

## WETTING AGENTS - THE PREVENTIVE APPLICATION APPROACH

Wetting agents are nothing new and were probably in existence before I was even born. Today however, wetting agents are often times an overlooked management tool on quality turfgrass stands--especially in areas with poor underlying soil structure.

I'm sure you've all experienced seasons with infrequent precipitation and even in some cases actual severe drought conditions. Well, try as we may to use our irrigation systems to compensate for a lack of rain, we find that irrigation water can only supplement natural rainfall and not take place of it. Before too long, localized dry spots begin to appear and the rotation pattern of the sprinklers becomes highly evident.

When localized dry spots appear on our greens or tees, it would be a standard practice to:

1. Aerate each individual dry spot
2. Apply a wetting agent
3. Hand water

This is strictly a curative measure. However, through the scheduled application of wetting agents on a preventive basis (rather than curative) localized dry spots can be minimized.

Let us look for a moment at the function of wetting agents. Wetting agents are special chemicals that lower the tensions of water. They are in the class of surfactants.

Wetting agents change water, yet have no visible effect on the soil structure. However, since the wetting agent stays in the soil, the treated soil will accept water more rapidly, and excess water will drain freely, resulting in optimum growing conditions.

At Bob O'Link, I make a primary application on greens and tees in mid-May and then repeat the procedure in late June or early July. One and one half quarts of Aqua-Gro in 100 gallons of water (per 6,000 square foot green) has proven to give the best results. Such a high volume of water necessitates the use of a rose nozzle as the most efficient means of application. It is important to water the application in immediately and thoroughly. Experience shows that permitting wetting agent to remain on the turf blade will cause a yellowing, so it is important to water thoroughly after any application.

The preventive use of wetting agents on greens and tees provides a tremendously uniform distribution of moisture in the soil.

During the past two summers I have attempted to take my successful results with wetting agents on greens and tees another step further and incorporate preventive applications on 35 acres of fairways. Through trial and error, the following rates have provided optimum results.

The primary fairway application is made in mid-June and a second application follows in mid-July. A third application may be necessary in August but due to heavy precipitation last August, 2 applications proved to be sufficient. Two gallons of Aqua-gro in 200 gallons of water covering one acre at a ground speed of two miles per hour is the recommended rate. Through the use of test plots with varying volumes of water, different rates, and various brands of wetting agents as well as check plots, the following general observations should be noted:

1. Aqua-gro at the above mentioned rate was the most effective wetting agent.

2. Good results were shown in test plots with All-wet and Hydro-wet.

3. Wetting agents not watered in are potentially phytotoxic.

4. All wetting agents were applied alone and not in combination with any other pesticide.

In a comparison of wetting agent treated fairways and untreated check plots, the difference was like night and day. Treated fairways had the following qualities:

1. Dew is eliminated for a 6-7 day period following the application.

2. Localized dry spots in the wedge shaped areas adjacent to our single row irrigation system, required hand watering only once during the 1979 season. Prior years have shown 80-100 manhours to accomplish this task. Less hand watering means a lower labor cost and freedom to use your staff on other projects. Less hand watering means minimizing or eliminating interference to golfers. Less hand watering means conservation of water and power.

3. Fairways had fewer dry spots and also fewer wet spots.

4. Overall, soil moisture continuity was increased.

5. Soils were able to absorb moisture more rapidly during the heavy precipitation which we had during the month of August.

6. Less stress was evident on treated fairways and wilting was not severe.

7. Prior to fairway applications, it was often difficult for irrigation water to penetrate a one inch thatch layer unless fairways had been sliced or aerated in the Spring.

The fairway applications have proven as successful as the wetting agent program on my greens and tees. The approximate cost of materials for one application to 18 greens is \$150. 35 acres of fairways would be covered with \$700 worth of wetting agent. Given the afore mentioned results, I feel that this is a cost which is offset by a savings in water and manpower, providing a better playing surface.

Each year the golf course superintendent sweats out that period from June to September known to try men's souls, bring on ulcers, and cause sleepless nights. During this stress period we carry on a day to day battle in an effort to provide pleasurable playing conditions for our memberships. In these modern times of turfgrass management, any loss of turf on our greens and tees is intolerable and a loss of fairway turf is undesirable. More and more the trend in the Chicago area has shown that players who once compared golf courses by their fast and true greens, are now using the condition of fairways as criteria for judgement. With this increased demand for fairway perfection, loss of turf on our fairways, even though minimal, is no longer tolerable.

With the incorporation of wetting agents into my fairway management program, maintenance of summer time Poa annua has certainly become more enjoyable. I'm thankful for something that has made my job a little bit easier.

**Bruce Williams**  
Supt., Bob O'Link G.C.

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Many ideas grow better when transplanted into another mind than in the one where they sprang up.

**Oliver Wendell Holmes**