

All Blown Up!!!

Hot Air for Spring Recovery

By Skip Roth of CHI Companies and Nick Klinkhammer



Each Spring Golf Course Superintendents wait for the snow to melt to find out if there fall applications of fungicides worked to suppress snow mold diseases. However, some golf courses uncover their greens to find a smelly, rotten, dead turf across their greens. For these courses, recovery is a long process full of uncertainty and constant monitoring. Well in the spring of 2011 I had the chance in meeting with Jake Schmitz, Golf Course Superintendent of

Olympic Hills in Eden Prairie Minnesota who has perfected a way in using reinforced plastic to develop a greenhouse over their greens to recover them from winter damage.

Minnesota can become very unpredictable and throughout the winter months temperatures can get very cold but warm up to melt snow on any given day. With this constant freeze, thaw events, especially during the months of March and April turf can become damaged

and eventually lead to death. Thus, superintendent in the northern climates must find creative ways in recovering dead turf quickly to produce a well respected product.

Originally developed by Robert Distel, who at the time was superintendent at Wayzata Country Club experimented with 10-mil reinforced plastic sheeting to develop a Hot House to promote germination of new creeping bentgrass seedlings. The following year Jake Schmitz took this idea and




applied to his troubled greens that he consistently has problems with coming out of winter.


To develop these hot houses for his greens, Jake contacted CHI Companies (a heater rental company) and asked about propane heaters that could maintain a consistent temperature within the enclosure. CHI engineered the size heater needed and was involved in the setup process. To provide the adequate height and to the bubble, the plastic must be laid out and brought in a few inches to provide

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adequate lift to the plastic.

With this lift to the bubble sod staples are placed every two inches with 12 inch nails placed every 5 feet, also rope is placed over the bubble in two different directions just to make sure that the plastic will not move or blown away by any dust of wind. Air vents were also cut into the sides of the plastic to regulate air flow. The CHI heaters used for this process are direct-fired units, which means the outside air being

heated and going into the bubble comes in direct contact with the burner.

The thermostat within the bubble regulates the amount of heat to maintain the temperature. This heating unit is not a new concept and has been used on construction sites and commercial buildings for decades. One of benefits is that the burner combustion process creates carbon dioxide which helps the growing process inside the Hot House.



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The critical part of the process is to ensure you have enough vents in the bubble to maintain proper mixture of air and fuel for the burner but just enough to keep the bubble inflated.

Before the Hot House goes up, preparation for new creeping bentgrass germination must be complete. For this process, they verticutted several of times to remove any unwanted dead turf material while also opening up parts of the soil for seed bed

preparation. They also solid tine aerified to provide even more areas for the seeds to be surrounded by soil for increased rooting. The crew then applied several rounds of bentgrass seed to maximize seedling germination and enhanced recovery of their greens in recorded time.

Then once the bubble was up, crew members needed to get in and out of these Hot Houses to do routine maintenance such as watering, monitoring, and fluctuate temperature within the

bubble. For larger maintenance practices on these greens, the bubble must be taken down for mowing, and spraying of fungicides especially for diseases such as pythium that can be easily produced with the constant watering and high temperatures within these Hot Houses.

Before visiting Olympic Hills, I had only read about the use of

these Hot Houses in articles and to view them with my own eyes was a great experience. While some of the greens had winter damage, the fairways of the golf course were excellent.

I would like to personally Thank Jake Schmitz and his crew for giving me an excellent tour and learning experience at Olympic Hills.



On the left you can see the incredible lifting power of the warm air blower as you look inside the inflated recovery tent.

On the right you can see the hold down system implemented to prevent the lose of warm air outside the recovery dome.

