

Trials and tribulations - A new solution for winter protection

Transcript of Serge Gauthier's Seminar for CGSA '99



I want to start by thanking the CGSA and the board of Directors for allowing me to do this presentation before you this afternoon. I also want to mention that I am from Quebec and I am more comfortable in French and I will make some speech mistakes, so try to bare with me for the next 20 minutes.

In Quebec, winter protection is a way of life among golf Superintendents, especially in the Montreal area. Our winters are far from being predictable and we encounter mild weather, rain, heavy cold and ...ice. We have these conditions pretty much year after year and that 2 to 3 inches of ice last for about 100 to 120 days. Which is pretty bad for our 70 to 100% *Poa annua* greens. The results in the spring used to look like this.



So, for their survival (and also for the survival of their course), supers from the Montreal area came up with different ways to protect there greens. The most popular one right now is straw. This method has proven to be effective in most cases but is very time consuming and is not the cleanest of methods. Here's a few slides on the process used on most courses. The removal in also very time consuming and very dirty... But the main problem with straw, in my opinion, is that it is a living material and it can generate it's own heat when composting if the weather becomes mild. Results from the very mild winter of 1997-98 in our area truly showed the damage that straw can do.

When I got to Islesmere Golf & Country Club in 1993, we started to use straw because no protection was used at all on greens that were 90% *poa annua*. We used that process till 1995. That winter was also fairly mild and we came out no so good. It is really frustrating to spend more than 480 hours on winter protection and look like this. We then decided to look for a new way to protect our greens from winter injury.

We had to look at what was causing most of the injury. Other than the fact that we need healthy grass in the fall and hardened as much as possible, three things came up:

- Water. We had to find a way to eliminate as much water as possible to reach the green surface in the winter. It was our main objective

- Isolation. We needed some form of temperature buffer so that if it gets cold, the temperature of the poa stayed just below freezing. But we also needed something that would not heat up as easily as straw.
- Ease of installation and removal. Straw was (and still is) a pain to install and remove. 480 hrs of work for 30 greens (that's 8 hrs a day, 5 days with 12 crewmen)

In late summer 1995, a salesman from a cover company stepped in my office with a new type of cover that looked like those solar covers used to warm up the water in pools. But it was white, and the bubbles were bigger. I looked at the material, put it down on the floor and started to jump on it. No bubbles blew up and the material looked sturdy enough. I then knew right away this would be a perfect material for us.



At the next course committee meeting, I had to convince my green chairman to go all the way and do 30 greens with a product that was only tested one winter on a small area on a putting green in another golf course. They wanted the straw out but were skeptical about doing that move in one shot. After explaining to them what were the main causes of what I called "the winter death syndrome", we all agreed on going ahead with the bubbles.



The actual bubble covers come in different sizes. All in increments of 4 feet wide to a maximum of 28 feet wide. The only limitation in length is the size and the weight of the rolled cover. Our greens have an average of about 100 feet long by about 75 wide. So we bought 96 rolls of 28' X 75' and 32 rolls of 16' X 75'. The cost then was \$0.11 a square foot. Total order: \$26 400. We used to buy for more than \$7000 of straw every year. We have now used the bubbles three times as they should be able to handle 3 more years (maybe more). Here are some numbers.

We wanted the installation process to be about the same as with the straw. We start by giving us a chance and we have some preparation to do for "B" day. We take out all of our covers and we then place them on the proper holes, in a sand trap, on the left side of the green. On "B" day, after the fungicide, we then put down the jute (burlap, mesh, file cover), then some rat poison, the bubbles, cramped in, and a final impermeable cover to hold everything in place. Because it is the first barrier against water, the top cover is placed so that it is covering the back mounds to keep water from crawling under. We use 1" X 3" with 6" nails to hold the covers down. We sometimes have help from the wind to remind us that we need to do a good job in securing the covers correctly.

We also install thermometers to monitor the outside temperature and the one under the covers. We used small household thermometers bought at Price club for about \$15.00 ea. We put them inside an upside down Ziploc bag mounted inside a plastic valve box that we painted white (for accurate temperature readings). We mount those boxes so that when we push the sensor under the covers, it ends up being on the green. We modified a regular due whipper to insert the sensor as far as possible under the covers. By cutting the handle just a few inches, the whip exceeds the length of the handle. We then put the sensor at the end of the handle and we push it under the cover. We then insert the whip and push to release the sensor.

By the way, we still use straw on the tees but a lot less than on the greens. We just put the bottom cover and about 1" to 2" inches of straw and we fluff it up. Here a view of a finished hole.

We monitored the temperature fluctuation throughout the winter and we were very pleased with the results. Here's an example of the fill out sheet we used and here's a graph of the results we had on green #7 Blue.

In the spring, the thought process is very different than when using straw or other organic protection. Even if the covers become exposed to full sun, the temperature under the covers will not go crazy like when using straw. We even found out that just removing the impermeable cover really kick starts the grass under. It provides sunlight (because the bubbles are translucent) and gently warms up the grass.

The removal of the bubbles is about the same process as when installing them. We just need to make sure they are well identified. We then fold them and put them in storage for the summer. The removal is quick and there is no panic.

The results we got were pretty good. We still had some damage on some greens. The main problem was again water infiltration. The greens that had mounds in the back of them were the worst ones. After watching the damaged areas, which cannot be compared with the "no grass" springs we had before, we already started to look at what we should do and shouldn't do for next year. We had to learn from our mistakes to determine things we could improve. The next, we decided to put the top cover (the impermeable one), further back, all the way to the crown of the "hill" to make sure the water would go either on the cover or behind the greens. The front of the green was then only protected by the bubbles and the results improved again. We attributed that to our "top cover" strategy. We are still trying to modify our method to improve it but it is now down to small fine tuning.

This product might not be adequate for Toronto area but in areas like Barrie or even in the Rocky mountains where they have problems with straw and elks and wapitis going after it, this might be the ideal solution...

The transcript of this talk is now available on the Quebec Golf Superintendent Association's web site at www.asgq.org where all members of the CGSA have access to the members only section.

Again, I thank you for this opportunity to share my experience and I hope you can come out of this with something useful to apply to your course and I leave you with something to remind you that there is always something nice about our profession.

Serge Gauthier