury (Mass.) CC and for the past five years at the Haverhill club.

And so, in 1944 after everything recommended had been tried to halt the yellowing of the velvet bent on his greens, Manuel went back to a basic principle.

He knew his velvet bent was sick. He knew from his own experience that when he was sick he didn't want to eat and he figured that trying to feed chlorosis wasn't going to cure the patient.

## Topdressing Greens

"I finally decided," he explained, "to topdress my greens, topdress them without adding fertilizer. In a week I noticed improvement. I repeated the process in eight days and in 30 days my greens were back to their natural color and my golfers were happy."

Twice a year Manuel gives his greens a light application of soot. They are watered

in the spring and fall but very little during the summer months.

"It's hard to give an exact formula to follow," Manuel said. "I feed according to the needs of the plant. Common sense will tell you when there's been enough feeding. Part of July and all during August no fertilizer is used on our greens."

Experience is the teacher and the condition of the Haverhill club greens this year are evidence of Manuel's theory. They are the talk of New England.

There are other lessons, too, for those who want to learn, from the experience which Manuel Francis has gained and applied in his enthusiastic work at Haverhill.

For example, he is convinced that any country club must recognize the value of complete cooperation with the individual responsible for caring for greens. Club officials or green committees should appreciate the fact that well turfed and trimmed tees, soft and velvety greens, good fairways and traps are the best assets for a club, building up membership. If they cooperate with the greenkeeper and his crew toward reaching such objectives it is then possible for the proper foundation to be laid and later possible to get a course working on good schedule, saving time and labor which can be turned toward other developments.

"Every one in my small crew at Haverhill," Manuel said, "is trained to do every single operation on the course. We decided this policy was necessary if we were going to advance at Haverhill and I was given permission to proceed to train my crew of six men and three schoolboys, hired during the vacation period. They were interested and they learned quickly."

## Cleaning Greens of Crabgrass

When Manuel took the greens job at Haverhill, he found most of the greens were hard and loaded with crabgrass and other weeds. He decided the way to eradicate them was with the aid of chemicals. Sodium arsenate was applied at the rate of one and one-half ounce per 1000 square feet in three gallons of water with a fog spray. The first application was done at the three-leaf stage. The greens were well watered the day before so there would be

plenty of moisture for the cell walls of the bent grass to prevent them from being destroyed. Two or three days afterwards, the greens were watered again and seven days later were fertilized with two pounds of sodium nitrate per 1000 square feet.

Three weeks later a little crabgrass showed up and he sprayed again at the rate of one ounce of sodium arsenate per 1000 square feet, following the same procedure as he did the first time.

At the end of the season, Manuel had nice greens except for the hardness, which was more or less another headache. But here again some common sense went into his planning. He knew spiking would bring the results he was seeking so he hit upon one of his own formulae. He developed a loose topdressing with 50% of it loam, 25% of it sharp sand and the other 25% sawdust.

### **Develops Loose Topdressing**

Some greenkeepers may be amazed at the sawdust in the formula. Manuel figured it would guarantee moisture for the greens and for holding that moisture. He has been using this mixture on his greens with top results.

Since Manuel can remember, all the loam he uses in topdressing for putting surfaces is taken out of the woods. And this for a good reason too because it is better and more suitable loam.

In the 1947 season, Manuel used 75 yards of loam on putting surfaces. He used up 20 hours of labor cleaning the woods of small trees and three hours with his bulldozer. The loam is piled up in big heaps one year and used the following.

In his first year, Manuel eradicated weeds with sodium arsenate and since that time not a single hour has been spent hand weeding or using chemicals.

Here's Manuel's program for putting greens:

1. Water greens lightly in early spring if necessary, watch velvet bent carefully.
2. Fertilize the greens as early in the spring as possible.
3. Topdress greens in the early spring. Raise mower a little after topdressing so it won't pick the grit and dressing. After 7 or 8 days, set the mower back to suit the golfers.
4. Use the following fertilizer materials for putting greens: milorganite, fish meal, bone meal and tankage, 8-6-4, 8-6-2. Use according to needs.

### **Uses Modern Equipment**

"I believe in up-to-date equipment," Manuel said, "because it is a labor saver and gives more time for the complex duties

of a greenkeeper. As we couldn't purchase any machinery during the war we had to do a lot of hand sickle and scythe work. The work this season, however, was done with a power sickle and believe me we saved a lot of time, time that was used in building up our nurseries and in construction.

"Most of our traps are small and deep. Power rakes would not be useful to us. I had, however, had a lot of complaints of hard traps. The workers tried hard but they couldn't get the texture the golfers wanted. I rigged up a 26-inch rake, made of a one by four, with 12 inch spikes. The only thing our workers have to do now is drag the rake around the traps after a rainstorm. There have been no more complaints.

"When I first looked at my fairways I was discouraged. They were hard, mostly gravel, and no more than two or three inches of loam. The chairman of our greens committee told me, when I had asked him for chicken manure, that he could get some and we used it to advantage. I used a regular spreader to put the manure over our fairways and let it dry for a week. Then I went over it with a home-made drag, made of one-inch mesh screen with a gang of three. The drags measured eight by four and were pulled by a tractor. As they worked the material in the drags also broke the big lumps and picked up objects I didn't want on the fairways. The fertilization I was seeking came as a result of this process.

"We have no fairway watering system but three years ago I put in a few water lines to most of the 18 fairways. I was able to keep them in good condition all season. I use the same method I do on the greens. A good soaking once a week is better than soaking often. It will make strong grass."

Manuel gives high credit to his own green committee at the Haverhill club and to the cooperation it has given him. He doesn't say, however, what the green committee and the enthusiasts of the fairways think of their greenkeeper. That is reflected in the rising membership, now in excess of 250, all active golfers, persons who have been attracted to Haverhill because of the fine condition of the course, the many improvements Manuel has made, the velvety greens, the fine tees, the good fairways, the new miniature ponds and drainage system.

That's the tribute to an individual who sticks to the basic principles of caring for turf. It's the tribute to a 16-year-old boy who, on his own, came to this country looking for what the kids back home had told him was "gold on the streets". He didn't find the gold on the streets but he found that America was willing to open its arms to any newcomer willing to work.