You can read a lot of articles about where the economy is heading and, depending on who’s writing and what their motives are, they can be positive or negative. The bottom line for golf courses is what’s happening at the cash register and in the bookkeeping department – revenue in and expenses out.

Golf course maintenance numbers are usually all put in the “Out” column. You can argue at the 19th hole that course conditions bring people in to play, but there is no “Credit” column in the golf maintenance accounting ledger. The only “positive” input by golf course maintenance is finding ways to make the budgeted expenses less than anticipated. Superintendents are challenged to minimize expenses without compromising quality.

The following are ideas from fellow superintendents on possible ways to do just that. Keep in mind that these ideas are site-specific, based on weather patterns, soil types, drainage, water quality and availability and special localized stresses like topography, air movement and shade.

**Steve Keller, Juliette Falls GC, Dunnellon:** Refer to the cover story. Keller did a great job of showing how he uses site-specific factors; especially weather, as it affects turf growth to allow him to tailor standard maintenance programs to reduce mowing, fertilizing, watering and pest-management programs and inputs. We emphasize being site specific and make sure you have buy-in from club management and green committees, etc.

**David Dore-Smith, Copper Leaf GC, Naples:**

1. **In-house versus outside contract projects:** We verticut fairways, tees and roughs in-house. We purchased two 60-inch-wide verticut units from First Products that allow us to verticut when we want to. The units are around $9,000 each. However, with the cost of outsourcing verticutting 18 holes of fairways approaching $10,000 per time, the cost savings become significant over a short period. We can be less aggressive and verticut several times throughout the summer on a schedule that suits us. With the rain we have experienced this summer, this has been a great advantage rather than being locked in to a particular date.

2. **Labor hours and schedules:** We have no overtime at Copperleaf. An idea that was implemented successfully is to have our staff split into 3 crews instead of the usual 2 groups. This way, when one group works a weekend, the other two groups have time off to be with family and to take a much-needed break from the golf course. On Thursday, the group
that worked the weekend is off so as not to work overtime. On this day, greens are rolled only to help compensate for the reduced labor force.

3. Mowing schedules and frequency:
   We are now mowing greens 4 times per week and rolling the other three days. Monday, Wednesday and Friday we use walk mowers. On Saturdays the greens are mowed with triplex mowers. All greens mowers have the 14-blade reels that allow us to raise mowing heights yet maintain a very high green speed.

   The use of brushes on our greens mowers has also been utilized over the past few years. Not only do we use the ones that drop down in front of the basket, but also we have switched out the traditional groomers to brushes that cover the entire surface of the putting green. These brushes have been a fantastic addition to our greens presentation for our members and allow for a higher mowing height and healthier turf.

4. Fertilizer and chemical applications:
   One of the biggest changes over the past three years has been the reduction in nitrogen fertilizer on our putting greens. This has effectively reduced, and even eliminated, any flushes of growth and helps to maintain consistent ball speed on the greens. While the grass clippings in the baskets have been less, the greens have been extremely healthy.

5. Use of pigments and colorants:
   Copperleaf has been using pigments on its tees and fairways since last season and I have been impressed with the results. It has taken some time to find the right product and the right rate that suits our golf course. There are so many products on offer these days and each of them has a slightly different color; some are bluer and others are a darker green. We use them to supplement the color of the turf grass rather than to "paint" it. A good quality liquid fertilizer application during the mild winter we had this year was still extremely effective. The weather will dictate how much pigment is used during the winter months.

6. Cultivation frequency and techniques:
   More solid tine aerification = less clean up. The use of smaller quad-tines has been effective for us; however, the most beneficial cultural practice we have employed over the past year is the use of deep-tine aerification. The tines penetrate to a depth of 8 inches and truly break up any compaction. This work is contracted out and is completed in the morning before play. Our Toro 648 aerifiers simply cannot get to that depth.

7. Job assignments: Example: The person mowing greens also cuts cups.

   Job assignments haven't changed that much but storing our daily schedules on the Dropbox® app has been another great addition. Rather than print out or copy the daily schedule, the electronic version is easily accessible through your smart phone or tablet for a quick reference. We have also stored many other useful files on Dropbox®, such as pin locations, fertilizer applications, vacation day balances, etc.

8. Out of play areas:
   We have converted over 20 acres of turf to native areas and frankly, I do not see the cost savings. There is still an immense amount of work to spray Round Up, refresh pine straw and trim the plant material that is extremely labor intensive. However, the beauty that these areas provide has been quite stunning and they are well received by our members and guests.

9. Irrigation System and Programs:
   Over the past two years during the droughts, we have actively been changing out nozzles and moving sprinklers in areas that are clearly struggling from coverage issues. There is a wide variety of nozzles available to help improve most areas and we have seen significant improvements. We also utilize cycle/soak times on all sprinkler heads and zones with up to four cycle/soaks on our greens loops. The efficacy of the water is greatly improved using this technique although it can extend your water window. It simply means we split up our watering programs throughout the property and vary them each night to be able to water from 10 pm to 4 am effectively. Also, the use of a "Stop Time" rather than a "Start Time" has been implemented throughout our programs. I have a better idea of when I want an irrigation schedule to stop rather than when it is to start and so almost all programs are set up this way. (Editor's note: An irrigation cost saving tip might be to experiment with run time reductions per station or selected stations based on no or low stress locations. This requires close monitoring and experimentation, but can reduce power and water usage.)
10. Communications: Our member communications have changed recently with the introduction of the Copperleaf Golf Course Maintenance Blog. It is extremely simple to quickly post something that is happening on the course as it is happening rather than waiting for the next newsletter publication to take place. In our bi-monthly newspaper, I now simply write to remind members of the website where they can obtain the latest up-to-date information on the course conditions and maintenance schedules. Sometimes it can be challenging to know exactly what to write about, but the use of pictures and videos and describing what is going on really helps to educate your members.

The use of Apple TV in our employee room also has been a great addition. Training videos and even highlights of the televised weekend professional golf events have been easily accessed through You Tube and shown to the staff for improved visual training.