

Zero-Waste Kitchen Contributes to Golf Maintenance Operation

Musket Ridge Golf Club
Vince DiStefano, superintendent
Kyle Roberson, executive chef

Myersville, Md. 21773

The Problem

In 2013, Americans discarded over 254 million tons of municipal solid waste (MSW), 28 percent of which originated from food and lawn waste. Musket Ridge Golf Club wanted to reduce the amount of solid waste members and guests produce by recycling food scraps and landscape waste back into the golf course as compost. In addition to doing their part to become better environmental stewards, the increasing cost of waste removal and purchasing compost influenced golf course officials to think of new ways of managing their waste production.

The Solution

Musket Ridge Golf Club combined the resources of their food and beverage and golf course maintenance departments to create a successful, zero-waste initiative. The new program uses a centuries-old Japanese process called bokashi to convert food waste from the kitchen into organic soil amendments used by the golf course maintenance staff.

Bokashi is a method of composting that uses microorganisms – sold in a liquid formulation known as EM-1 – to break down organic waste. At Musket Ridge, Kyle Roberson, executive chef, makes his own bokashi mix using sugar and EM-1 inoculant. The cost to create the bokashi mix is less than \$100 per year.

Roberson's kitchen staff separates organic food scraps and places them into large, rolling trash cans. As waste fills the containers, Roberson adds an appropriate amount of bokashi to begin the fermentation process. Once the containers are filled, Vince DiStefano, golf course superintendent, transports them to a grass clipping dump area and spreads the material over wooden pallets to keep it off the ground.

The bokashi is covered with wood chips for insulation and a tarp to keep it dry. After approximately 3-4 weeks of fermentation, the material reduces to half its original volume and is ready to be used as a nutrient-rich, organic soil amendment. The compost also can be mixed with grass clippings and sand to create excellent topsoil for various in-house projects.

The Results

The bokashi process helps the course keep more than 4 tons of food waste out of local landfills annually, saving the course thousands of dollars in waste-removal costs. Initial startup costs were minimal and there are no apparent payroll costs in added labor. Furthermore, the sustainable approach has attracted weddings and events from environmentally minded clients who find the zero-waste initiative very appealing when choosing a venue. Cost savings from waste removal and increased event revenue have made this project a financial success. Changing the kitchen staff's habit of throwing away food scraps and not separating inorganic and organic waste was a minor hurdle. However, after only a short time the staff realized the benefits of bokashi composting and the new practices became second nature. Also, the original composting location was not ideal due to shaded, wet conditions so DiStefano relocated the compost to the grass clipping dump area. It is important to note that your local government may regulate the size and/or volume of composting piles and may require permits for large composting operations.



Figure 1 - Composting pile halfway through the decomposition process. Note the partially decomposed artichoke.



Figure 2 - A covered pile of compost in the grass clipping dump area. Pallets are used to keep the tarp in place.