

## **Composting Operations in Southern Washington County**

The Greenwich Citizens Committee organized two well-attended field trips to southern Washington County compost operations in summer 2009.

Notes by Tracy Frisch, Greenwich Citizens Committee.

### **CTI Agri-Cycle in Cambridge: A large composter that gets paid to take paper sludge**

On July 21, 2009 we held a tour of CTI Agri-Cycle on Belle Road in Cambridge. Despite rain, about 25 people attended, including some neighbors and concerned Cambridge residents.

A composting operation these was started by the Wilmot family when they had a laying hen operation. Cover Technologies Inc (CTI) of Springfield, Mass., took over the site in 2000 when the Wilmots were facing the loss of their permits due to violations of state environmental conservation law. The name apparently refers to the end use of the product (at least at its Massachusetts site) for covering landfills. CTI began operating the facility in 2001 and employs Bob Wilmot as the site manager.

Unlike most composting operations, CTI Agri-Cycle has relied on tipping fees from the waste generator as the main source of revenues. The Cambridge operation accepts massive quantities of paper sludge -- a waste that would otherwise be land filled -- for \$30 a ton. This sludge comes from 4 or 5 area paper mills. Until recently the compost product was not being sold at all, as far as we can understand.

The other major ingredient of CTI Agri-Cycle's compost making in a one to one ratio is yard waste from several Capital District towns and cities. The compost company pays \$1 a ton for this material. Correspondence with DEC indicates a dispute about whether the company's 60,000 cu yard per year maximum in raw materials includes yard waste or only paper sludge. CTI Agri-Cycle has asserted that it only includes paper sludge.

The compost operation is a permitted facility, the most stringent level of compost operation in NY State. It requires engineering, special wells for monitoring (on and off site), and other investments. Composting takes place in substantial windrows on a clay pad designed to be impermeable in order to prevent nutrients and other substances from leaching.

Each paper mill has its paper sludge tested for heavy metals, PCBs, and other contaminants annually, and CTI Agri-Cycle has its compost tested quarterly. (The annual report is available from DEC.) However the report does not provide an analysis of the other raw ingredient, yard waste from different municipalities, and it is unclear whether it is tested for heavy metals and other undesirable constituents.

One concern raised about paper sludge was contamination with dioxin, which in infinitesimal amounts is dangerous to the health and development of humans and other animals. The interaction of chlorine and carbon-containing compounds can result in the formation of dioxins. Aaron Gabriel of Cooperative Extension said chlorine is being phased out of paper-making.

Speaking with the environmental officer at Hollinsworth and Vose in follow up, I learned that the Greenwich H and V plant makes filters and other specialty papers. It buys paper pulp in bales and bags from other mills, which I was told, do not use chlorine. Calls to other mills have not yet been returned. (If anyone else would like to follow up, let me know and I will provide appropriate info.)

Perhaps because paper sludge is very carbon rich and yard waste also tends to be high in carbon and low in nitrogen, CTI Agri-Cycle's product at the end of its 50-day compost making process is not considered finished and ready to sell. However the DEC permit only allows a certain amount of material on CTI Agri-Cycle's compost pad so last year's compost cannot be aged there.

Instead the company has been land spreading a very thick layer of the composted material on some of its nearby fields -- both pasture (where it grazes cattle), and hay and cornfields. (I am assuming the company purchased part of the Wilmot farm.) The unfinished compost continues to break down and CTI Agri-Cycle has begun mining the material which it refers to as "topsoil." The company is giving it away and possibly selling it.

This spring CTI Agri-Cycle also began taking food waste from the state cafeteria at the Empire State Plaza. Sodexo operates the cafeteria and Waste Management collects its trash. This waste corporation trucks the food waste 40 miles from Albany to the compost facility.

At the time of our visit, the compost operation had only received two loads of food waste (in June and July) from the state. It is composting this waste separately (one part food waste to three parts yard waste) since the operation is new to food waste composting. We noticed "biodegradable" plastic utensils in the mix and some plastic wrappers.

According to a DEC official the food waste is stored at the Empire State Plaza in a trash compactor dedicated until it is full. This makes the food waste anaerobic. We can attest to the fact that it smelled bad.

### **Booth's Blend: On-farm composting in Easton**

Harry Booth started making compost in 1998 while he was still dairy farming. When his crops and pasture had grown too high to spread manure, he would bring his dairy manure to a couple acres that weren't good farmland. After a year he said it would become beautiful compost. This got him interested in more deliberately making compost and with assistance from Aaron Gabriel of Washington County's Cornell Cooperative Extension, he learned more about operating a compost facility and launched the business.

As a farm producing a relatively small amount of compost out of manure, straw, hay, and sometimes wood shavings or sawdust, Booth's Blend is exempt from state regulation. Harry Booth made about 3,000 cu yards of compost in 2008 and he said the couple acre footprint of the operation would only allow him to make 4,000 cu yards at most. The site is hemmed in on one side by woods and a stream and on the other by clay soils that would not always be passable with the compost making equipment and trucks to transport it.

The Booths have a lot of money tied up in the heavy equipment and tractor trailers used in the compost business. Joanne Booth said that while they have finished paying off key pieces of equipment, maintenance and repairs are costly.

Harry told us he receives manure primarily from a few local dairy farms and straw bedding from horse farms. Allenwaite Farm with 1,200 cows recently stopped bringing him manure, after buying a separator. He sometimes pays for part of the cost of trucking but otherwise no money changes hands. Getting manure and other materials in a timely fashion is a challenge, since his needs are in direct competition with tasks that busy farmers must undertake.

Several contaminants are problematic. Plastic baling twine gets caught in and jams up equipment and also makes the compost less acceptable to customers. Chunks of wood don't compost fast enough for the Booth's Blend process. And wool from sheep farms impedes the composting process.

Harry said composting isn't a full-time job (or livelihood) for him. He mentioned another farm family that started composting manure but didn't make it into a business because they couldn't be waiting around to serve customers coming to buy loads in the spring. The Booths are flat out in the spring with deliveries and bagging compost and they get pretty busy again in September.

At Booth's Blend compost making continues year round, even in winter, unless the snow gets too high. When windrows cannot be turned, the pile may slow down and cool off. The compost windrows never freeze though.

Customers can buy Booth's Blend compost by the truckload either delivered or picked up on site. A relative small quantity is sold in 35 lb. bags at the farm and wholesale to a handful of area stores. Bagging is a laborious process that is only partially mechanized. It takes Harry about a minute to fill and heat weld closed a single bag. The Booths are able to palletize a load of bags.

This year the large 4H concession at the Washington County Fair trialed compostable plates, bowls, and cups and wooden silverware, in order for its food and other post-consumer waste to be composted at Booth's Blend as an experiment.

One of the reasons that Harry hasn't been especially eager to compost food waste is the rhythm of the operation. If he were to offer his services composting food waste from schools, supermarkets or restaurants, he would need to accept food waste on a schedule. Harry would want to incorporate food waste into new windrows as soon as he received it. Making new windrows is contingent on having the necessary ratio of ingredients available, but he depends on when farmers can deliver.

Muck Movers is a new business out of Saratoga County that takes manure and other organic farm wastes off site for composting. Many of the business's clients are horse farms that are not growing crops and lack the equipment to manage their own manure. Having an independent way of transporting raw materials should help Booth's Blend overcome possible obstacles.