

Manure Management at Rosenholm-Wolfe Dairy LLP

Rosenholm-Wolfe Dairy LLP began composting manure in 1997 on a commercial scale, after 6 years of experimental work. In 1997 an impervious site (black top) was installed on 3 acres. Windrows of separator solids were made and a self propelled compost turner was purchased to turn the windrows. At that time, merchandising was ramped up to sell our product.

The separator solids (manure off of separator) are hauled from the dairy barn by a 500 bushel New Holland box spreader and formed into windrows. The windrows are left to heat up to 132 degrees F., which may take from 3-7 days, depending upon moisture of the product and outside temperature. The rise in temperature is needed to kill weed seeds and any disease carrying organisms. Once 132 degrees is reached for a few days, the windrows are then turned (or fluffed up) with a self propelled machine with swinging knives. The object is to let off the carbon dioxide into the atmosphere and allow oxygen to enter the solids. This process is continued by turning the windrows every week for about 3-4 months. The finished product is black in color and smells like freshly turned ground. All compost is made from our farm containing 75% of cattle manure and 25% of sawdust that was used for bedding.

Process:

The dairy barns slope to the middle with a reception pit located under the floor. The barn aisles are flushed 3 times per day while each group is being milked. Dry sawdust is used for bedding with stalls bedded every day in summer and every other day in winter. The stalls have a sand base with tires filled with sand and sawdust is applied over the tires. This gives very good footing for the cows. The flush water is pumped back from one of the lagoons with some fresh water added, and the water is stored in water holding silos. The water is gravity flushed down barn aisles. The water and manure are pumped up over a solid state separator. The solid material is deposited on concrete below the separator and the water flows through screens into the lagoons. This lagoon water is 98.5-99% water and irrigated on approximately 750 acres. The separator solids are left to drain a few days and then dry sawdust manure is mixed with the separator solids at a rate of 2 parts of separator solids to 1 part dry sawdust manure (manure from maternity barn and calf hutches). This mixed product is then hauled to the compost site located on a 3 acre site 600 feet north of the dairy barn. The compost is produced here and stored until it is sold.

Investment Cost:

Flygt 20HP motor in pit	\$ 20,000.00
Solid state separator with screens	15,000.00
Scarab Compost Turner	125,000.00
Compost site (3 acres blacktop)	225,000.00
100 HP tractor & 500 bushel NH manure spreader	30,000.00
Hobbs Irrigator and traveling gun	45,000.00
4 1/2 miles of underground PVC pipe	40,000.00
Power source at lagoon (engine & pump)	<u>35,000.00</u>
	\$535,000.00

Investment would be approximately \$1,000.00 per cow.

In 2006 we started producing potting soil because our customers were requesting this product. We sell various mixes using compost, perlite, sand, sphagnum moss with small amounts of rock phosphate, sweet lime, meat & bone meal and kelp. Our potting soil and compost are all mixed and packaged on the farm. We sell in cubic yards (bulk), 1,000# tote plastic containers, 50# bags and 20# bags, and to vehicles that come to the farm (pickups and trailers...and whatever!!). Our compost and potting soils meet the National Organic Practices (NOP) standards. Our customer base consists of landscapers, nurseries, gardeners, homeowners, organic gardeners and farmers.

Marketing is carried on continuously with John Rosenow in charge. He attends the Iowa, Minnesota and La Crosse Organic Conferences, the Green Expo in Minneapolis, the Mid Am in Chicago, the Minneapolis Home & Garden Show, Value Added Conferences and Master Gardener events in numerous cities. We continue to get into as many retail outlets as possible.

Reasons For Producing Compost:

We raise all replacement animals on the farm. Our WPDES (Wisconsin Pollutant Discharge Elimination System) permit is for 1,300 animal units. If all of the manure was to be applied on the land, we would need 2,500 acres. We produce all of our grain and forage on 1,150 acres. Land in our area is not available for rent or purchase. 50% of our nutrients are sold off the farm as compost or potting soil amounting to 8,000 tons in 2012. Another reason, is to provide an additional stream of income to the farming operation. By composting, we are able to meet our Nutrient Management Plan requirements.