



Irrigation or Irritation

By Mike McCullough, NCGA Agronomist

Just mention pump failure or main line break during a hot spell and most superintendents' dispositions suddenly head south. Irrigation difficulties during any part of the golf season can put the club, course and the superintendent in a tough spot since most of Northern California golf courses are open for play year-round. This demand for play is great for clubs' or courses' bottom lines; however the demands placed on the irrigation system for nine to ten months out of the year can be quite frightening.

Several superintendents have recently told me about irrigation-related failures this past summer. Incidentally, isn't it funny how these problems happen during the hottest part of the summer? Regardless, irrigation emergencies can be issues that generate a lot of conversation in boardrooms, committee meetings, locker rooms and even in the pro shops.

I recently spoke with Dave Bigler, an independent golf course irrigation consultant, and asked him his views on irrigation and the inherent problems a superintendent is likely to face. Dave used the example of an equilateral triangle to explain common problems that superintendent's face when dealing with irrigation issues. An equilateral triangle has three equal sides and in this case imagine each of the points is represented by an important irrigation component. Head spacings/uniform distribution are on one point; proper flow (GPM) is on a point and acceptable water pressure on the third point. If everything is in balance and working properly, then acceptable results are the typical outcome. When any one

of the three points is not equal, then unacceptable results are soon to follow.

Bigler also said that every golf course has its own unique problems and challenges based upon the age of equipment, soil conditions, drainage, microclimates, and the amount of training the individuals who maintain the system have acquired. It is now evident why irrigation-related problems have some of the best and brightest individuals throwing up their hands in frustration.

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system has a limited knowledge of the system or has been taught the bare minimum to keep the system functional. This process of hand-me-down instructions can lead to several important aspects of the system not being accurately relayed to the next person. Therefore, the system is frequently left alone and status quo is the crew's choice.

A recent example of this was when an area superintendent moved to an established course. The superintendent came on board and discovered that the irrigation system had several flaws. The superintendent began asking questions and inspecting the system and determined that routine maintenance of the system was not being performed on a regular basis. By researching the problems and taking a look at the whole system, this

superintendent observed a variety of obstacles but found several valves that were broken, rusted out and way past their life expectancy. Needless to say, these devices were not performing as they should and the results were sub-par (pun intended).

After several years of neglect, many courses face the distinct possibility of a complete overhaul of their irrigation system. This is a major expense to the club or group who holds the checkbook. Adrian Bertens of Hydro-Engineering has performed many renovations throughout Northern California. One of his biggest challenges when arriving at a site is not having enough documentation of the existing system ("as built"). Many parts of the older systems have been

modified, changed, or removed over the years. Rarely do these changes ever get transferred to the original blueprints or a master plan. This presents a logistical nightmare for his company as they are trying to work around the old system and install the new one.

Another concern for Hydro-Engineering is having a knowledgeable person on site every day to oversee the installation process. Bertens suggests that this person be an assistant superintendent or irrigation technician, because the superintendent is frequently called away and some aspect of the installation process could be overlooked. This "liaison" can be on site to inspect the installation and understand the intricacies of the system. Adrian recommends the person videos

or photographs each step of the process for future reference (see previous point).

According to a Northern California superintendent, the pump station is the heart of his golf course maintenance operation. Pump stations should be the focal point of routine maintenance schedules; at least that is what John Dexter of Pump Repair Service Co., would like to tell people. John recently listed the top four problems for pump stations. They are 1) high temperature failure of VFD (variable frequency drive), 2) pressure relief valves are stuck in the open position, 3) excessive drainage around the base of the pump, and 4) deficient discharge pressure out of the pump station. There are several reasons for the low discharge condition such as failure of the filtration system, overloading the pump motor by requesting more flow than the pump can produce and fluctuations of the incoming power supply whether it is power surges or outages. Obviously, power outages are out of the control of the superintendent, and they occur during the most inconvenient times.

A preventative maintenance program can curtail most of these problems. According to Dexter, the overall station performance should be evaluated on a semi-annual basis to keep the system running at the maximum efficiency.

Perhaps there is a need for more local training for golf course superintendents and assistant superintendents on irrigation-related topics. Granted, there are several classes taught at the national GCSAA convention on a variety of irrigation topics, but inevitably those classes are filled up and individuals have to get their

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Poa Prose

By Mike McCullough

According to the Father of Annual Bluegrass, Dr. Joe Vargas, *Poa annua* has gotten a bad rap.

It is no secret that *Poa annua* has had a less than spectacular track record. The knocks on *Poa* have been that it is not heat tolerant, not cold tolerant, and produces too many seed heads. However, many of its positive characteristics seldom get the recognition that is due. Increased shade tolerance, ability to recover after a major stress event, and faster response from fertilizer inputs are benefits rarely mentioned when the topic of *Poa annua* comes up.

Vargas argues that *Poa annua* does not die due to heat. *Poa* dies because of diseases. He cited examples of healthy *Poa* stands during the middle of the summer in Atlanta, Georgia. Locally, *Poa* is routinely found in greens that have summer

temperatures well into triple digits, i.e. Redding, Sacramento, Stockton, Visalia, etc. When conditions exist for disease development and preventative fungicides have been applied, *Poa annua* can survive adverse environmental conditions.

It is well documented that *Poa annua* has more tillers per inch than the other commonly used plant material for putting surfaces. Researchers have also reported that the photosynthetic rates of *Poa annua* have been 40 % higher when compared to the "industry standards" for putting greens.

Dr. Vargas pointed out several cultural practices that favor annual bluegrass. A deep vertical mowing is beneficial once the spring flush of growth has started. The juvenile tissue that is formed handles the upcoming summer stresses better than older, mature tissue. Aerification should also occur during the initial green up period and during the peak production of seed heads.

A new cultivar of annual bluegrass is now available. Peterson's Creeping Annual Bluegrass was released from the extensive work of Dr. Don White from the University of Minnesota. Some of the published attributes are a stoloniferous growth habit, very dense and erect growth habit, and toleration of low mowing heights. Several courses have nurseries of the new variety, but I'm not currently aware of any courses that have it exclusively as a putting surface.

Poa annua is one of the most sensitive turfgrass species to soil salinity. Golf courses that use effluent water and have *Poa annua* greens are in for a challenge. Weekly monitoring of salinity during the dry season is an essential part of any management plan. Leaching with potable water or applying extra amounts of effluent will aid in pushing the salts through the root zone. Core aerification and deep-tine aerification helps when leaching salts from

pushup greens.

One of Dr. Vargas's best lines in defense of the second class turf species is: "Remember, the next time your lousy annual bluegrass turf dies, ask yourself, what also happened to the wonderful creeping bentgrass originally established on the green?"

Irrigation or Irritation (Cont'd)

information elsewhere. Normally, the "elsewhere" is on-the-job training that requires many hours on the business end of a shovel or elbow deep in a muddy hole trying to fix a broken head or line.

As the summer winds down and the rainy season gradually gets a little closer, the yearly irritation of poor irrigation will be a distant memory. Of course, that is until it flares back up the next year.

Fix It! – For The Good of the Game

Most golf course superintendents and golfers would agree that the number one golf course maintenance issue is un-repaired ball marks. It's a problem that has particularly frustrated superintendents for years and will likely continue to do so unless the habits of golfers can be altered.

There are several theories that attempt to explain why golfers are reluctant to repair ball marks. Regardless of what theory you may aspire to, education undoubtedly will play a key role changing golfer behavior.

Recognizing the importance of education and the need to increase golfer awareness the

GCSANC is sponsoring Ball Mark Repair Week beginning on October 2nd. The week will feature a series of press releases, interviews and climax with the distribution of 10,000 ball mark repair tools at the Transamerica Golf Tournament at Silverado Resort. In addition, all GCSANC Class A and B will be receiving two ball mark repair posters for display at their respective clubs.

The Ball Mark Repair Week concept was developed as a vehicle to educate golfers on the importance of repairing ball marks and to gain exposure for GCSANC Superintendents" said Bob Costa who serves as the GCSANC Media Director. "The distribution of the repair

tools, which will bear the GCSANC logo, serves this dual purpose. The posters, which demonstrate the proper way to repair a ball mark should be available to GCSANC Superintendents by late September, I strongly encourage all of our superintendent members to support the program and place the posters in highly accessible areas".

In addition to passing out repair tools at the Transamerica, GCSANC members will be distributing other promotional materials at a booth located at the golfers village on October 6th 7th and 8th.

Ball Mark Repair Posters Arriving Soon

GCSANC member superintendents take notice! By late September each member superintendent will receive (2) ball mark repair posters bearing the GCSANC logo. Superintendents are asked to display the posters in a prominent location to coincide with Ball Mark Repair Week, which begins on Monday, October 2nd.

"Our ability to convey our message to the golfing public regarding the importance of repairing ball marks rests in the hands of our member superintendents said GCSANC President" Gary Carls. I urge everyone to actively participate and help make this week success.