The Traveling Lawn

As a landscape and green roof designer the majority of my work usually falls within a 50-mile radius of my home in Washington, DC, but this past summer was a pleasant change.

Through a colleague and green roof expert from Germany with decades of experience, Jorg Bruening (Green Roof Services LLC) I heard about a cruise ship line interested in growing real grass on their vessels. They needed to study how the grass reacted to climate in the Mediterranean, and needed to determine the optimal plant management practices for their "traveling lawn." "A perfect job for a horticulturist!" I half-joked upon hearing about this unconventional project, not sure if this was even something with which I'd want to become involved. I was in the process of starting my own business, Canopy LLC, and had my hands full with local jobs, plans and piles of inevitable start-up paperwork.

A few months passed, and I got call from Jorg. Could I travel to Athens and take over the remaining 2 months of the study? True, I had a few things I was working on, but how could I turndown two months on a cruise ship? This "research" job sounded too good to be true – especially given the oppressive wetland climate of DC in July and August when people joke, "don't breath too deep or you'll drown." Luckily for me, my friend and business partner encouraged me to venture off in the name of science while he manned the newly formed business. So with new cruise –er - research outfits, suntan lotion, digital camera and laptop, off I flew….

When I arrived in Athens, I knew little about the research I was undertaking. I did know that my temporary office would be the Celebrity Galaxy, an aging cruise ship which accommodated 1000 passengers and 500 staff and crew members. She traveled on a 10-day itinerary around Italy, Greece and Turkey, an impressive cycle that I traversed six times over the course of my two month expedition. The exact site of my research was a 50 X 20 foot plot of grass on the 10^{th} deck (30 feet above sea level), on the bow (or front of the ship). The plot had been installed using German green roof technology, with the goal of minimizing the weight of the system, and thus limiting interference with the ship's navigation and ballast systems.

The composition of my tiny acreage was more or less a typical green roof assembly: vegetation on the top, about 3 inches of specially engineered growth medium, sub-surface irrigation, and drainage panels underneath. There were two varieties of warm season Bermuda grass being tested for their performance: Tiff Eagle and Tiff Dwarf. Green Roof Services LLC had also arranged a test plot in Miami, Florida with renowned turf grass specialist Dr. John Cisar. The grasses had to be selected for their durability and ability to withstand salt spray, high foot traffic, winds occasionally reaching 100+ mph, and hardiness in a variety of climates.

As I discovered over the course of my research, there are a number of factors that make growing grass on cruise ships difficult. These include the constantly changing climate and difficulty in obtaining landscaping materials in foreign ports. There was also the discomfort of working just forward of the glass-enclosed gym, where I was a constant curiosity for the paying cruise travelers – but that is another story.

I was considered a guest of the ship, and was afforded single-person quarters on the fifth deck. My duties were not terribly demanding, but they were very exacting. I tested and recorded my findings on the grass patch three times daily to test the wind speed, humidity, light intensity and the temperature of the grass canopy, with the first test at 7 am, the next at noon and the final at 7 pm. Between trips to the ship’s gym and occasional site-seeing ships ashore, I also irrigated, aerated, top-dressed, fertilized and rolled the grass with frequency.
For irrigation I had three options: hand watering, setting up a sprinkler, or using the subsurface irrigation provided by Nedafim. Each method had it’s advantages: hand watering and using the sprinkler cooled the canopy, while the subsurface irrigation targeting the roots and encouraged their growth.

Beside all the challenges on board and on sea we also found out that `Customs’ issues can make working with live plant material on an international ship very complicated. Half way through my stay, we decided to try two new grass varieties: cold season Bent Grass and warm season Bermuda grass Tiff Way 419.

The goal of these studies was to develop a practical final design and best management practices for the Celebrity Cruise Line's newest ship, the Celebrity Solstice. Marketing materials for the solstice Class ships were under development when my testing phase was initiated, and were already being distributed by the study's end.

I returned home to the sweltering DC heat in August, a bit more cultured, tan and sea-worthy. I had just had the adventure of a lifetime and was ready to roll-up my sleeves and get back to my own business.

Celebrity was excited to introduce the first cruise ship with a live putting green, and, based on the collective work of Green Roof Services LLC and myself and many others, this goal became a reality. In September 2008, a 15,000 square foot green roof was installed on the Celebrity Solstice's top deck. The picture below is of the test site, which would later transform into an underway golfing haven named the "Lawn Club".