

Presented at the May 21st, 2009
Organics Forum, Washington, DC

Composting 101

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What is composting?

Composting is the aerobic, or oxygen-requiring, decomposition of organic materials by microorganisms under controlled conditions.

During composting, the microorganisms consume oxygen. Active composting generates heat, carbon dioxide, and water vapor.

Composting reduces the volume and mass of the raw materials while transforming them into a valuable soil conditioner.

Source: Robert Rynk et al, On-Farm Composting Handbook, 1992.

Top Ten: Why Compost?

10. Create black gold







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9. Protect and revitalize soil

Soil Benefits of Compost

- Creates a rich nutrient-filled material, humus,
 - Increases the nutrient content in soils,
 - Helps soils retain moisture,
 - Reduces or eliminate the need for chemical fertilizers,
 - Suppresses plant diseases and pests,
 - Promotes higher yields of agricultural crops,
 - Helps regenerate poor soils,
 - Has the ability to cleanup (remediate) contaminated soil, and
 - Can help prevent pollution and manage erosion problems.
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Top Ten: Why Compost?

10. Create black gold
 9. Protect and revitalize soil
 8. Reduce greenhouse gas emissions
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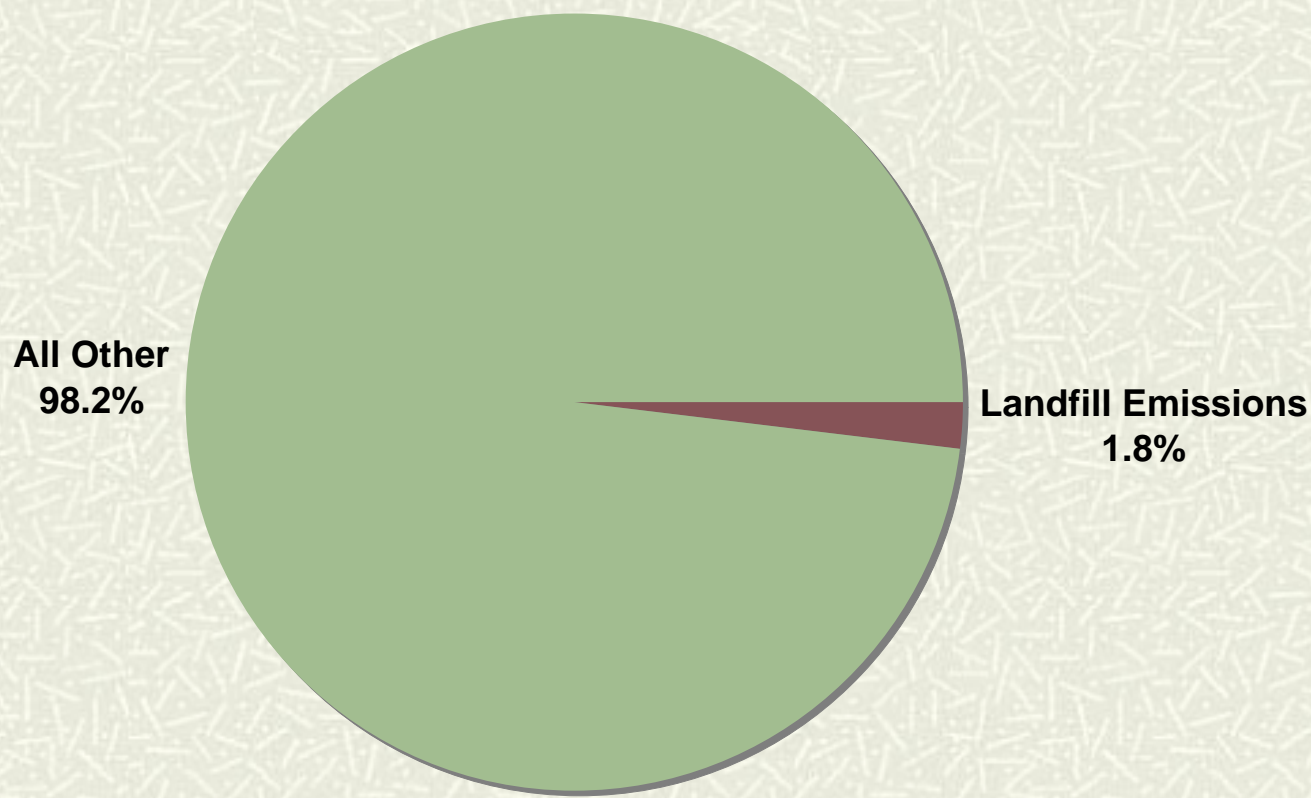
The global warming potential concept

CO₂

Methane - 100 year time horizon, 21 times more potent than CO₂

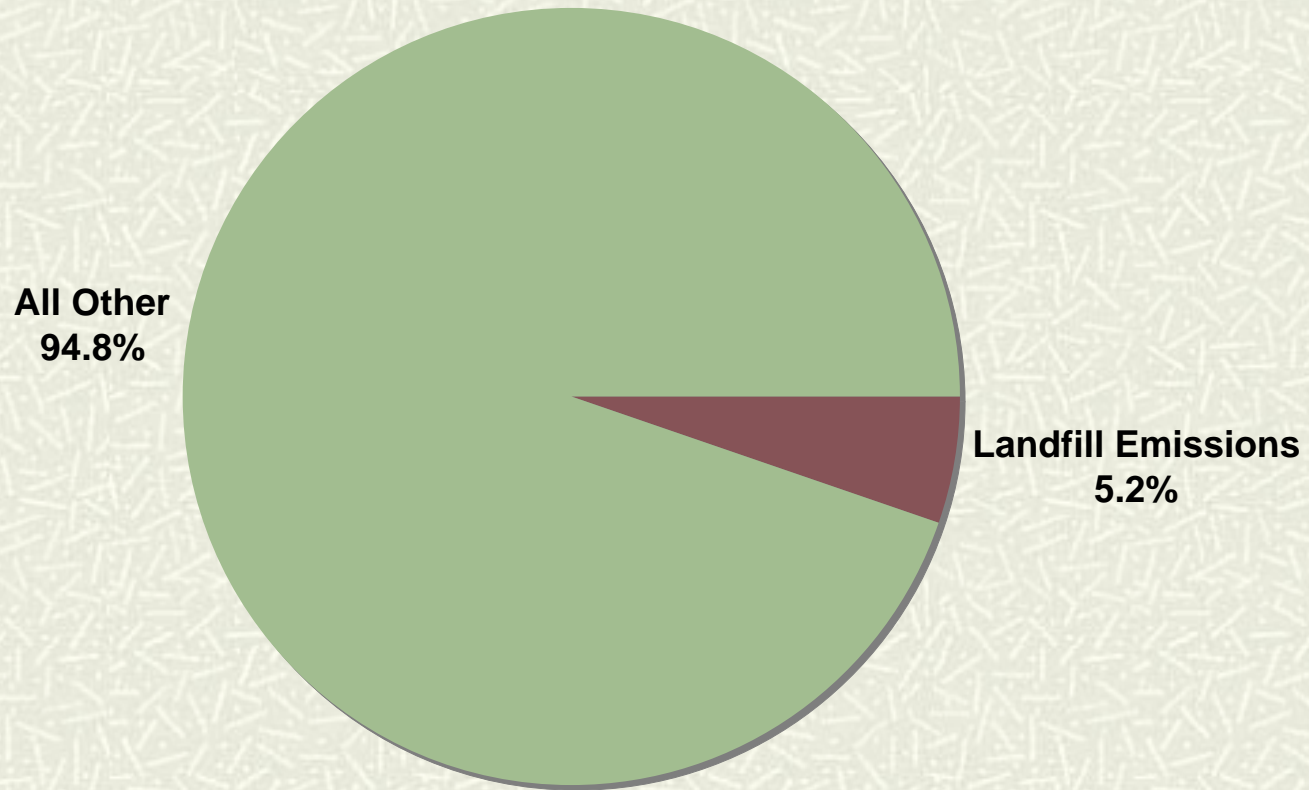
**Methane - 20 yrs, 72
times more potent**

Landfill greenhouse gas emissions, % of total



Total 2005 = 7,260 megatons CO₂ equiv.

Landfill greenhouse gas emissions, % of total, 20 yr time horizon



Total 2005 = 8,754 megatons CO₂ equiv.

Organics Diversion: Core Climate Protection Strategy



- Prevents landfill methane emissions
- Stores carbon
- Improves soil's ability to store carbon
- Substitutes for energy-intensive fertilizers, pesticides, fungicides
- Improves plant growth, and thus carbon sequestration
- Reduces energy use for irrigation
- Anaerobic digestion offsets fossil fuel consumption

Top Ten: Why Compost?

10. Create black gold
 9. Protect and revitalize soil
 8. Reduce greenhouse gas emissions
 7. Proven technology
 6. Many successful models
-

Composting, lots of models



Recology's Jepsen Prairie Organics Regional Composting Facility



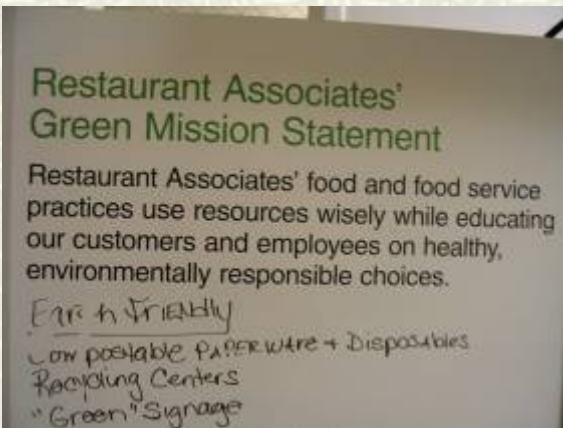
Courtesy of City of San Francisco

Cedar Grove Composting

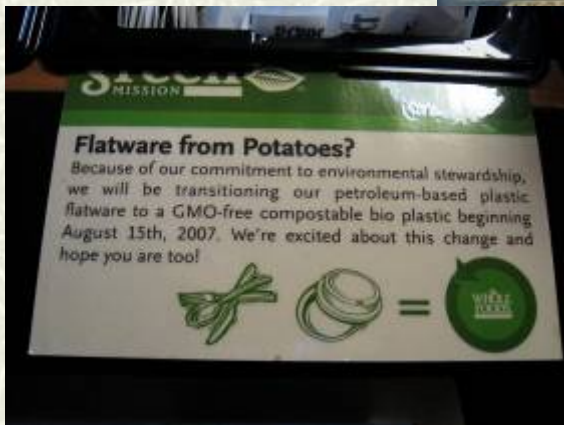




Green the Capitol Initiative



Whole Foods



Green Cycle Industries



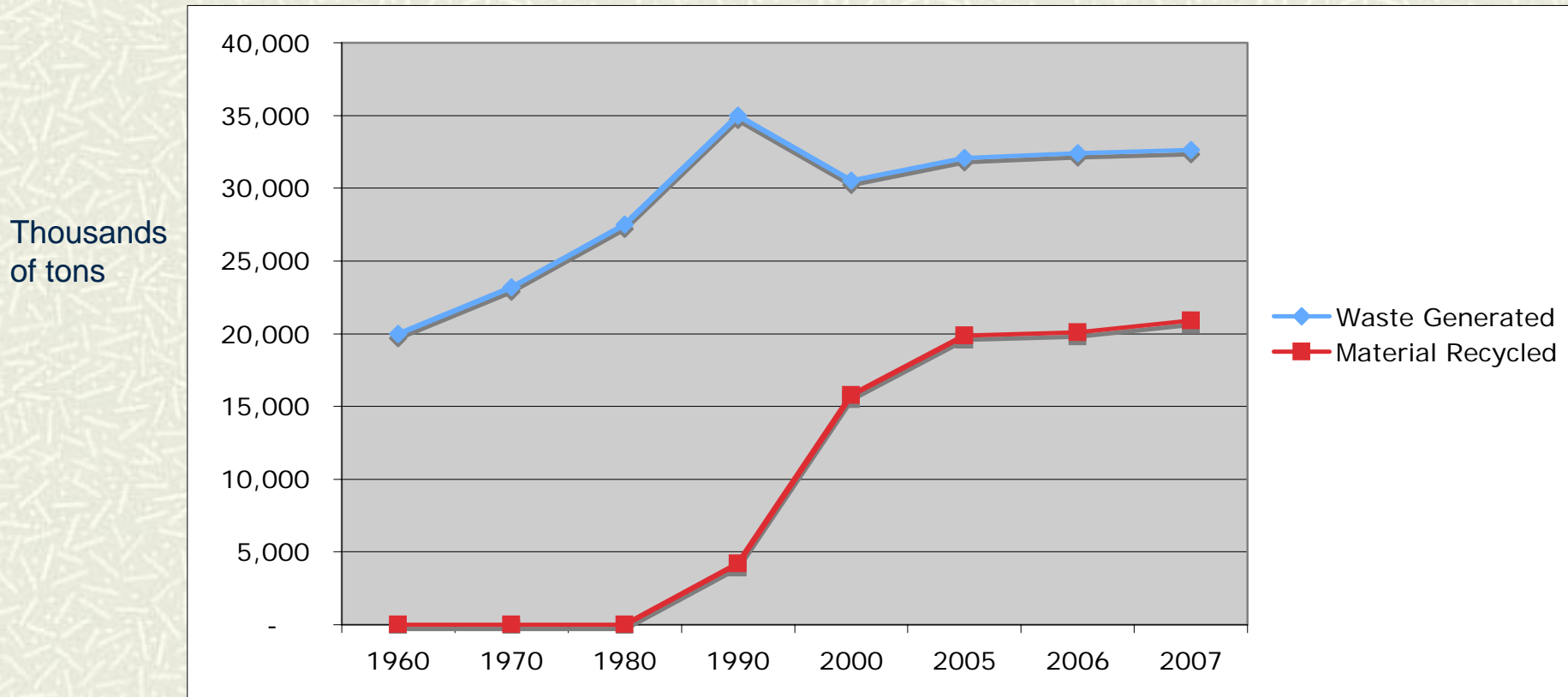
Top Ten: Why Compost?

5. Save money on solid waste management
 4. Increase diversion levels
-

Composting Key to High Diversion

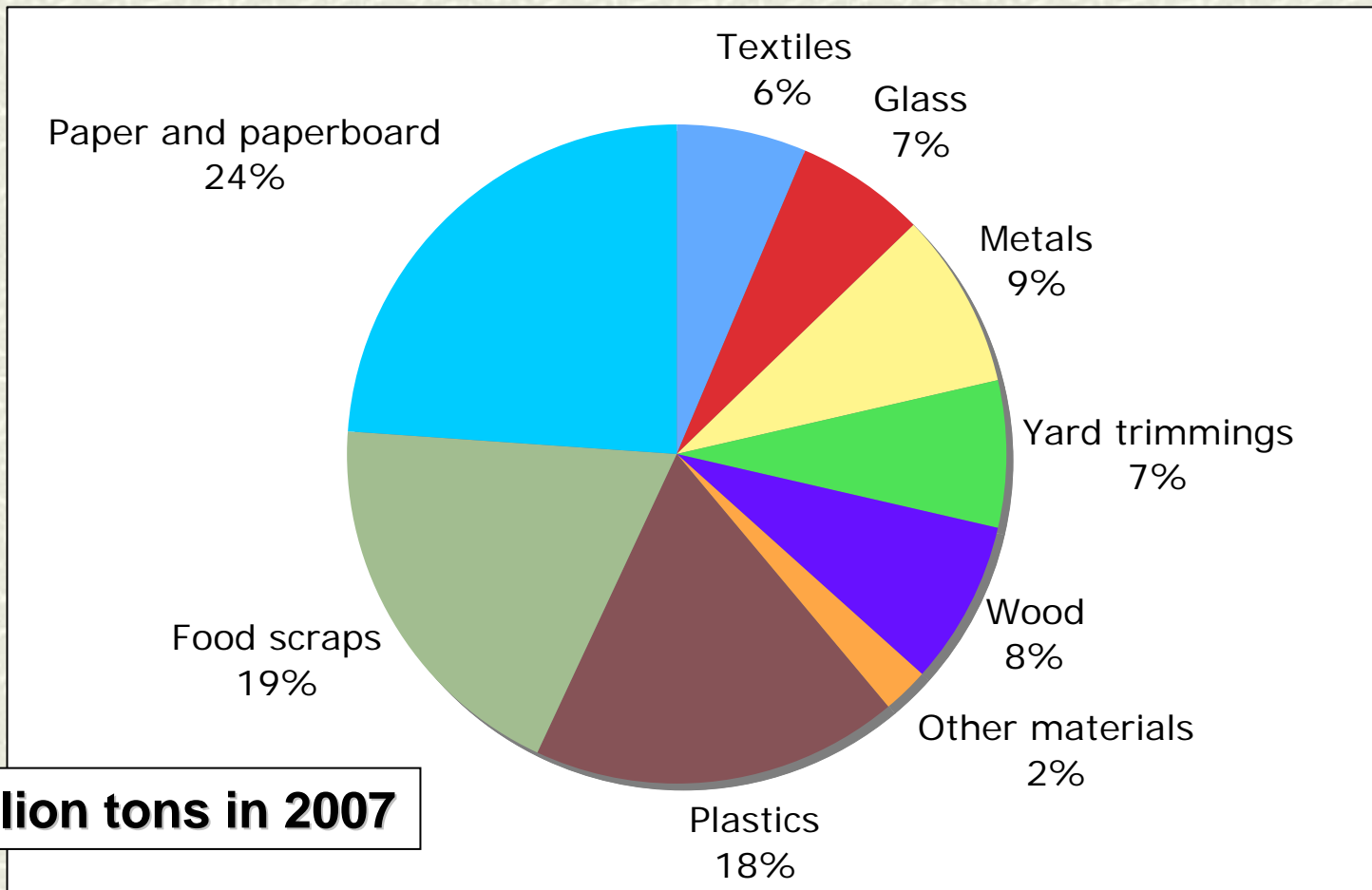
Community	Waste Reduction	% Composted
Ann Arbor, MI	52%	22%
Bellevue, WA	60%	34%
Chatham, NJ	65%	43%
Crockett, TX	52%	32%
Dover, NH	52%	17%
Falls Church, VA	65%	40%
Loveland, CO	56%	37%
Madison, WI	49%	33%
San Jose, CA	45%	26%
Worcester, MA	52%	28%

Yard Trimmings Generated and Recovered in the US, 1960-2007



Source: US EPA, 2007 data (<http://www.epa.gov/epaoswer/non-hw/muncpl/msw99.htm>)

U.S. Municipal Waste Disposed



169.2 million tons in 2007

Composting & Recycling Collection System Designed for High Diversion

Recycled Paper
21%



Food Scraps
20%



Yard Trimmings
5%

Compostable Paper
10%



Other
15%



Glass and Plastic Bottles
Aluminum and Steel Cans
5%

Construction and Demolition Waste
25%

Toronto



What goes in the green bin?



- YES**
- Fruit and vegetable scraps
 - Meat and fish products
 - Pasta, bread and cereal
 - Dairy products and egg shells
 - Coffee grounds/filters and tea bags
 - Soiled paper towels and tissues
 - Soiled paper food packaging - ice cream cones, waffle and flour bags
 - Cake, cookies and candy
 - Diapers and sanitary products
 - House plants, including soil
 - Animal waste, bedding and kitty litter

- NO**
- Plastic - wrapping, containers, trays and milk bags
 - Driver linens/sheets
 - Styrofoam and meat tray liners
 - Hair, pet fur and feathers
 - Fireplace or BBQ ashes
 - Weed scraps
 - Vacuum bags and contents

QUESTIONS?

- اس سوال؟
- سوالاتی دارید؟
- 有问题？
- Egyen kérdések?
- શવેલો?
- Domande?
- 문제는
- Pytania?
- Perguntas?
- प्रश्न?
- Βοηθεια?
- Ἐρωτήσεις?
- Mga Tanong?
- ଶାହାଦାତ୍‌
- Παρατηρησεις?
- اپنی کوئی سوالات ہیں
- Thắc mắc?

Call 416-338-2010
www.toronto.ca/greenbin

The green bin made easy...

1. Store or mount your indoor container in a convenient location.
2. Line your indoor or outdoor green bin with a plastic bag. Please line one or the other - not both. A special bag is not required for either collection container. Do not include any other plastic bag, wrapping, containers and milk bags.
3. Empty the contents of your indoor kitchen container (plastic bag included) into your outdoor green bin.
4. Place your green bin at the curb by 7:00 a.m. on your collection day.
5. Wash both bins with soap and water. Do not put your indoor container in the dishwasher.
6. Place your overflow green bin material in a see-through plastic bag beside your bin, or buy a second bin. We recommend that you put non-food waste (e.g. tissues, diapers, animal waste) in the see-through overflow plastic bag.

Top Ten: Why Compost?

5. Save money on solid waste management
 4. Increase diversion levels
 3. Take advantage of growing markets
-

Compost Applications

- # landscape and nursery
 - # agricultural and horticultural
 - # vegetable and flower gardens
 - # tree and shrub planting
 - # sod production and roadside projects
 - # wetlands creation
 - # soil remediation and land reclamation
 - # sports fields and golf courses
 - # sediment and erosion control
-

Top Ten: Why Compost?

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 4. Increase diversion levels
 3. Take advantage of growing markets
 2. Promote the local and regional economy
-

Composting = Local

- # Organics do not ship well
- # Composting is small-scale
- # Compost products are used locally
- # Jobs are local
- # Dollars circulate within local economies
- # Local = good for local economies



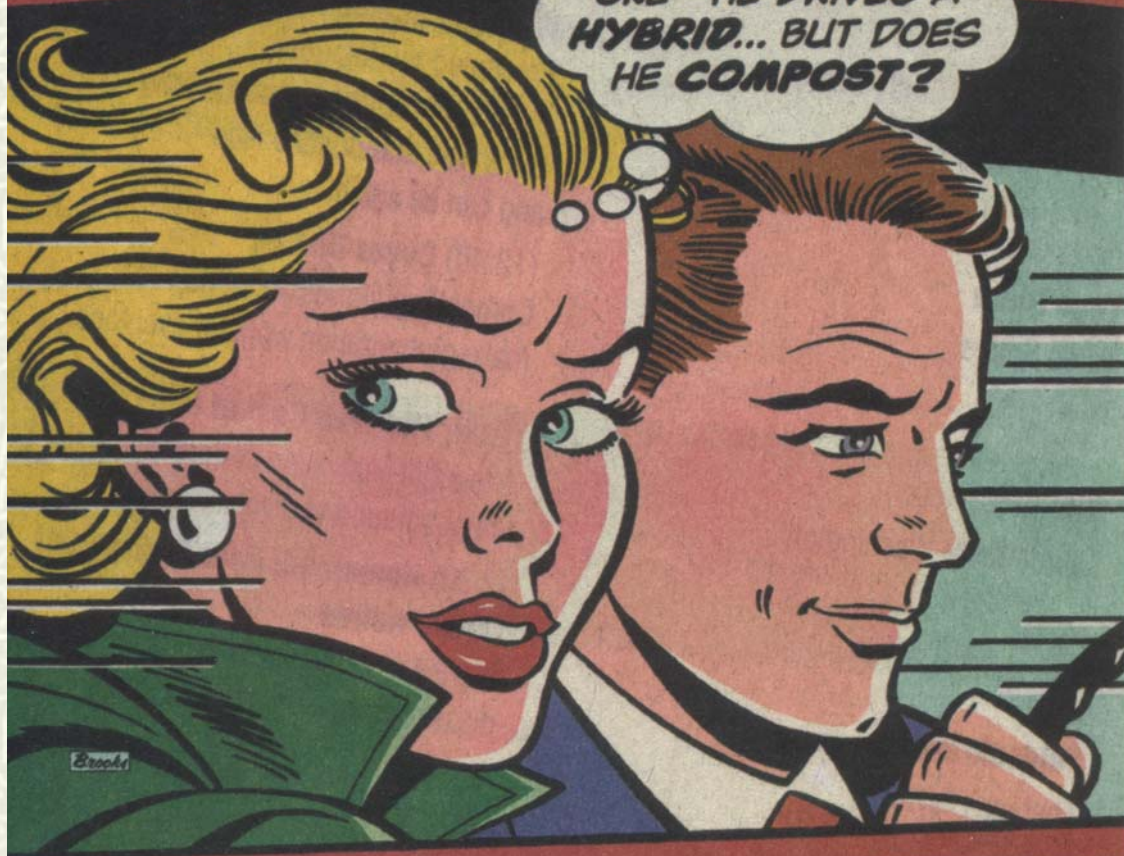
Top Ten: Why Compost?

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 1. Increase your sex appeal
-

PLENTY

IT'S EASY BEING GREEN

HE COULD BE THE
ONE - HE DRIVES A
HYBRID... BUT DOES
HE COMPOST?



THE UNLIKELY ENVIRONMENTALISTS



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