

# Water and How To Use It

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**T**HE first important factor in watering a golf course is a satisfactory water system.

If you are planning a new water system be sure you have a practical design before trying to install the pipes and pumps.

Keep your water line out of the fairways as much as possible, so that in case of a leak and you have to dig up the pipe you need not disturb the fairway.

The size of pipe is a question you will have to work out for yourself. Small pipe and right angle turns cut down pressure because of friction and you will not have the amount of water you would require at your green. Too large a pipe might give you more water pressure than you need and in that way you are wasting money for your club.

In planning a water system start from the farthest point from the water supply and work back, taking into consideration the elevations and falls, and figure out the friction loss you will have in that line. Then work back to your other green stations and cut down the size of the pipe when you get to the greens near the source of water where your pressure is the highest.

Your hydrants at the greens should give at least five gallons per minute. Some sprinklers take as high as 20 gallons a minute, so if you are not certain just which make of sprinkler you are going to use you had better make your hydrants deliver 20 gallons a minute.

**T**HE Lark Sprinkler at 40 lbs. pressure delivers 9.9 gallons per minute; at 60 lbs. pressure it delivers 11 gallons per minute.

The Simplex Economy Sprinkler at 40 lbs. gives 16.8 gallons per minute and at 60 lbs. delivers 20 gallons per minute.

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If you have a sprinkler that will throw 20 gallons of water per minute and you run it three hours on a green you are putting on 3,600 gallons of water. One gallon of water weighs 8.33 lbs., in three hours watering you are putting 29,988 lbs. of water on your greens or covering a green of 6,000 square feet with 1½ inches of water. If you water fifty times a year you will put on 6¼ feet of water. That is more water than we get by Mother Nature's watering system. The ground can take only a certain amount of that water so most of it is wasted.

**Y**OU can prove that for yourself. Take some soil and weigh a small portion of it. Then place a piece of filter paper in a funnel and put the soil on top of the paper. Measure out some water and find out how much you need to pour on before the water starts to drain through.

After the water stops dripping through the soil place a vessel of some kind under the funnel, then measure out a certain amount of water and pour it on the saturated soil. After the water drains out test and see if you do not get the exact amount you poured on the second time. This is proof enough that the soil is saturated and will hold no more.

In clay this might not work because when you get more water than the ground can take and continue putting more on, the clay will pack and the water will not go through but will lay on top. Be careful of watering clay soil.

On other soils if you continue to give them more water than they can take care of, the surplus will make channels of your drains and when the ground does dry the water will not do any good but just run through to the drain by its own channels. Freezing and thawing is about the only thing that will remedy that.

Humus is a good water retainer substance but if it is in layers and the layers are below the root system of the plant the roots will not benefit by it. But if you mix humus thoroughly through the soil it will do some good.