

Red worms are solid gold

Nightcrawlers produce top quality compost in Avon

By Howard W. Appell
howard@livingstonnews.com

At the Chamber of Commerce, they joke that Tom Herlihy is Livingston County's biggest employer.

Herlihy has an estimated eight million red earthworms working for his company, Worm Power — makers of Organic Soil Fertility Products.

Worm Power is based in four buildings on Jenks Road in East Avon. Dairy manure is composted and digested by earthworms in a controlled environment, yielding a light, odorless product which is a superior soil food for vineyards, orchards, golf courses, and landscape contractors, as well as for home lawn and garden purposes.

Worm Power's facilities have been in production for 18 months, occupying a parcel on Jenks Road, on long term lease from the Coyne Farm. The farm also furnishes the company with a steady supply of dry manure — about 25 tons per week. The figure represents 10-to-15 percent of the total manure output from nearly 1,600 dairy cows and heifers. (No heifer manure goes into the separator.)

The commodity value of manure diminishes, sometimes to the point of being a liability, the further it has to be transported from the farm for spreading. Worm Power provides the Coyne Farm with a nearby market which has potential for future growth. Moldy or otherwise off-specification silage is also used by Worm Power.

The operation is a pilot project for what may one day become a major local industry. Worm Power is processing manure into a salable end product in 60 days, compared to the six-to-nine month composting period which would occur in an outdoor environment.

Worm Power's 'vermicompost' increases soil fertility and plant performance to a greater degree than raw manure or composts which are traditionally spread on a field.

Carbon-nitrogen ratio, oxygen availability, porosity, temperature and moisture content are carefully monitored and controlled at all times during the creation of vermicompost. At the beginning stage, the raw manure is chopped and mixed, then placed in a bin for nine days, during which the material is broken down by micro-organisms.

In this controlled, indoor environment the



Michael Johnson/Livingston County News

These red earthworms in East Avon eat cow manure and produce superior soil food.

material gives off heat, reaching scalding temperatures of 170 degrees or higher. This initial decomposition process kills off pathogenic organisms and eliminates most strong odor, resulting in the material Herlihy refers to as 'worm chow.'

Next, the 'worm chow' is placed into three troughs, measuring 132 feet long by 8 feet wide and 3 feet deep in a building where air temperatures and moisture content is maintained. The earthworm population occupies only the top six inches in the troughs, nourished by 'chow' which is sprinkled over the top. If you grab a handful of the material, you discover a mixture crawling with dozens of worms.

At this stage, the material is feeding worms, but no longer giving off heat or odor. To make that point, Herlihy recently hosted a picnic for visitors from Cornell University inside the building, right next to the worm troughs.

During the summertime, cooling fans in the trough building make a good deal of noise. However, at night when the fans are off, you can actually hear the worms eating. Worms come to the surface at night, but will disappear swiftly if a light is turned on.

The worms live their full life cycle in the troughs. The population is self sustaining and does not need to be replenished.

The worm-digested material works its way downward in the troughs, through a screen, where it is pushed by a breaker bar into a conveyor trench and delivered into another building. It is then sifted and sorted into varying grades ranging from a fine powder to pellets to pebble-size chunks.

The entire operation can be overseen by a

single person. Herlihy is assisted by project engineer Shawn Ferro. About four tons of finished product emerges each day and is shipped to customers in wholesale quantities.

The material has recently been made available for retail lawn and garden centers in a small containers, with the flat and house plant market in mind.

Vermicompost is an all-in-one plant food which can substitute for separate applications of peat moss, mineral fertilizers and microbe inoculants — providing all the components in their proper, organic ratios.

The material is certified organic, although the majority of Worm Power's customers are not organic growers.

Herlihy, who grew up in Geneseo, is an environmental engineer who had worked in various waste management projects in Pennsylvania, North Carolina and Africa before returning to Livingston County. He prefers the temperate climate of his home, but it is economics, not nostalgia, which brought Herlihy back to Livingston County.

East Avon is in the heart of western New York's dairy region — the third most productive in the nation — having the potential for supplying almost unlimited quantities of raw manure, while at the same time close to vineyards, orchards and suburban markets for the finished product. Clinching the decision to locate in East Avon was the cooperation and friendliness of the Coyne family, who are exceptionally fine people to work with, Herlihy says.

Worm Power's operations were recently featured on the "Modern Marvels" program on the History Channel. The show is scheduled to air again on July 14 at 7 p.m.