

Capturing the Green Market by Andy Sabula

In order to survive in today's world economy, any market advantage that a company has must be exploited to its fullest. With fossil fuel prices that are unpredictable at best, Green Circle Growers in Oberlin has identified woody biomass as an alternative heat source that has resulted in a greater share of the ever-growing green market.

Nearly three years ago Green Circle purchased a 1,500hp wood chip fired boiler from a Clarksville, Tennessee sawmill that was using it to produce electricity and heat its dry kilns. The high-pressure steam boiler was disassembled and moved to Ohio in order to supply one million pounds of affordable steam heat per day for Green Circle's huge greenhouses. The system included a 600,000-gallon hot water storage tank that could store up to six hours of heating needs. The boiler required three semi loads of locally supplied, carbon-neutral wood chips per day. Tire-derived fuel had also been used, but had proven to cause excessive clinkers to accumulate in the firebox, causing shutdowns and maintenance problems. Because the boiler would only be used during the heating season, it wasn't economically feasible to use it to generate electricity for internal or local use, so the generator that was included in the purchase has been mothballed.

As good as the system was, it quickly became evident that if Green Circle was going to meet its cost reduction goals, the boiler needed to be replaced or supplemented with a bigger, more efficient system. That led to the purchase of six 800hp low pressure, hot water boilers that will supply heat to newly constructed greenhouses that will eventually total almost 125 acres! The state of the art Vyncke boilers will be imported from Belgium and will feature a wet ash removal system that will make maintenance much easier, requiring less down time. The boilers' advanced design will also allow the combustion of a wide variety of fuel types, so that as availability of fuel sources change, the system won't have to be renovated. An electro static precipitator will virtually eliminate any particulates from exiting the exhaust, making it very clean and environmentally friendly to operate. The new boilers are scheduled to come on line in June of 2009 and will require approximately 10 semi loads per day of wood chips and other biomass to offset the long, cold northern Ohio nights.

Because the traditional supply stream of wood residue from local land clearing and cabinet manufacturers has changed considerably in recent months, owner John Van Wingerden has contracted for the delivery of dried horse manure as a supplemental feed stock for the new boilers. Horse bedding is a good market for the sawdust that sawmills and wood manufacturing operations produce, so backhauling soiled bedding and manure from the horse farms is a natural fit. Pricing for the manure and other feedstock will be based upon the BTU yield of a given load rather than weight alone. This type of pricing structure will ensure a greater level of energy recovery and efficiency, leading to greater conservation of resources. Another potential source of biomass that Van Wingerden is exploring to fuel the boilers is used railroad ties and telephone poles.

Green Circle grows, amongst other things, Poinsettias, Mums and Orchids in a highly automated state of the art facility that employs nearly 600 workers. Recently awarded

\$287,445 by the U.S. Department of Agriculture, Green Circle was able to buy retractable energy curtains that act like large automated window shades that retain solar heat and help cut energy costs by up to 43 percent, allowing them to further conserve resources and remain competitive in the marketplace. Investments like these are good for the environment as well as the economy, and retaining jobs is good business.

Woody biomass is not only playing a critical role in supplying affordable heat, it is also being used as a medium for plant growth as well. Up to 30,000 Orchids per week are potted in a pine bark that originates in Portugal, Spain, and Chile. The bark is processed in Holland by mixing it with peat moss and fumigating it with Methyl Bromide. It is then exported to the greenhouse industry around the world. Green Circle is using nearly 2,200 cubic feet of the bark per month. While the Poinsettias and Mum cuttings originate in Guatemala, they do not require the bark mixture for rooting. Green Circle distributes nearly 75 truckloads of plants per day from March through June to large and small domestic customers within 500 miles. Customers include big box retailers like Wal-Mart and Home Depot.

Not only has Green Circle been able to exploit a renewable and sustainable resource like wood to the advantage of its balance sheet, it has also won them a place at the negotiation table with customers that are intent on reducing costs and promoting themselves as leaders in the popular green movement. Capturing market share as a result of reducing costs by utilizing a renewable and sustainable resource like wood and bark makes sense for everybody including the consumer. Lower prices combined with greater environmental benefits add considerable value when compared to the status quo. Green Circle Growers truly is an apropos name for such a forward looking and environmentally friendly company.

Forestry is about growing, cutting, and using trees, and when using trees allows for good forest management and makes good business sense as well, we all win. So next time you're at your local garden store with an idea to beautify your home with a plant that promises its reward of adding beauty to your garden, remember that people like those working at Green Circle Growers have truly earned your business and should be commended for their stewardship of our natural resources.