

Hurricanes Set Record Nobody Wants Broken

By John H. Foy

The 2004 Atlantic hurricane season will certainly go down in the record books, and I for one hope the record is never broken!

Things got started off with Charlie taking a sharp right turn and making landfall in Port Charlotte on Aug. 13. This devastating category 4 storm traveled across the central part of the state and moved out into the Atlantic near Daytona Beach. Over Labor Day weekend, Hurricane Frances made landfall on the south end of Hutchinson Island. This very slow-moving category-2 storm affected the lower east coast from Palm Beach County north through Vero Beach and Melbourne. After making landfall, Frances turned north and worked her way up through the central part of the state, crossing over the earlier path of Charlie. Less than two weeks later,



John Foy

Hurricane Ivan threatened the Florida west coast on a similar path to Charlie before making landfall just east of Mobile Bay. Ivan was an extremely powerful storm that devastated a good portion of the Florida Panhandle before moving up through the southeast and exiting into the

Atlantic. While Ivan never regained hurricane strength, its remnants did circle back south, and dropped an additional 4 to 6 inches of rain over Florida.

After making a circle move out in the Atlantic, Hurricane Jeanne turned west and made landfall during the last weekend of September. Along with intensifying to a category-3 storm, the eye of Jeanne made landfall within two miles of where Frances came on shore. The odds of winning the Florida lottery are better than the odds of two hurricanes coming on shore so close together. With four major hurricanes hitting Florida, the entire state has been impacted and some areas endured the path of two or even three storms.

For the few days before and after a storm, the news media provides ample coverage of hurricane preparations, the actual storms, and then the impacts of these natural disasters. However, it is impossible to fully appreciate the disruptions and impacts on every-

day life caused by hurricanes.

Battening down the hatches and taking on supplies in preparation for a hurricane consumes several days, and during this time everyone's mental and physical stress progressively increases.

Regardless of whether you evacuate to a shelter or ride out the storm in your home that has been closed up with plywood or storm shutters, stress levels hit a peak. The electricity inevitably goes out and you end up spending hours sitting in the dark listening to the howling winds and battering rain. Once the storm passes, people gradually come out and make initial



Impacts to golf courses from Florida's 2004 hurricane season may last longer than just debris clean up. Photo by Greg Phenegeer

damage assessments. For the first several days after a storm, recovery efforts are very slow to begin because of downed trees and power lines that make the roads very hazardous. Once recovery efforts begin in earnest, life slowly begins to return to normal, but it still takes weeks to fully get back to pre-storm routines.

Essentially every Florida golf course was impacted as a result of the hurricanes. The exception to the rule were the lucky few who were on the outer edges of the storms and experienced only minor wind damage and periods of heavy rain. For the vast majority, extensive tree and landscape plant material damage was experienced. Reports of 100 or more trees blown down are common, and for courses along the Treasure Coast that were in the path of both Frances and Jeanne, damage to 300 to 500 trees was typical. While it will be possible to save many of the trees, the aesthetic character of the golf courses has forever

been changed.

Another consequence of the storms was defoliation of trees and landscape plant material. The result is a look similar to the mid-winter as opposed to the end of the summer. While regrowth has been occurring, it will not be possible to make a full recovery prior to the onset of the winter play season.

On a positive note, the hurricanes did help address some tree and landscape problems. While certainly not as selective as desired, damage and loss of trees has effectively alleviated shade problems that existed at many courses. The challenge will now be fighting off demands to replant trees, which would re-create shade problems a few years down the road. At many South Florida golf courses, over-planting and the use of noxious, exotic plant material is a common problem. Hurricane damage is an excellent reason for removal of this material and, where necessary, replanting with native and better-adapted materi-

al. Damage at facilities where pruning and on-going landscape management programs were in place was less compared areas to where this basic component of course management was ignored.

Along with the obvious damage to trees and landscape plantings, bunker damage was another major consequence of the storms. In addition to the loss of sand due to wind erosion, severe washouts and sand contamination was experienced. At some courses, working the remaining sand back into place and adding an inch or two of new material will suffice. However, at the vast majority of courses that I have visited, the bunker sand is so severely contaminated with soil, rocks, shell, and organic debris that complete removal and replacement is the only option for recreating pre-hurricane conditions.

Repairs to damaged turf perimeters and internal drainage systems also are needed. Replacement sand costs alone can easily exceed

\$50,000 to \$75,000, and then there is the challenge of finding a contractor to perform this work. No doubt at some courses it will not be possible to complete the repairs and refurbishment work before next year.

Thunderstorms and a lot of rain can always be expected in Florida during September. However, in Palm Beach County the hurricanes dumped more than 28 inches, which broke all previous records for monthly rainfall in September. Naturally, course flooding was a common problem, and matters were compounded at facilities located on the barrier islands, which were inundated with salt water. It has been my experience that the bermudagrasses are a resilient species, and can recover after being under water for a couple of weeks or longer. As soon as the water recedes, aeration of flooded areas is recommended to aid in the recovery process.

Unfortunately, we are quickly running out of good growing weather and thus a complete recovery will not be possible. Record-setting rainfall has flushed all nutrients from the soil, and it is necessary to start all over with fertilization programs.

Clean-up of storm debris that littered every square foot of golf courses is very time-consuming and must be completed before routine maintenance practices, such as mowing, can be re-initiated. Debris clean-up can easily take a week or two, and it is being reported by many courses that finding extra help has been very difficult, further prolonging the clean-up process. Direct turf damage from the hurricanes fortunately did not occur, but having to take heavy clean-up equipment out onto the very wet and soft turf causes damage and will require additional repair work.

At the very least, the hurricanes caused a two- to three-week setback in course preparations for the upcoming winter season. For those who have had to deal with two or even three storms, the preparation setback is more in the six- to eight-week range. To compensate for environmental stresses, heights of cut have been raised, and several weeks

will be required to gradually work heights back down and reestablish appropriate conditioning. It is very important to minimize scalping damage so as not to exert additional mechanical stress and further slow growth and recovery.

I have been impressed with the speed at which recovery efforts have progressed so that the courses can be reopened to play in pretty good overall condition. As we go into the winter season with a much weaker base turf cover, there will be additional challenges and problems with maintaining course condition and quality in keeping with expectations during the winter season. Regardless of inputs, making a full recovery from the hurricanes will not be possible for many until next spring and summer. Ongoing golfer education efforts throughout the winter months are advisable to foster a degree of understanding and patience about the impacts of the 2004 hurricane season.

Green Section Internship Program – A Valuable Experience

By Todd Lowe

The USGA Green Section Internship Program offers opportunities for students studying turfgrass at universities throughout the United States to travel with USGA agronomists for one week each year. Some students hope to be golf course superintendents while others aspire to be turfgrass researchers, professors, or active in some other aspect of the industry. In any case, the internship is a real eye-opener as to the issues that superintendents face on a daily basis.

The Florida Region recently completed the 2004 Green Section Internship Program. Two graduate students from the University of Florida, Tina

Duperron and Nick Pool, learned a great deal about golf course renovations, managing golfer expectations, and factors affecting the long-term health and playability of golf course turf. The interns also evaluated the playability of seashore paspalum for Florida golf courses.

Some of the agronomic issues discussed during Turfgrass Advisory Service visits included putting green playability and issues affecting turf health. Nematodes were active at most of the golf courses during the visits, and various chemical and cultural programs were discussed. Also, with the peak golfing season approaching, protecting the turf against excessive cart traffic was a common topic as well.

Numerous other topics were discussed and the interns were busy taking notes during each visit.

The action-packed week was filled with TAS visits, courtesy stop-by visits as well as a regional golf course superintendents meeting. The interns also interacted with Edison Community



Todd Lowe

College's Golf Course Operations director, Dr. Lee Berndt, as they toured research/demonstration plots and discussed an upcoming USGA-funded research project that will be conducted at the college. Lastly, the interns attended a golf club membership meeting, where a presentation on putting green renovation was followed by a lively discussion with the members.

Having once been an intern myself, I know that the USGA Green Section Program is a valuable experience. No matter what segment of the golf course business the interns choose following graduation, the information gained during the internship will certainly benefit them and the entire industry.

Dry Fertilizer
Bulk Liquid Fertilizer

Office: 954-741-4041
Fax: 954-741-4082



GREEN-WAY

Quality Turf Products
We Specialize in Keeping you GREEN

MANGA PLEX PLUS • ULTRA - GREEN • BIO-PLEX

10008 N.W. 53rd Street • Sunrise, Florida 33351