From:	Jared Blumenfeld
To:	Jared Blumenfeld
Subject:	Fw: compost info for your interview
Date:	08/23/2012 12:38 PM
Importance:	High
Attachments:	12.4.09.World changing..doc 11.26.09.bcn.doc Rodale with photo.doc CC_1228lr.jpg CC_1476lr.jpg CC_1581lr.jpg FINAL.doc

---

Sent by EPA Wireless E-Mail Services

----- Original Message -----
From: Robert Reed [RReed@recology.com]
Sent: 08/23/2012 05:17 AM MST
To: Jared Blumenfeld
Subject: compost info for your interview

Doing KPCC radio interview in the morning on food scrap composting. How many cities in US have programs? What about in CA? What about SoCal? Thanks buddy!

Dear Jared,

How many food scrap compost collection programs?
More than 1,000 locations in the U.S. (more than 300 cities, and more than 700 universities) have replicated the food scrap compost collection program that you helped establish in San Francisco. Many of these cities are in California, primarily Northern California. Curbside composting started in San Francisco and expanded to many other Bay Area cities (Oakland, Berkeley, 11 cities in San Mateo County) and hundreds of universities (UC Davis, UC Berkeley, Stanford.) Universities are a natural location to collect scraps for composting.

Why is composting important?
Food scraps are one of the most important types of garbage because food scraps a chockfull of nutrients and carbon. In the San Francisco program food scraps are collected and composted at modern composting facilities using techniques that preserve, to the greatest degree possible, the nutrients and the carbon in the finished compost. The finished compost is then delivered to vineyards that use the soil amendment to grow cover crops between the rows of vines. The cover crops – mustard, beans, sweet peas, brass button – fix nitrogen and carbon in the topsoil. They literally pull carbon out of the atmosphere. Scientists call this process carbon fixation or carbon fixing. Agronomists at the Rodale Institute, the oldest agricultural institute in the U.S. have determined that if every city in the country replicated San Francisco’s compost program, we could offset more than 20 percent of the nation’s carbon emissions. Combine that with other environmental farming practices and we could potentially offset more than 40 percent of the nation’s carbon emissions, according to Fulbright Scholar Dr. Paul Hepperly.

Why aren’t there more compost programs?
Unfortunately, there are far more landfills than compost facilities in America. We need to build a new compost facilities on top of existing landfills. They are already permitted to receive the material. It’s just upgrading them to a higher and better use.

What can people do to get a composting program in their community?
If enough people say they want it, they will get it. People need to encourage their elected officials to get with the program.

RR (see below and attached)

---
vineyards are now using the compost to grow cover crops that pull carbon out of the atmosphere. That is remarkable and a partial fix for climate change. If everyone did it and if we planted more trees on marginal soils, we could offset more than 20 percent of America's carbon emissions! Please see detail below and attached.

Key numbers:
Conventional farming – tilling the land, using commercial fertilizers, etc. -- puts 3,700 pounds of carbon dioxide in the atmosphere per acre per year. Applying compost, which helps grow “cover crops” that draw carbon in part from the air, returns 12,000 pounds of carbon a year to the

soil.
Key sources: Shaffer and Hepperly listed at bottom of this email.
Robert Reed

sequestering carbon in deep in the soil. There is only one ways to do it. Use compost made from food scraps to grow cover crops like mustard and beans that pull carbon out of the atmosphere. The cover crops grow long roots (see attached photo) that carry carbon 14 inches into the soil. The compost itself also retains carbon, provides carbon to the soil, and helps enable the earth to store carbon.
New numbers based on nine years of field research from the Rodale Institute document these facts. Scientists Paul Hepperly and Bob Shaffer (contact information provided) are available sources. A lot of reporters are doing compost stories and you can find people with all kinds of views. A handful of journalists are reporting the story within the story. “The (compost) law, the most comprehensive in the country, is an aggressive push by Mayor Gavin Newsom to cut greenhouse gas emissions, return carbon to the soil, and have the city sending nothing to landfills or incinerators by 2020”
Urban compost collection programs – a vital form of recycling

New data based on nine years of field research shows that urban compost collection programs are more effective at helping protect the environment than previously known. Here is the background:

Vineyard managers are using compost made from food scraps collected at S.F. restaurants and homes to grow diverse cover crops that return carbon deep into the soil. Every week another city or university somewhere on the planet initiates urban collection of food scraps for composting, a program that started in S.F. in 1996. This is very good news in the effort to manage carbon in the environment, a challenge the Obama administration is focusing on.

Fulbright Scholar Paul Reed Hepperly, PhD, offers this remarkable insight about garbage and recycling:

Conventional farming – tilling the land, using commercial fertilizers, etc. -- puts 3,700 pounds of carbon dioxide in the atmosphere per acre per year.

Applying compost, which helps grow “cover crops” that draw carbon in part from the air, returns 12,000 pounds of carbon a year to the soil.

Knowing this, which way would you like farmers to farm, conventional or compost? Which do you think makes more sense, including more business sense, over the long term?

What to see which communities added food scrap composting in the last 30 days. Type "food scrap compost" into Google and click "news" at the top of the page.

In researching this information we asked a number of questions (below). The answers came from Bob Shaffer, a soil scientist, based in Glen Ellen, CA and consultant to dozens of vineyards.

What are some of the different cover crops vineyard managers in Northern California are growing (right now) with compost made from food scraps collected in S.F.?
- Legumes: Bell beans, clovers (5) Field peas (5), Vetches (2),
- Grasses: Brome (5),Fescue (3), Sudan,
- Grains: Barley, Oat, Rye, Triticale,
- Forbs: Buckwheat, Mustard, Plantain
- Herbs: Anise, Chicory, Coriander, Yarrow
- Flowers: Alyssum, Tidy tips, Poppy

How effective are cover crops themselves at increasing carbon in the soil?
Due to the design and character of nature plants are the ultimate builder of soil humus, the ultimate form of stored carbon in reference to natural or farmed soil. It is the root that has the greatest ability to form and store carbon in soil:
- roots turn into humus more easily compared to other forms of OM
- roots grow out in "swarms" in soil and deposit carbon in a large area, over time
- roots deposit carbon in soil while they are alive by exudation and by soughing off cells
- root deposit carbon in soil when they die
- roots deposit carbon deep in soil where there is no other practical means to place carbon

How effective is applying food scrap compost to growing cover crops?
- On a scale of 1-10 we would rank compost as a 8 or even 10 depending on the quality and placement of the compost. This question is only answered in relation to many factors. It depends on the parent fertility of the soil, what else is being applied and the type of cover crop plants being grown. In general, compost is the most effective input to use for elevating the biomass of cover crops for these reasons:

1. Slow release of minerals
2. Easy of use
3. Synergistic with cover crops as they both add carbon
4. Cover crops cause the minerals in compost to be immobilized and prevented from leaching
5. Compost elevates the growth and biomass of cover crops which greatly elevated SOM

Bob referred us to Hepperly who says by applying food scrap compost to one acre of land and farming in an environmentally responsible manner you can add 12,000 pounds of carbon to the soil in one year.

We asked Shaffer: How much of the 12,000 pounds would you attribute to the compost? How much to cover crop?
It is a hard question due to the high degree of variability in farm soils. The cover crop, fed by compost, is more than likely to create the bulk of carbon that is found in soil after a crop cycle. The crop itself and the cover crop both contribute a huge amount of carbon to soil, especially when these plants are properly fed with compost.

Plants make soil richer in carbon, and add more to soil that they take. This obviously true or there would not be any plants on earth!

A year ago, Bob took us to Green String Vineyard, a 2,000-acre vineyard, outside Petaluma. They have applied compost made from food scraps collected in S.F. to Green String for many years. The cover crop there is very diverse and includes wild iris and other plants that can pull carbon out of the atmosphere.

Bob said a few miles away at Cline Cellars huge mustard fields are in bloom right now. Like Green String, the vineyards that grow for Cline Cellars have applied food scrap compost for many years.

Bob visits several different vineyards every day. He also grows coffee in Kona.

Because of is busy schedule (including travel to coffee plantations in Hawaii) it is hard to put him together with reporters. However, he could be available to show you these cover crops in bloom. Bob said this is the best time of the year to see them

Here is contact info or Shaffer and Hepperly:

Bob Shaffer
707 953-5153
soilculture@aol.com

Paul Reed Hepperly, PhD
Advisor and Consultant
Fulbright Scholar
1467 Packard Court
Kutztown, Pennsylvania
Paul.Hepperly@gmail.com
610-618-9117

Thank you
Robert Reed
Recology Sunset Scavenger
415 606-9183, cell, rreed@sfrecycling.com