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LIZ VANDEUSEN inserts a thermometer into a compost pile to check its temperature. VanDeusen and Laura Adams (right) are East Syracuse Minoa High School students who monitored the temperature of compost for a research project for their Global Environment class offered through the State University College of Environmental Science and Forestry. The compost piles were kept at the rear of the water treatment plant in Minoa.

Compost: A Hot Energy Source

By Ken Sturtz
Contributing writer

Imagine if everyone could heat and power their homes with a renewable resource so plentiful that people throw it away: garbage and other compost materials.

East Syracuse Minoa High School students spent four months patiently collecting data to determine if it's possible, and more importantly, if it's practical to use compost piles as a renewable energy source.

"It's interesting how doing something so small can help the world," said Laura Adams, a senior.

Once a week since February, John Herrington, who has taught ES-M's global environment course for six years, loaded his class into a school van and made the three-mile trip to the village water treatment plant in Minoa.

Students monitor temperature of compost piles for college credit

The class spent about an hour before school collecting and recording temperatures at different depths in three compost piles, each 8-feet tall and 8 feet wide.

"The objective was to determine if a compost pile would create enough heat throughout the winter to run a biodigester," Herrington said.

A biodigester turns organic waste into electricity. The process involves capturing methane and other gases from the waste and using it to generate power.

The village of Minoa worked with the State University College of Environmental Science and Forestry to build a biodigester on site last summer.

The concept isn't new, Herrington said, but it has never been practically developed on a large scale. The class's research was on a small scale, but the information the test piles yielded surprised them.

The compost piles produced a lot of heat. The wood chips gave off only a little heat. The mulch and leaves produced the most heat, with temperatures between 130 degrees and 140 degrees.

"The kids were blown away. I think that really grabbed them," Herrington said. "They could not believe that in the middle of February we were producing that much heat doing nothing."

MULCH, PAGE A-4

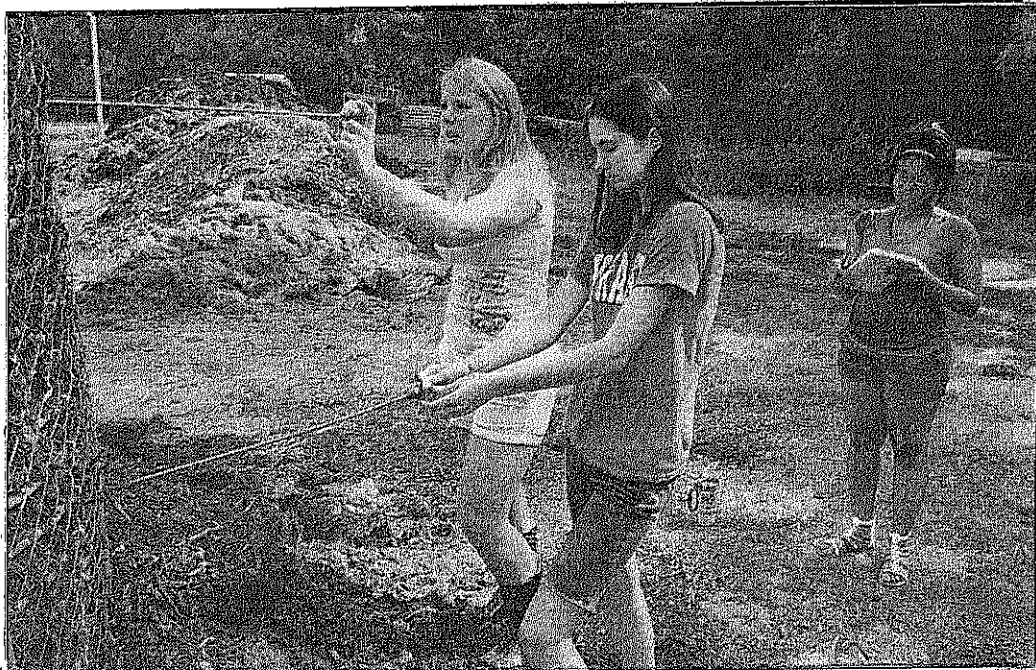
Mulch, leaves were hottest

MULCH, FROM PAGE A-3

The heat was the result of millions of bacteria microorganism that use compost for food and produce heat as a by-product. Insulated by the piles, the bacteria continued to break down the compost and produce heat.

The class recently presented its findings at SUNY ESF's Environmental Summit, along with more than 150 students from 13 Central New York schools that also conducted research projects. The research project is a component of the global environment course curriculum, which is offered to high school students through SUNY ESF for college credit.

For Adams, majoring in environmental studies in college was a close second to educa-



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LAURA ADAMS (left) and Liz VanDeusen insert thermometers into compost while Shareese Wagner writes down data. The East Syracuse Minoa High School students collected the data for their Global Environment class.

tion, but she said she still appreciates the nearly endless potential composting has for renewable energy if fully developed.

"Every fall people rake up their leaves and burn them," Adams said. "It's so interesting to find little ways to help

the world and save a little here, save a little there."

ES-M High School isn't letting its research go to waste. The first phase of the project was determining what compost materials were best for producing energy. The second phase will begin next year and focus

on finding practical applications for the renewable energy source.

"If they keep going with this it could be world-changing," Adams said. "I would love to see this implemented."

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