



*Like a gentle rain, "showering" is the best technique for handwatering.*

# THE ART OF HANDWATERING

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**“HANDWATERING?”** Did someone say, “Handwatering?” In this day of spending hundreds of thousands of dollars on one automatic irrigation system, some believe handwatering on the golf course is passé. Not quite yet.

There are many reasons for modern-day handwatering. Perhaps the main one is to compensate for a poorly designed automatic irrigation system. Other reasons include water conservation, soil textural differences, syringing to cool the grass plant, and handwatering makes possible consistent quality putting surfaces under certain conditions, such as severe elevation changes. There are many more.

Handwatering is still the best way to place a specific quantity of water on a specific area of turf. All it takes is a discerning eye, a soil probe, a hose, nozzle, valve key, and, of course, a source of water. It would be interesting to know how many of the 12,000 golf courses in the United States handwater at least some putting surfaces during a growing season. It would also be interesting to know the principal reason for handwatering.

Each of the four golf courses where I have worked handwatered putting greens and occasionally tees and fairways. The membership at Overlake Golf and Country Club appreciates optimum turf conditions. As a result, we put in approximately 300 man-hours each

summer handwatering putting greens and tees. It's an important part of our program.

Some of the reasons for handwatering deserve closer scrutiny.

**Poor Sprinkler Coverage:** Some of us have irrigation systems that are not quite what we would like. We must compensate so that we do not end up with muddy spots or areas that are so dry turf loss is possible. Some of our automatic irrigation systems don't give us proper coverage because of improper spacing, improper operating pressure, poor maintenance practices, and poor or inadequate programming potential. As a result, we must do supplemental handwatering to compensate for the deficiencies in the automatic system.

**Soil Texture Differences:** Some of the putting surfaces on our golf courses have different textured soils. As a result, we must irrigate for the putting surface as a whole unit. The results vary with dry aprons, wet aprons and even localized dry spots on both greens and aprons. The soils have different permeability rates, which affect our watering schedules. We must compensate, therefore, by handwatering the areas that do not receive enough water. Some of our soils take water so slowly we must water them until runoff occurs, then come back and water them again 30 to 60 minutes later.

**Water Conservation:** During the summer of 1987, many Seattle golf courses were required to cut back automatic irrigation because of a severe water shortage. This occurs more frequently today, and we must have alternative watering techniques that will apply water in the exact amounts we need at the proper places. Many Seattle golf courses found out in 1987 that handwatering is the best alternative.

**To Cool Grass Plants That Are Under Stress:** Many times during the summer, temperatures, hours of intense sunlight, and wind combine to dry out turf to the point that it literally wilts. Some courses have added irrigation that will cool the air automatically in the vicinity of the greens. The idea is to lower the air temperature around the leaf surfaces by fogging the air and allowing the grass plant to continue a balanced transpiration rate. Those of us who cannot do this automatically must have experienced personnel who can spot these conditions and act quickly. Remember, we are only cooling off the leaf tissue, not wetting the soil. Technically, this is called syringing.

**To Keep Consistent Putting Greens:** This is one very important reason for handwatering. I say this because it embodies all the reasons already discussed. As one who provides a service to people who want to enjoy the game of golf, I feel one of my most important goals is to provide the best putting greens I possibly can. This includes a number of cultural practices, one of which is irrigation. It is of the utmost importance that we make every effort to provide putting surfaces that are smooth, true, of consistent speed, and that will hold a properly struck golf shot. Even the best-designed irrigation system will not produce a green with uniform moisture content throughout. They usually provide too much water to the middle of each green. Further-

more, many greens have high areas and low areas which result in localized dry spots and wet spots. Another problem encountered is hydrophobic areas on greens. There is no escaping these without good management, which includes proper handwatering and some type of spiking or aeration.

Is there a right way and a wrong way to handwater? There certainly is. Handwatering the wrong way can do as much damage to the playing surface as no watering at all. A workman is asked to go out and handwater new seed or certain dry areas on greens. All he takes with him is a one-inch hose, a quick coupler, and his thumb. The hose is hooked up. The water gushes under high pressure, and his thumb soon grows tired or cold in trying to break up the flow. He does not apply the water in a showering manner, but instead directs the high-pressure flow right into the turf, as if to force its penetration. The turf soon looks bedraggled and not unlike a gully-washer has passed by. Too much of this and erosion begins to set in and the playing surface is ruined.

Every morning I take a walk on the course while my crew is doing the greens mowing and bunker raking. While I am walking, I look at every green and tee, and take soil probe samples to test the soil moisture level. I also observe the surface for leaf color and hardness of the surface. I watch the mowers and their effect on the surface, and I also ask the person setting cups what the soil moisture level seems to be like to him. This first trip around the course helps me see areas that could become a problem if weather conditions are just right. Throughout the day, I monitor the wind, speed, and temperatures.

I have been at Overlake Golf and Country Club long enough now to recognize where the hot spots usually occur, and we tend to concentrate our observation on these areas.

Each day we usually handwater greens twice and tees once. We must be flexible and do whatever we feel we need to as often as necessary.

I train anywhere from four to six people on my crew on how to handwater so they do it in the most efficient and effective manner possible. We use 100 feet of one-inch hose and a cooling or shower-type nozzle for the majority of our handwatering. At least one person goes out on each nine around 10 a.m. and again at 12:30 p.m. They go in reverse order and occasionally skip around until they have done all of the greens and tees.

Occasionally, we will treat dry spots with wetting agents to aid water penetration. We will spike the areas with ¼-inch aerifier tines to help the water penetrate and keep our greens as uniformly consistent as possible.

When we handwater, we are careful not to apply so much water it lies on the green for longer than one minute. It just so happens that the time of day we must be out handwatering coincides with the time of day our golf course tends to be the busiest, and we do not want to interfere with play any more than necessary.

I have been trying for years to find ideas that can make handwatering necessary only on rare occasions. I have not made much progress so far. Some of the ideas we tried have been successful in cutting down labor, but they don't allow us to eliminate handwatering totally. Most golfers at private clubs want tournament putting conditions, and they do not want to contend with golf course workers when they are on the course. Does this situation sound familiar? We do not exactly have that happening at Overlake, but we seem to be pleasing the golfers, and here's how we do it.

We have a new (1985) state-of-the-art automatic irrigation system that was designed by an excellent engineer. We try to schedule it in a manner that will furnish optimum irrigation at least for the lower and more level areas on the course.

We apply liquid wetting agents through the irrigation system about once every two to three weeks. We aerify greens twice each year, except the dry, hard or too wet areas which get spiked two or three times more.

We topdress our greens with good-quality 30/50 sand eight to 10 times a year during the growing season.

We apply most of our fertilizer at ⅛ to ¼ pound of potassium and nitrogen per 1,000 square feet every other week in a spray solution. We verticut greens very lightly with groomers twice each week. We mow greens every day at 5/32 of an inch during the growing season.

And, of course, we handwater our greens as needed to keep them healthy and, foremost of all, playable.

Our Stimpmeter putting speeds range from 7½ to 8 feet in winter and 8½ to 9 feet in the spring, summer, and fall.

If you want consistent, playable greens, you must consider handwatering as part of your routine putting green maintenance. Try it and I think you'll agree, it's an art worth perfecting.



*(Top) Like a sudden downpour, "direct application" is not as effective. One should not try to force the water into the soil.*

*(Left) A "rose" or "shower" nozzle is essential equipment.*

*(Above) "The Old Thumb Trick" does not stand the test of time (or cold temperatures).*