My Battle with the Crowfoot

The struggle went on for two years but just when things were looking up something always came along to cause a setback. But the writer persisted with DSMA and 2-4-D and finally cut the pesty weed down to size

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The fairway fertilization program at Capital City varies with what I think the turf needs. I use a complete fertilizer as soon as I get a reasonable showing of Bermuda in the spring. I prefer to make this application on dew covered plants at 500 lbs. per acre. This may burn the Bermuda slightly, but there is some consolation — it kills out many winter weeds and plays havoc with poa annua. It is my theory that the burn of the Bermuda shocks or awakens the plant to a much faster lateral growth, especially when it starts absorbing the fertilizer. Whether you agree with me is something for you to decide.

If I use organic on the fairways, the application is made after the turf has recovered from the initial burning. I feel that the organic response is stepped up because the P and K are near the surface. The rate usually is at between 200 and 300 lbs. per acre. I prefer to supplement organic feedings in cart path and other weak turf areas and always where there are seed and vegetative plantings of Bermuda. I prefer the nitrate feeding, if used, immediately after Labor Day. This is the only fertilizer that is watered in.

It is my observation that fairway turf will hold up better under moderately acid conditions. A pH of 6 seems to give uniform growth and the desirable color. This summer I plan to spray with iron sulfate to keep color in the fairways.

Overwhelmed By the Weed

In the spring of 1958 we had so much crowfoot on our fairways that it was suggested we made heavy enough applications of sodium arsenite that all vegetation would be killed. Then we could re-sow to Bermuda. But I knew the club wouldn't stand for this. Our weed elimination program was started on June 23rd. We made two spraying trips over the fairways with DSMA at one gal. to the acre. The next four trips were with DSMA and 2-4-D (40 per cent amine) at the recommended rates which varied from ½ to 1 gal. per acre for DSMA and 16 to 32 ozs. of 2-4-D to 70 gals. of water per acre. The weeds were completely killed, but at the expense of the Bermuda tolerance being severely tested. From July through mid-August our fairways looked as if they had been hit by a killing frost.

We were able to get enough fertilizer and water onto the fairways by the end of 1958 to bring them back to fair shape. Only, as the Bermuda came back, so did the crowfoot. This meant that more headaches were ahead for 1959.

Last year, our program to eradicate crowfoot was started on June 3rd. Between then and the 16th, we triple-tripped the fairways with DSMA (1 to 1¼ gals. per acre) and 2-4-D (16 to 32 ozs.) at 49 gpa of water. In the meantime, I solicited the most competent advice possible. On June 16th it appeared as though we had eliminated 95 per cent of our fairway weeds with only a minimum of discoloration to the Bermuda. I felt pretty good.

Shower Brings It Back

But around the 20th we had a strong shower and within a week or so the crowfoot was back. Most of it must have brought a friend along. Fortunately, practically all of it was newly germinated plants. I tried spot fertilizing on wet sur-

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faces and was able to kill many of the new plants. Our crew used 1 x 4 in. x 4 ft. boards to push up areas that were heavily infested with the crowfoot. But by the 8th or 10th of July it was evident that we had lost again. Within a week we could hardly push a mower through the weeds.

In desperation, I made several tests with different herbicides at various rates and in many combinations. They were disappointing but gave me enough courage to go back to using 2-4-D — straight.

Signs of Success

Toward the end of July I sat down and tried to figure out what had gone wrong. I couldn't quite figure it out myself and neither could a few other competent persons I talked to. So, I got the club's okay to make another attempt to get rid of my nemesis. I decided on 16 ozs. of 2-4-D (40 per cent amine) to 89 gals. of water per acre. The fairways were sprayed on July 30th and on the following day were able to mow the brittle crowfoot with just one pass of the mower. The brittling had extended to the crown of the plant and this, in turn, called for roughing or dragging. We improvised a 9-ft. section of Cyclone fence, supplementel by two 6-ft. drag mats and went to work. We dragged and mowed until the first frost, trying in every way to get the crowfoot dug up and clipped — which is the secret of its elimination. On Aug. 10th we sprayed again with 1 gal. of DSMA and 16 oz. of 2-4-D. Our last treatment was made on Aug. 20th with the same solution, although cutting the 2-4-D to 8 ozs. The water rate was 89 gpa.

From then on, we started catching up with the crowfoot. The last rate, I realize, was awfully light and probably the residue from previous treatments helped to eradicate the weed. But, on second thought, we were working on new plants. So, I will let you draw your own conclusions.

My conclusion from the 1958-59 work is that DSMA does a good job of eradicating crabgrass and dallisgrass, which have also been steady visitors at Capital City. But for crowfoot I think it should be used in combination with 2-4-D along with a sticker.

Consider Other Factors

Although 2-4-D is rather dangerous to handle it has many advantages as a crowfoot killer. But in determining how much

of it to use you should keep temp. and humidity in mind as well as the age of the weed, moisture content of the soil, height of cut, etc. Your spray equipment should be accurately calibrated to minimize excessive burning. My spraying was at 400 lbs. pressure and the boom was reduced to 5 T-jets which gave a spray pattern of 10 ft. and helped eliminate overlapping and skipping.

As I see it ,there should be a herbicide that will definitely kill crowfoot. The preemergent TAT 42 may be the answer but it is going to take some experimentation by supts. to prove it. What we need is a herbicide that will prevent crowfoot from seeding, or better still, if the plant completes its life cycle, cause it to produce a sterile seed. Then, perhaps, light maintenance sprayings of 2-4-D would make mowing of the weed easier.

Puccinellia in Saline Soil

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to withstand hot weather and could be the answer to vexing salt spots throughout the semi-arid Southwest and on low-lying areas along the seacoast elsewhere in the Bermuda belt. The possibility of its use in these regions should be explored.

Wide Distribution

Success is more than likely because Hitchcock in "Manual of the Grasses of the United States" mentions distribution as being from Quebec to Alaska, south to Maryland, Michigan, Wisconsin, and North Dakota; Washington south to New Mexico and California. The more slender species are the form described as P. distans var. tenuis (Uechtritiz) Fern and Weath.

Turf of Puccinellia distans can be produced by vegetative planting. Viable seed has been gathered from wasteland adjoining the fairways at Magna. Seed can be produced if there is a demand for it.

CMAA Workshop Programs

The seven CMAA workshop programs that will be offered in Aug. and Sept. at Cornell, Michigan State, U. of Florida, U. of Minnesota, Reed College, U. of Houston and Los Angeles A. C., will feature the supervisory development plan that is sponsored by the American Hotel Assn. All of the sessions will last three days.