

# The Drought in Northern California

by JACK JAGUR, Superintendent, El Macero Country Club, El Macero, Calif.

**T**he prolonged drought throughout the West is coming sharply to the attention of golf course superintendents in Northern California.

Now entering its third year, low rainfall along the Northern California Coast and in our inner valleys is only part of the water shortage story. The sparse snowpack in the Sierra Mountains last winter has led to very low water in all mountain reservoirs and hydroelectric power shortages may also be in the news later in the summer. Add to this the ever-expanding needs of municipalities and agricultural requirements and one begins to appreciate the great demand now being placed on our limited and precious supply of water.

To obtain maximum utilization of the water available to us, the Northern California superintendents must use it with the highest possible efficiency. Substantial water conservation programs on golf courses are now a necessity. This means very carefully regulating irrigations with no runoff. Just as with fertilizers and other costly chemicals and turf management procedures, there is no longer room for wasteful irrigation practices. Good management has never had greater meaning!

In the past the turfgrass manager has almost completely overlooked irrigation conservation. We have tried to keep our golf courses lush and green to please the golfer. This has led to overwatering, for there has always been an abundance of water available. It is an easy trap to fall into. Now the drastic water shortage in the West forces us to modify these old and wasteful practices.

We are coming to realize that overwatering has not only interfered with the playability of the course, but it is also damaging to the turfgrass itself.

During the past nine years at El Macero Country Club, my philosophy toward turfgrass irrigation has developed and I would like to share it with you. El Macero is located just west of Sacramento and prolonged daily summer temperatures in the high 90s and low 100s are common. I believe that if one can change the habitat of an animal and if one can modify his or her eating habits, modifying turf watering habits should also be possible. Conditioning turf to a new irrigation habit, however, means going through some stress periods.

Through my experience, springtime seems the best for turf to undergo stress. The strategy is to let the turf go unwatered until there is some indication of wilting. When wilting does occur, I apply sufficient water to fill the soil reservoir. Allowing the upper layer to dry out between irrigations enhances deeper penetration of roots. Deeper root systems enable the turf to better withstand adverse conditions. The longer intervals between irrigations

also help minimize disease. I practice this method during the spring-to-summer transition period.

During the summer I water greens and tees three times a week. The fairways are watered 1.9 times a week. This program conserves water and brings about strong, healthy turf. It also minimizes syringing requirements during peak temperatures.

These practices have worked for me during past years and may be worth trying on other golf courses. During the spring we have had complaints from time to time about hard greens. However, we have not had a complaint about a wet golf course. I believe in this philosophy of irrigation. In the long run, I feel it leads to happier golfers, healthier grass and, whether in a drought or not, to conserving our precious resource — water!

*Jack Jagur making a soil check.*

