

Do wetting agents work?

Some supers enjoy good results with these products, others do not. Here's a positive case.

By WILLIAM SMART

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In the early 1900's, when "greenkeepers" were brought to this country from Britain to build and maintain the "links," the art of American turf culture was born. The methods were a curious mixture of farming and gardening "secrets." Seeding with hay-mow sweepings was common and anything but natural fertilizer was looked on as somehow contrary to nature. It is little wonder with lack of material in print, and poor communication from course to course, that each Keeper O' the Greens developed his own methods and materials.

These hardy souls did not seek information from one another, and newcomers found them tight lipped when they tried to pry information from these old timers. The only way to learn the trade was to work under a greenkeeper until he considered you worthy of his trust—and, even then, it was likely that he would deliberately withhold information to keep his position secure.

Today, with national and local associations, the Greens Section, state experiment stations and many turf and golf publications, there are no longer any secrets—but there seems to be a mystery about one phase of turf culture. I am referring to the non-ionic wetting agents.

Those that use them on a regular basis are their biggest boosters—others seem to doubt that they have any value at all. Lack of information from experiment stations and University turf plots keeps others from a trial of their own.

In 1954, the Aquatrols Corporation

introduced the non-ionic, organic soil wetting agent Aqua-Gro on the market. A Use Patent was issued, this being a new use for these products. The ionic type of these materials had been used for years by fire companies to quickly knock down fires. These ionic types are present in many of our common household detergents, but are generally known to be toxic to turf.

My interest in wetting agents was brought about by a chronic greens problem. A visit by my chairman, in the early summer of 1956, had again brought to my attention the usual golfer's complaint, "hard greens—won't hold a shot."

As these visits usually went, he offered his solution—more watering and keep the surface wet. I convinced him, at least partially, that this would only lead to more serious trouble, and we would likely lose the greens we had. Asking what we *could* do, I said we could give the greens more nitrogen and promote a softer growth, aerify and top-dress and raise the cut to 5/16 to give more leaf

He ruled out the cut change because it would make the greens slower, and asked if I could carry out the other operations. I said I could, but went on to explain that more N would leave us with a softer growth that would be more disease prone and would aggravate the wilt problem.

I went on to explain that aerifying and top-dressing would leave the surface disturbed for some time as the greens were then going into the semi-dormant hot weather period. I added, somewhat caustically, that while all authorities agreed this was the way to make greens hold better, it was more theoretical than actual because it did not always work.

As good chairmen do, he left me with the problem, with the thought that I should do *something*

As an afterthought, he asked if I

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could run sprinklers out front of each green, so the golfers could play to this area and roll on the putting surface, rather than chance a direct shot to the green that would bounce off or over. Our greens were small and this aggravated the problem. This was most reasonable, and I agreed.

It was mere chance that within the next few days an ad for Aquo-Gro in GOLF-DOM caught my eye. Two phrases leaped out at me, ". . . helps overcome wilt—greens will hold a shot." It was almost as if they had been written for my problem, and my benefit.

I called my dealer at once. He carried a wetting agent, however, not the one advertised. I asked what he could tell me about it. Very little. Are any of the experiment stations putting out any information on it? Not to his knowledge. Will it do what they claim? He had no idea. With this "encouragement" I ordered five gallons.

A look at the material when it arrived did little to increase my confidence. It looked for all the world like liquid hand soap. In fact, that is all my crew ever called it—soap. Use directions were pretty vague, so I tried just a little on the sod garden and one benefit was apparent at once—it made the green look greener. Well, that's at least something, I thought, it won't be a total loss.

I resolved to go all out after the sod garden seemed none the worse after a few days. The following Monday, we aerified all the greens lightly and gave each a half a quart of wetting agent in 50 gallons of water, followed by normal watering the rest of the week. At once they looked "greener" and, by the end of the week, I noticed that the clippings had increased and the surface was noticeably softer. I felt encouraged but cautious, so I said nothing to the Chairman.

The following Monday, at noon, he drove into the workyard. He stepped

from his car all smiles and said, "Bill, that aerifying did it - - the greens are terrific." (Life has too few moments like this)! I grinned right back, and then I told him about the "wetter water." His reaction was typical, he didn't care *how* I did it - - just, keep it up."

Aerifying was not new to me. I had purchased a West Point greens machine in the spring of 1951 and had used it spring and fall and sometimes in between every season. However, it had never achieved results such as this. Even the work crew commented on how soft the greens felt—not a soft, soggy feel as when the turf is over-watered, but a springy, turgid feel.

For a week or two I was walking on air. Then, I noticed that my other chronic summer problem—wilt—was becoming quite acute. I had learned long ago to gear all my men and equipment to this killer, but this wilt seemed different.

It would come on very quickly and on the mildest of days. An application of wetting agent would help, but then in a few days it would be back again. Daily hand watering, sometimes twice, became routine.

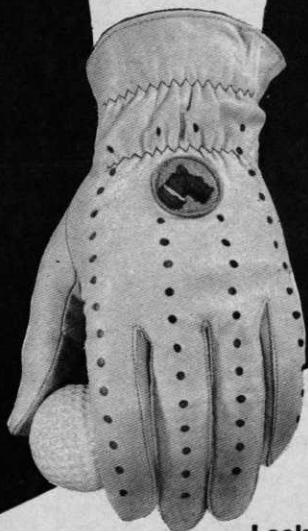
I recall one week that included the 4th of July that my hand-watering man's check was more than mine, with his regular pay plus over-time! We held our greens, and they were good, but it was a struggle all the way.

By the end of the season I had a theory. My basic fertilizer was a well known all-organic. Could the wetting agent be breaking down the nitrogen very rapidly, causing the soft growth that was so wilt prone?

The organic was applied every two weeks at ten pounds per thousand, and at any given time I could take a plug from the greens, shake it over white paper and find small grains of fertilizer in all stages of decomposition. This could account for the growth that made the greens look so good but on the other hand they could not stand the high light

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intensity of clear bright days, even though the temperature was moderate. I had noticed that on cloudy, humid days, even though the temperature was high, the wilt was not as severe.

Strangely enough, disease was not a serious problem on this soft tender growth—our usual brown patch was no worse than normal and we had no other disease that was troublesome.

That winter, I gathered all my facts and put them in the form of a letter to Bob Moore of Aquatrols. Mr. Moore did not agree with all my ideas, but suggested another approach to the problem.

Within the next few years, I changed my fertilizer program to avoid any build-up. In fact, I went on what is now known as a low nitrogen program—two pounds of N per thousand in the spring before June, one pound per thousand after Labor Day and a pound on frozen ground in very late winter. Very small amounts of a water soluble fertilizer are used with iron sulfate during the playing season to keep the surface true and to give eye appeal.

Along with this change, I started a regular application of Aqua-Gro, more or less following their recommended program. A quart of material per green in the early spring and the same application in September, with a half-quart application every 30 days during the playing season. I also found I could add a small amount to the weekly fungicide spray and keep the soil moisture level more uniform between the 30-day applications. This is essentially the program I've used for nine years.

To summarize my experience with this wetting agent, I make the following comments and observations: There is no other single product or piece of equipment that has raised the quality of my greens or given me the peace of mind the way wetting agents have.

Localized dry spots, knolls or mounds that are powder dry underneath while

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the rest of the green is moist, have ceased to be a problem almost from the inception of the program. Those that were severe were punched with a hollow-tine fork and treated with a few ounces of the wetting agent in water from a common watering can. Results were almost immediately noticeable.

Collars of the greens that were almost impossible to keep all season responded almost as well as the greens, as did a few areas on greens that had tree root problems. Wilt, while still a problem during times of severe stress, is not the threat it was, and is manageable without the attention and excessive overtime once necessary.

Incidentally, my primary fungicide was PMA and Thiram and, with the addition of the wetting agent, I noticed that this seemed to "harden" the turf. This was a mystery to me till I heard Harry Meusel, course superintendent, Yale University, talk at Cornell about the effect of this mixture on the stomata of the bents and *poa annua*. This, no doubt, had some bearing on my lower incidence of wilt.

Improved drainage was noticeable on low and poorly constructed greens. On my present course (I have been on two private 18's, one from 1947 to 1960, and on my present course since 1961) our number 14 green is almost on the level of a slow mucky brook, and in a very springy wet area. Water standing in the cup was common all the first season I was here. Except for slipups in watering or heavy downpour, I have not seen water in this cup for the past five years.

An interesting and most welcome side effect of the wetting agent and fungicide spray is that my disease control is almost 100 per cent effective. I have not seen brown patch on my greens in several years, despite some of the worst summers in history. Dollar spot is the only disease I have to contend with, I presume because of the low N program. But it is never a severe problem.

Another side effect that is a favorite with my men is that cup changing is a pleasure compared to the struggle to get the cup-cutter down seven inches (I cut one inch off my cups) in the days before I started using wetting agents. Fewer plugs die now and leave ugly cup scars. Growth is definitely more uniform, and color is better—even during the semi-dormant period in July and August.

To close, let me quote from my job application for my present job. I was asked to comment on the course operation as I knew it. "No wetting agent has been used at Powelton to my knowledge. I have proved to my own satisfaction that wetting agents can mean the difference between average greens and excellent greens". ●

About the Author: Bill Smart is a third generation golf course superintendent, his great-grandfather was greenkeeper at the Barry Course in Scotland, his father superintendent of the Dutchess Golf & CC from 1930 to 1947. In 1947, after the death of his father, Bill took over the Dutchess and operated it till 1961 when he left to take the Powelton Club of Newburgh, his present course. He is a member of the National, the New York State Turf Association and is a director of the Hudson Valley Golf Course Superintendents Association and the Editor of its newsletter.

Sanders Buys Building

Doug Sanders, touring golf professional who ranks fourth among top money winners, recently purchased the Trans-American Life Building in downtown Fort Worth, Tex. for more than \$1 million. The 36-year old building is 17 stories tall.

Sanders said he represented only himself in the transaction. He has several other business enterprises, including the Sanders Development Co. of California and an apartment in Dallas. He also represents Shamrock CC, Tulsa, Okla.