

Vermicomposting Pilot Project in Public School

How? EPA Environmental Education Grant, the original intent of the grant was to try to use vermicomposting to help staff learn the benefits of composting, and for agriculture education students to learn the benefits of compost.

Why? To pilot reducing waste

To teach kids in agriculture education the importance of compost

To teach kitchen staff how easy composting can be

To give agriculture students experience with packaging, marketing and selling castings

When? Grant written December 2009, funded June 2010, purchased equipment November 2010, installed March 2011. We killed our worms in March/April (some may have been too cold, most were too dry). More worms were “planted” in May, and did really well. Another pound was planted in June, and they never had a chance. They went in two days before our first 100+ degree weekend. New worms planted in September 2011.

What? BioSafe designed by BioSystem Solutions (www.biosystemsolutions.com), designed by Peter Scharfglas

What BioSystem Solutions does (direct quote from their website):

Waste Diversion Consulting

Composting Systems (large and medium scale thermophilic and vermicompost systems)

Speaker Series

Site design, planning and operations

Corporate and municipal finance

Why this unit? No moving parts, extremely easy, minimal staff effort, when we ordered the units they were available with a small heating unit. After we ordered them, we learned they no longer had a source for the unit.

Why vermicomposting? Extremely easy, very quick, no moving parts, compact

Worms purchased from Doug Hamilton, OSU BioSystems and Agriculture Engineering

Where?

Skyline Elementary - because they had a good space for it, they have school gardens, a small green house, a history of making an effort to be green, and it is right next door to the Junior High

Junior high- they had a good space for it, and the agriculture Education students start in junior high

High School- the horticulture students are HS level

What do we compost? Anything that looks good on the days the worms need to be fed. They love melon and tomatoes. Pete says to feed corn meal or grits while the worms are acclimating to their new environment. Doug says feed them whatever. We put some grits in (because we had them), along with other scraps. I don't think they've ever touched the grits.

How much do we compost? Worms will eat half their body weight in a day. Currently we have about 1.5lbs of worms in the unit. However, we measure our scraps by estimating volume. Staff puts about $\frac{3}{4}$ gallons of scraps in 3 times a week. We really haven't had a problem overloading the system. Each drawer in the safe will hold 20 pounds of worms (per Pete), or 12 pounds (per Doug). We haven't put more than 3 pounds in. The rule of thumb is- check the unit, if food is there, wait a little longer between feeding them. If they've eaten everything, feed them. Staff checks on them 2-3 times a week.

Resources:

Worms Eat My Garbage by Mary Apelhof – all-around good book on vermicomposting

Worm Cafe by Binet Payne – description of a successful school composting program, very good quizzes and materials designed to accompany Worms Eat My Garbage

The Worm Book by Loren Nancarrow and Janet Hogan Taylor – good for trouble shooting, answering specific questions, fun to flip through (includes a chapter on cooking with worms)

The grant and department bought Worms Eat My Garbage and The Worm Book for the Agriculture Education students. All sites and my office have a copy of all three books.

Challenges:

WEATHER!!!! We have Rubbermaid sheds to house the units (worm houses), but we can't get our facilities guys to install them, and they will be too hot in the summer. We are building two new elementary schools, and we already know where the worm units will go at those schools.

Cooperation between my department and other departments.

Conflicting information- Before I was encouraged to write this grant, I knew almost nothing about compost and absolutely nothing about worm composting. I had 2 weeks to learn everything I possibly could so that I could write a decent proposal. I have 3 books on my desk that might conflict. I'm getting suggestions from Pete (whose information is not so applicable to Oklahoma) and from Doug (who knows what he's talking about).

Successes:

This is really fun. The worms are cute and separating them is fun (although I am sloooooow at it.)

It is soooooo cool to see how fast those little guys can convert a cantaloupe to soil.

I truly believe we will eventually figure this out, although I no longer have any idea about what to do with the castings (Agriculture Education gets first dibs, but so far we aren't consistent enough for them to be able to include it in their curricula)

Apparently I am now the district go-to girl on composting. I don't know much, but I know where to send people for more information.