



Soil Quality Restoration And the Compost Connection

Presented by:

Name

City

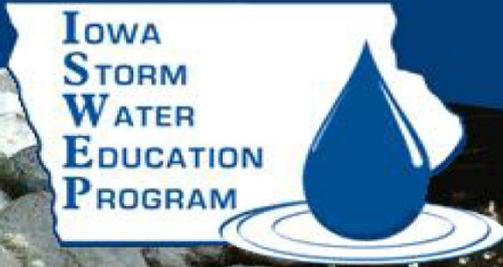


Rainscaping Iowa Do-It-Yourself



Compost

Naturally



Compost Considerations

- ❑ Location, location, location
- ❑ To Bin or not to bin?
- ❑ The Not-So-Secret Compost “Recipe”





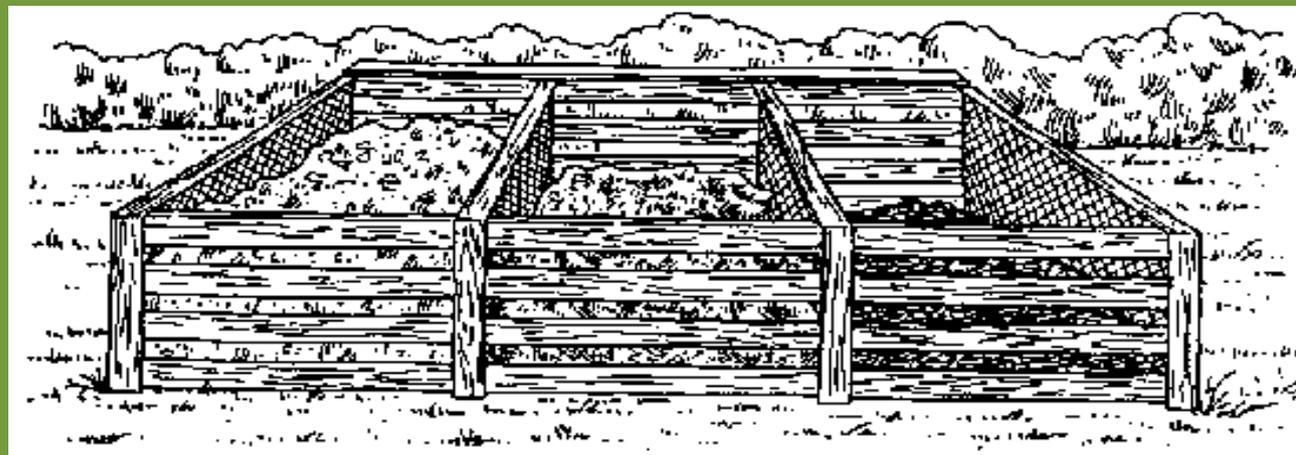
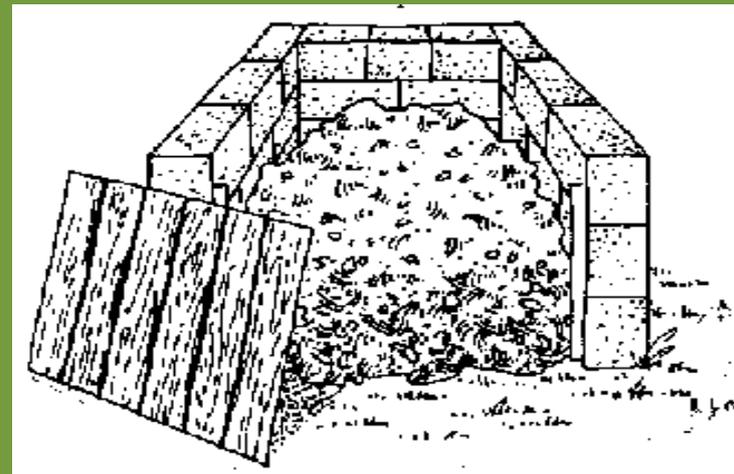
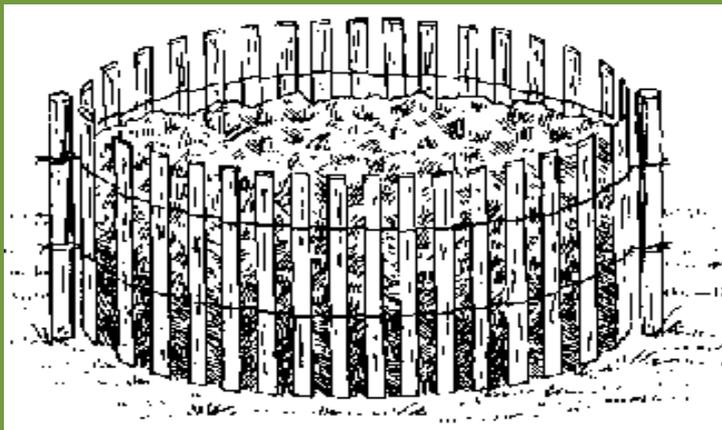
Location, Location, Location

- ❑ Not too far away – must be convenient!
- ❑ Level, well-drained ground
- ❑ Not too much in the shade or sun
- ❑ Near a water source





To bin or not to bin?





The Not-So-Secret Compost Recipe



■ The Two Food Groups

The right combination of organic materials to be composted (Browns & Greens).

■ Air & Water

The right amount of air and water.

■ Time & Nature

The composting work crew, the microbes (mainly bacteria and fungi) that do the work for you.



“Food Group I”

Browns - materials with a whole lot of carbon

Leaves (30-80:1)

Straw (40-100:1)

Paper (150-200:1)

Sawdust (100-500:1)

**Animal bedding mixed
with manure (30-80:1)**





“Food Group II”

Greens – materials with a whole lot of nitrogen.

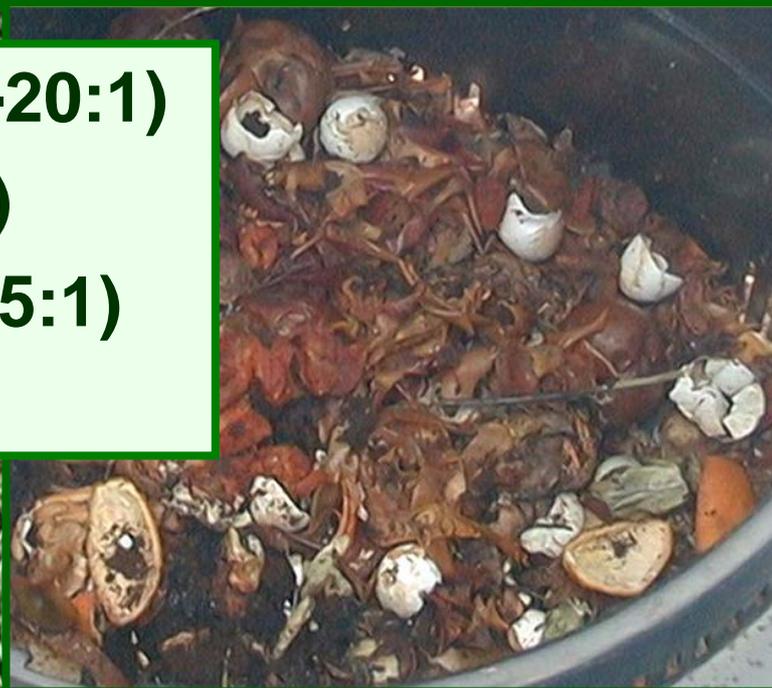


Vegetable & Fruit (12-20:1)

Coffee grounds (20:1)

Grass clippings (12-25:1)

Horse Manure (25:1)





Browns

- Decay very slowly
- Coarse browns can keep pile aerated
- Tend to accumulate in the fall
- Tie up nitrogen in soil if not fully composted
- May need to stockpile until can mix with greens

Greens

- Decay rapidly
- Poor aeration – may have foul odors if composted alone
- Tend to accumulate in spring and summer
- Supply nitrogen for composting
- Best composting if mixed with browns



Where do de-composers come from?

If you build it, they will come...

Leaves / wood chips/ food scraps / grass clippings.
A little horse manure, and
finished compost / Soil.

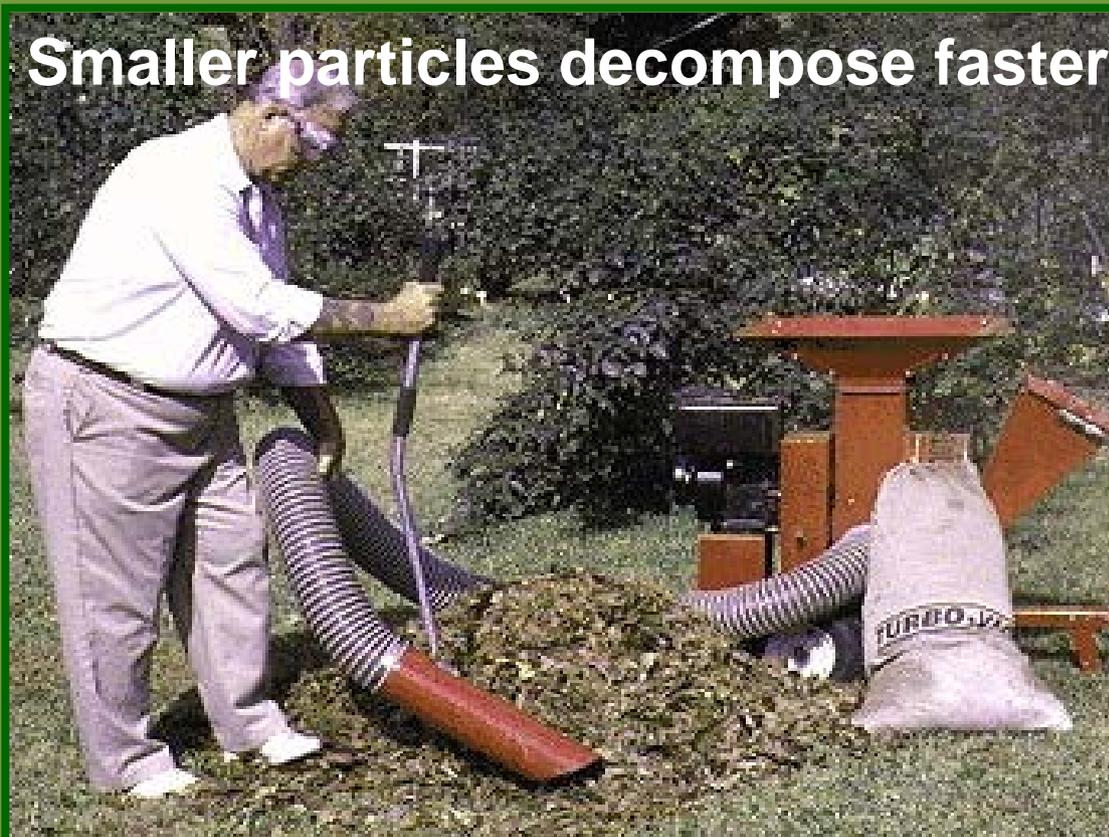
Each of these add
microorganisms
to the compost pile.





Is shredding necessary?

Smaller particles decompose faster



Have greater surface area per unit volume.

Allows microbes to get at more of the food.



Managing the compost process

- The most rapid composting is achieved by
 - Adding mixed browns + greens
 - Regularly turning (mixing) the compost pile
 - Controlling water content
- When pile no longer heats after mixing, allow it to cure (stand without mixing) for at least 4 weeks before using the compost





Are You Going to Be Lazy or Active?

Good compost can be made in a pile that never gets hot, but...

- ❑ Lazy or the Dump & Run -
 - Slower - it takes longer to make compost
 - “Cold” Process – weed seeds and disease may survive

- ❑ Active -
 - Faster - The most rapid composting
 - Hot - Ensures weed seeds & diseases are destroyed

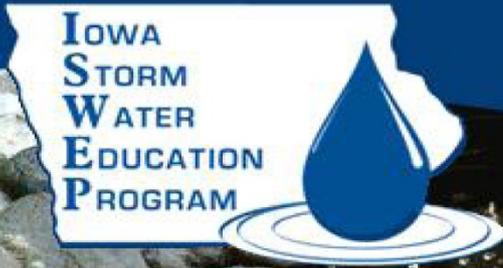


Composting & Compost
is like a baby's diaper

If it smells...

Something needs to be changed





Compost Pile Troubles

- It Stinks
 - Not enough air
 - Too many greens
 - Too wet

- Not Composting
 - Too much air
 - Too many browns
 - Too dry

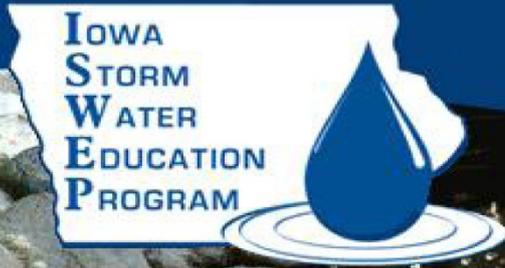


When is compost finished?

Compost is mature when

- ▣ Look
- ▣ Smell
- ▣ Taste





Looks

- ❑ Dark and crumbly
- ❑ Materials are unrecognizable
- ❑ Not soggy and wet
- ❑ Finished compost sinks to the bottom of your pile because it becomes heavier than starting ingredients
- ❑ Particle size-can be screened





Smells

- Like “good earth”





Tastes

- Like Chicken!?

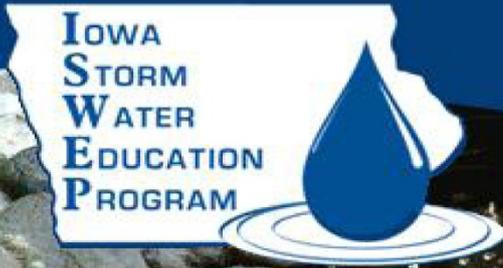


Simple tests for finished compost

Bag test: sealing compost in a plastic bag for several days should produce no foul odor



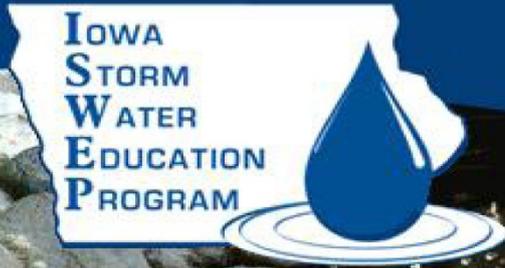
Germination test: will seeds germinate in the compost?
(good test to use if compost will be part of a potting mix)



Testing Your Compost

Woods End Research Lab's Solvita
Soil & Compost Maturity Test Kit
www.woodsend.org

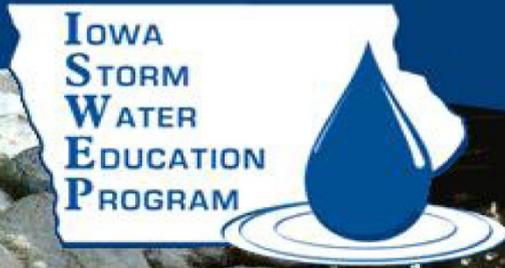




Compost Quiz

Q: Can I compost newspaper?

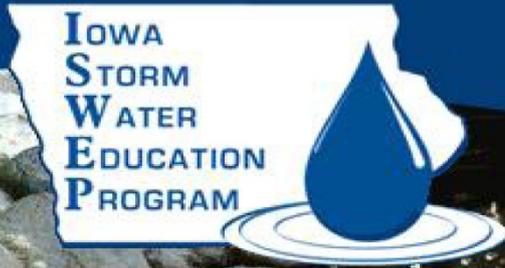
A: Yes, lay a couple sheets out on the counter and peel vegetables or fruits onto the paper – wrap everything up and add to your compost pile or if you're lacking a little "brown" shred it up and add to your compost pile.



Compost Quiz

Q. Can I compost pet waste?

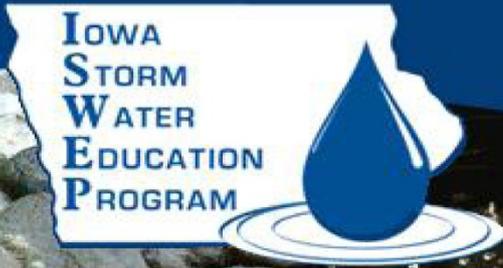
A: Do not compost dog or cat poop (it may contain parasites or disease organisms harmful to humans). You can safely compost waste from guinea pigs, rabbits, hamsters or gerbils.



Compost Quiz

Q: Can I compost in winter?

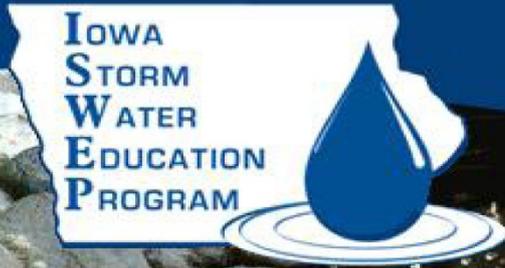
A: Yes. Most likely your bin will go dormant if internal temperatures drop below 50° F. But if you continue to add to it, the decomposition process will increase again in Spring.



Compost Quiz

Q: Do I have to cover my compost pile?

A: Yes – it is recommended. Covering your pile keeps heat and moisture in and prevents leaching.

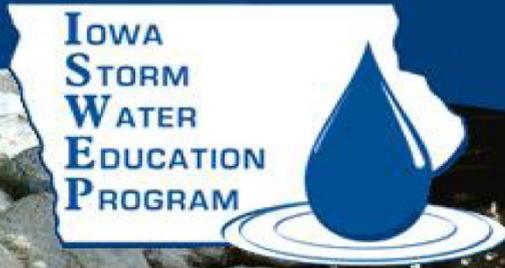


Compost Quiz

Q: Do I have to turn my compost pile?

A: Not necessarily – but, turning:

- Speeds up the composting process
- Re-heats pile to keep it in aerobic state
- Creates new passageways for air & moisture
- Eliminates odors & matting

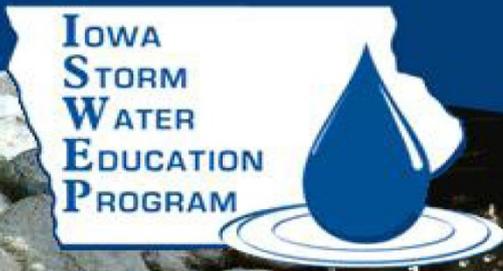


Compost Quiz

Q: I'm overwhelmed with too many leaves, what should I do?

A: Two things you can do here:

1. Shred and store and use throughout the winter to cover food scraps (mixing browns & greens)
2. Shred and mulch your planting beds with them. Pick up the "leaf mold" in the spring to add to your compost pile or let it be and cover with a wood mulch in spring if you prefer.



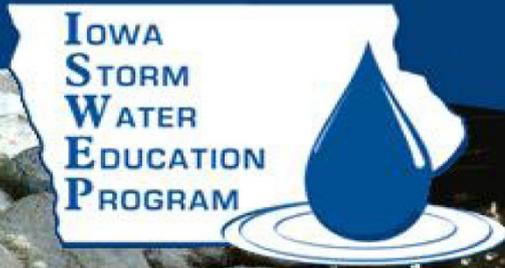
Compost Quiz

Q: I'm overwhelmed with too many greens and grass clippings, what should I do?

A: Two things you can do:

1. Mulch mowing, so you don't have grass clippings
2. Replace your high maintenance with native turf or native prairie planting that does not need mowing.

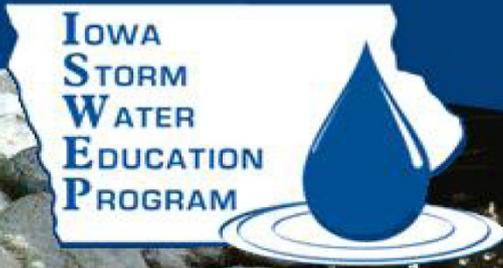
Both will ultimately save you time and money!



Compost Quiz

Q: Is compost a fertilizer?

A: No, it has fertilizer value but it is not a fertilizer - in fact it may have to be supplemented with another fertilizer source, especially when seeding a new lawn or landscape. Make sure you read the label or get your composted tested so you know the right type of fertilizer you might need to add in the right amounts.



Compost Quiz

Q: What can I do with finished my compost?

1. Mulching
2. Soil Amending
3. Topdressing
4. Compost Tea
5. All of the above

IOWA
STORM
WATER
EDUCATION
PROGRAM



Questions so far?



Using Compost

One teaspoon of good soil, to which
compost has been added, contains



- 100 million bacteria
- 800 feet of fungal threads





Mulch

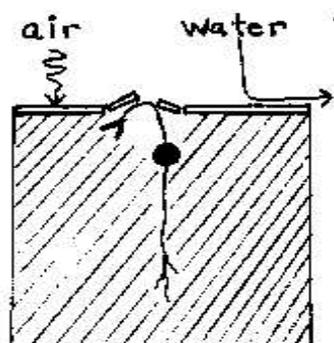
- around trees and shrubs
- with one to two inches of compost;
- as is or prior to mulching with wood chips.



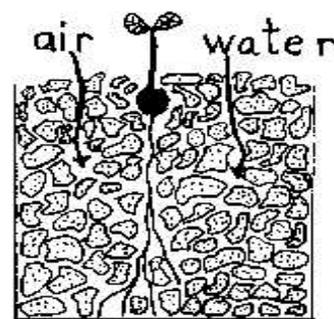
Trees and Shrubs



Amend



Crusted

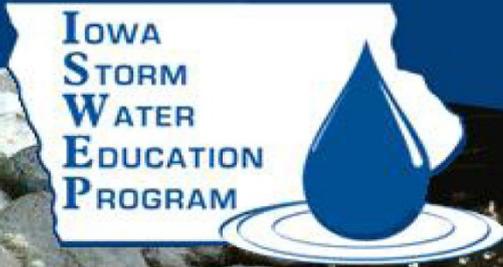


Well-Aggregated

Amend existing landscape beds and gardens each year with an inch or two of compost worked into the top six inches of soil profile, when possible.

Especially do this prior to seeding or sodding after “new construction” to save yourself the headaches later.





Top Dress

Top dress existing lawn by spreading $\frac{1}{4}$ to $\frac{1}{2}$ inch of compost, preferably after aeration. Reseed at this time as well for a lawn that is as good as new.





Compost Tea



Make the most of a little bit of compost by brewing compost tea. It's one of the best natural soil amendments, chock full of microbes that promote a healthy soil ecosystem.

Replaces chemicals * Helps suppress diseases * Increases plant growth



STEEPED COMPOST TEA



1. Fill a clean 5 gallon bucket with water. If possible, use rainwater collected in a rain barrel. If using chlorinated water, set filled bucket outside in sunny location for a short while to for chlorine removal.
2. Make a tea bag by filling mesh type material with 4 to 6 cups of compost. Materials that work well are old nylons, burlap, cheese cloth or small mesh laundry bags. Suspend homemade tea bag in water.
3. Let tea bag steep for 24 hours. To derive the most benefit, apply tea within 4 hours after steep is complete.



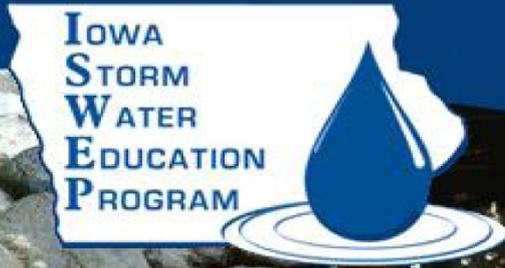
Using Compost Tea



Full strength compost tea is safe, however to further its use, tea can be diluted with chlorine free water at a 1:5 to 1:15 ratio (1 gallon of water to 5 – 15 gallons of tea).

Soil Drench: For a healthy lawn follow up aeration with a tea application.

Foliar Spray: For best results, at least 75% of upper and lower leaf surface should be covered during each application.



Thank You.



To learn more about this, and other Rainscaping Iowa practices that improve and protect water quality visit:

IowaStormwater.Org
or
RainscapingIowa.Org

Happy Composting!