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Home Composting – The Basics (PART 1)

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Lakes Region Planning Commission



Meeting protocol

- Please mute your microphone
- Submit questions/comments in the chat box (bottom of Zoom screen)
 - May need to expand your Zoom screen if the chat box is not showing



Lakes Region Planning Commission (LRPC)

The LRPC is a non-profit, voluntary association of municipalities located within one of the 9 state-defined regional planning areas. Our staff provides comprehensive planning services to meet the diverse needs of New Hampshire's Lakes Region.

- Work with municipal officials, state departments, Economic Development Councils, local organizations, etc.
- LRPC researches issues to advise/recommend next steps for municipalities
- Grant writing and administration



Lakes Region, NH
30 municipalities

(9 RPCs cover NH)



This event is co-sponsored by:

Tamworth Recycling Project

&

Cook Memorial Library

(Tamworth, NH)

THANK YOU!



Presentation Overview

Why compost?

- Benefits of diverting food scraps

Basic science of composting

- What goes in the bin?
- Composting process

Planning your home composting site (methods)

BRIEF overview of Best Management Practices (BMPs)

- Winter composting
- Animal/pest management

Helpful links/resources/webinars

Q&A Discussion



Why Compost?





Food Recovery Hierarchy

Most Preferred

Source Reduction

Reduce the volume of surplus food generated

Feed Hungry People

Donate extra food to food banks, soup kitchens and shelters

Feed Animals

Divert food scraps to animal food

Industrial Uses

Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy.

Composting

Create a nutrient-rich soil amendment

Landfill/ Incineration

Last resort to disposal

Least Preferred

Reasons to Reduce Food Waste & Compost

40% of food produced in U.S never gets eaten

- Food is lost or wasted along the consumer supply chain
- **-\$218,000,000,000 lost annually**

Landfills are NOT sustainable

- Limited space, creates air and water pollution
- Solid waste management = **\$\$\$\$!** (taxpayer money)

Greenhouse Gases
(METHANE)

- Landfills lack oxygen (**anaerobic**)
- “Food Waste Country” would be 3rd largest GHG emitter

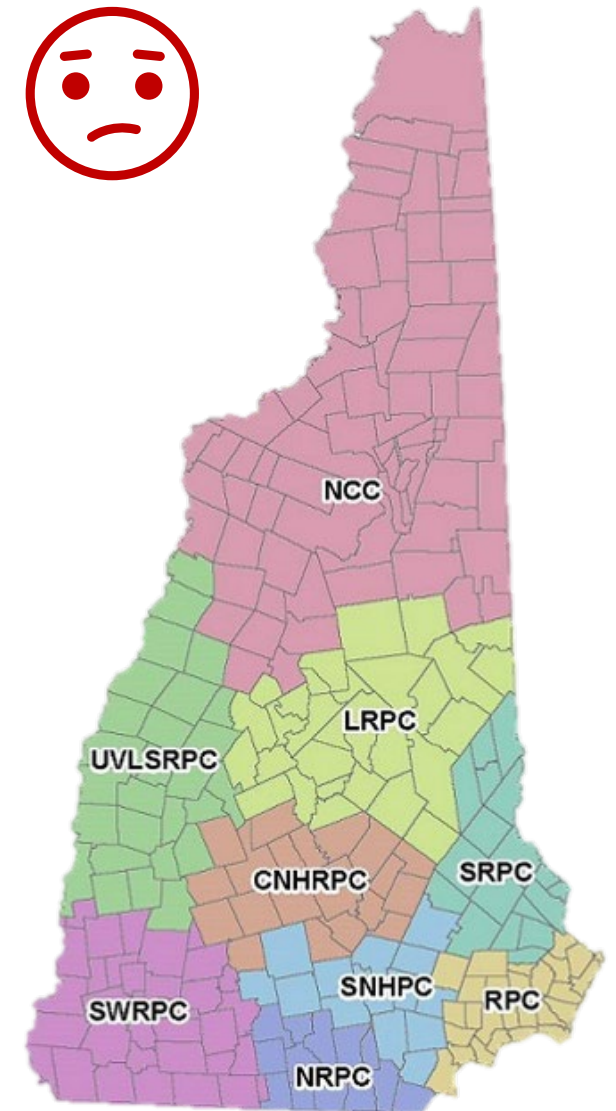
Recycles resources & improves soil

- Composting returns nutrients to the soil
- Improves soil health

Current State of NH's Composting Capacity =



- Lots of small, local efforts (backyard, community composting)
- Residential curbside pickup in select areas
 - Services lack in rural communities
 - Transportation, infrastructure, waste generation
- **Lack facility infrastructure**
- Current composting rules pose a barrier (Env-Sw 600)
- Majority of transfer stations do not compost food scraps



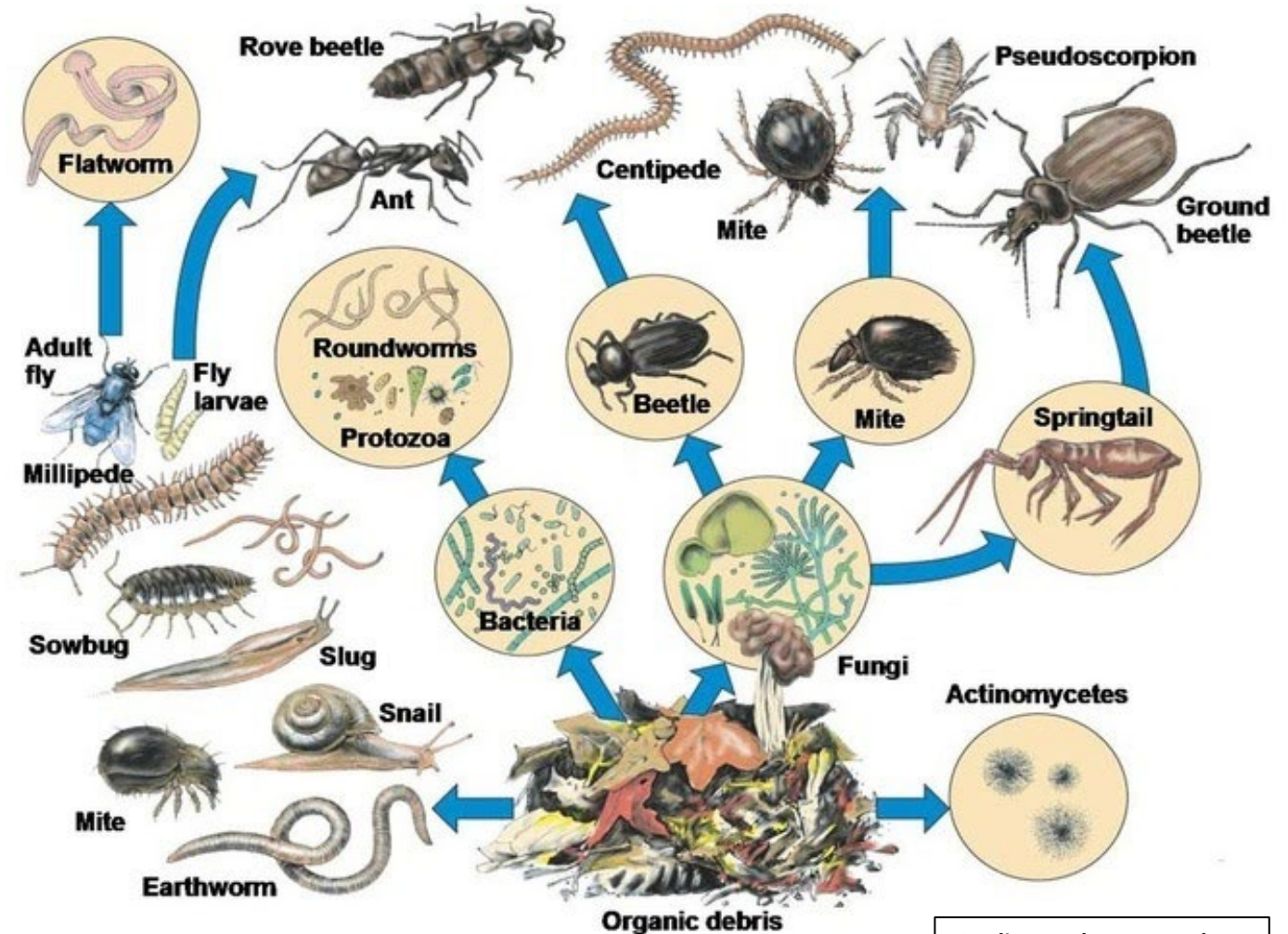
(categorized by Regional Planning Commissions)



Basic Science of Composting

Your compost pile is a mini ecosystem...

- Controlled, **aerobic** biological process
- Microorganisms are the key
- Recycles organic matter
- Converts residue material into a valuable product rich in organic matter and organisms



Credit: Puzzle Permaculture

Raw materials

Process

Product

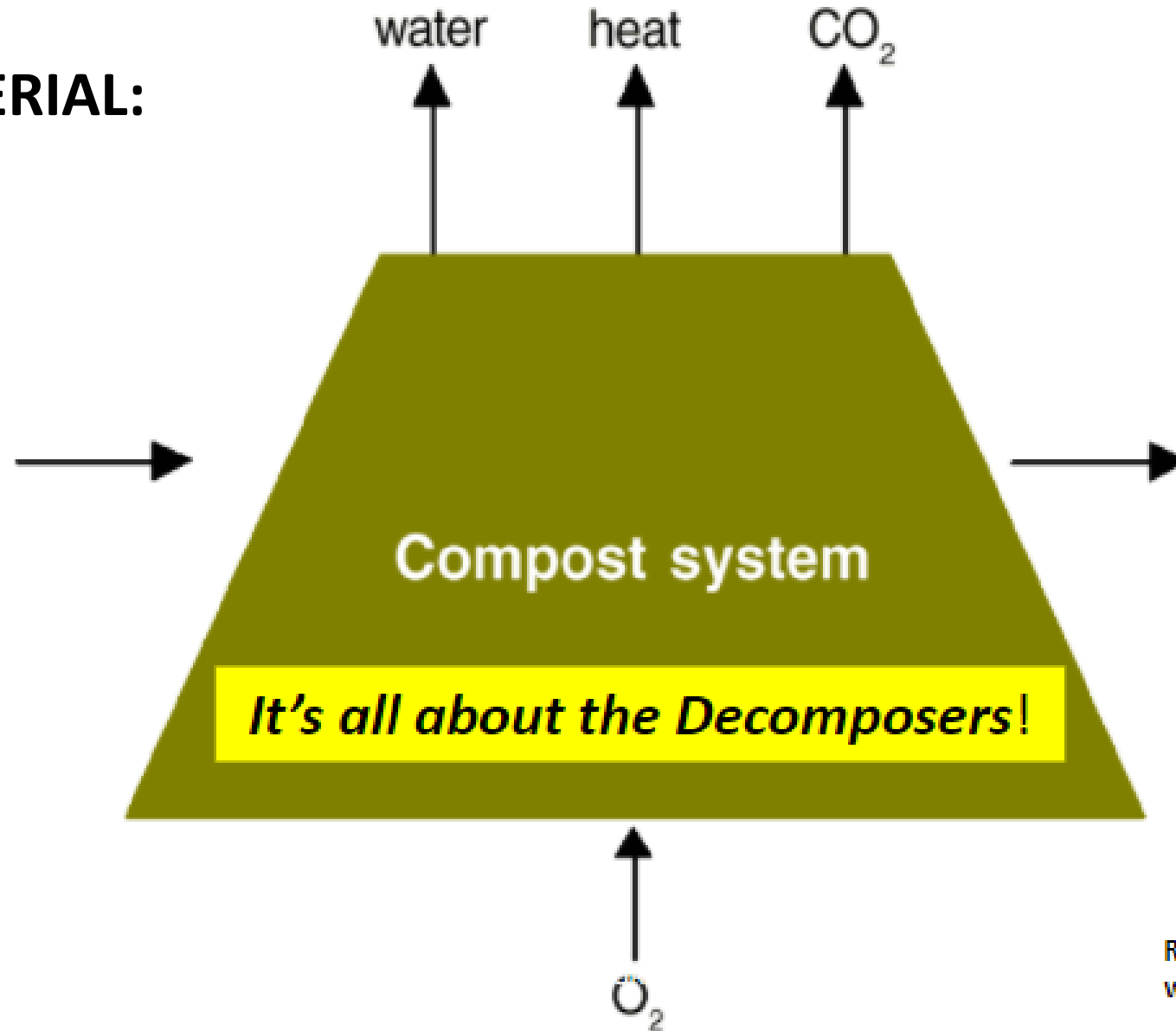
ORGANIC MATERIAL:

- GREENS
- BROWNS

AIR

Water

Microorganisms



Finished compost containing organic matter - including carbon, chemical energy, nitrogen, protein, humus, mineral nutrients, water and microorganisms

Keep your microbes happy!

Setting up the right environment and conditions is fundamental to the process

- **Carbon:** “Brown” materials (dry ingredients)
- **Nitrogen:** “Green” materials (wet ingredients)
- **An initial boost:** a little soil, finished compost, or horse manure
- **Moisture:** like a damp sponge, required to keep microorganisms alive & active
- **Keep the material small:** mowing, grinding, chipping, or shredding

PUT THESE IN THE BIN



GREENS

BROWNS

| | Things to consider... |
|---------------------------------|----------------------------------|
| Fruit & vegetable scraps, peels | Citrus in moderation (acidic) |
| Nuts & nut shells | |
| Egg shells | Crush them up |
| Coffee grounds/filters/tea bags | No staples |
| Bread/pasta/rice/beans | |
| Wood shavings/sawdust | Homogenous mix |
| Leaves/garden trimmings | |
| Livestock bedding | No cat/dog waste or kitty litter |
| Straw/hay | |
| Napkins/shredded paper | Not as sole carbon source |

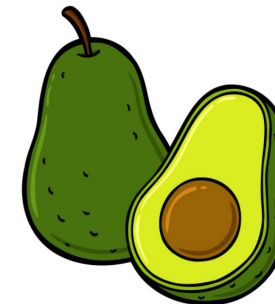
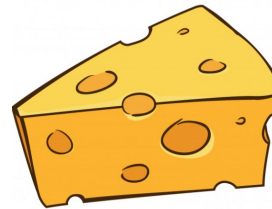


Create space/different surface areas



KEEP THESE OUT OF THE BIN

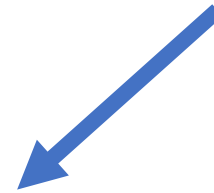
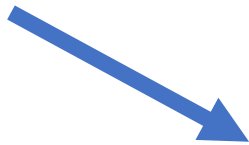
- Meat/bones
- Dairy
- Fruit stickers
- Oils/fats/grease
- Seafood shells
- Cat/dog waste
- Weeds that have gone to seed
- “Tough” food scraps



Basic Recipe – “Easy as 1 : 3”

“Greens” (Nitrogen)
1 volume

“Browns” (Carbon)
3 volumes



Simple & “Slow” Composting

- Follow basic recipe
(1 part green to 3 parts brown)
- Turn occasionally
- Compost will be ready in 12-18 months

Active & “Hot” Composting

- Enclosed containers (insulated is best)
- Proper “mix” of materials for system
- Frequent turning to achieve heat
 - 1-2 times/week
- Temperature should rise to 90 – 120°F for 3+ days
 - 131°F is goal
- Finished compost in 6-8 months or sooner, depends on volume

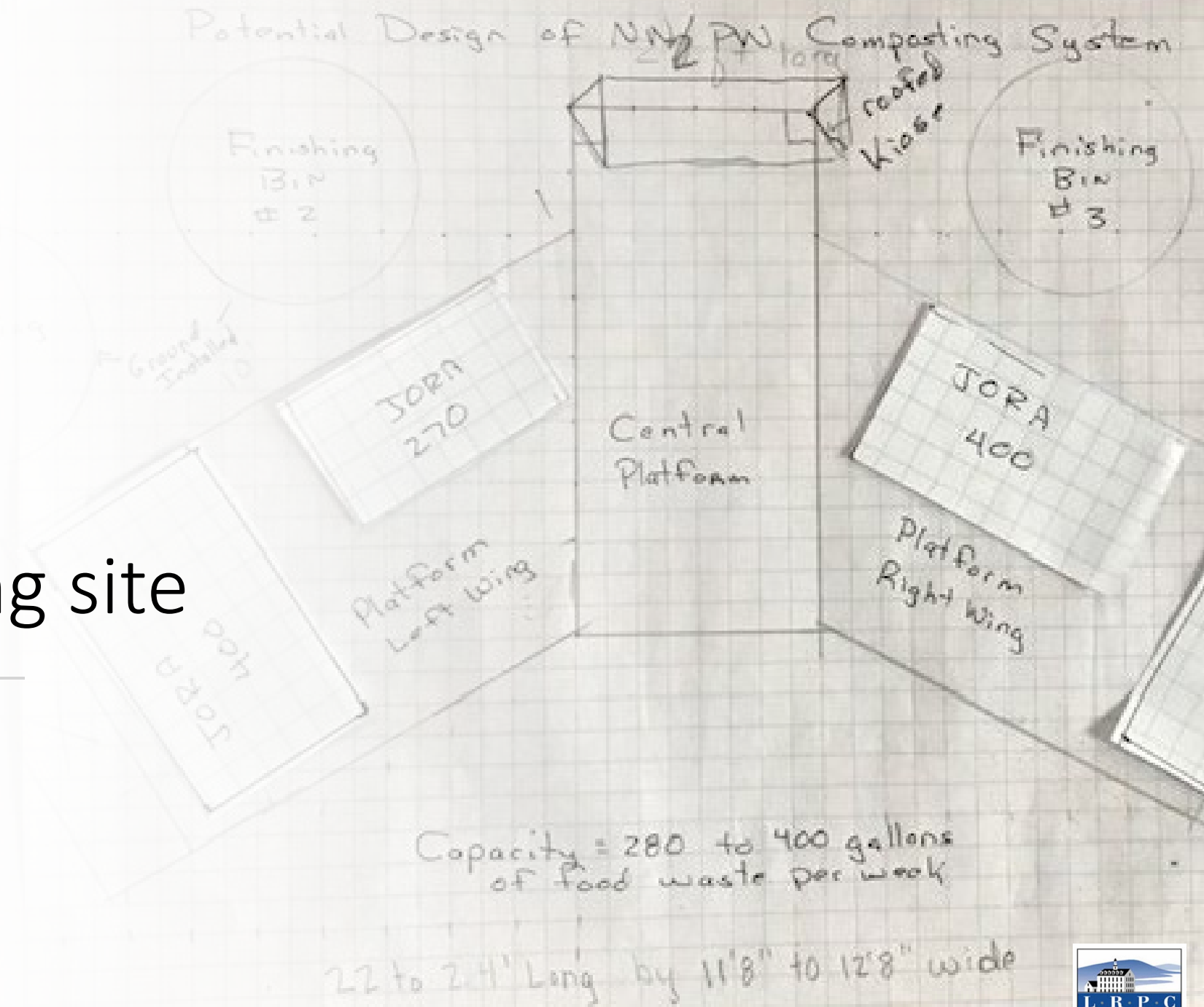
Questions or Comments?

Science of Composting/Benefits



Planning your home composting site

METHODS/SYSTEMS



Where do I set it up my composting system?

- Year-round accessibility
- Away from trash storage
- Location that gets partial sun
- Along a tree line, the house, shrubbery, fence
 - Reduce wind
- Near water source



HEAP/PILE



BINS



Tamworth Lumber

- Free compost bin design available
- Use scrap lumber

Contact:

Jim Alt

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<https://tamworthlumber.com/>

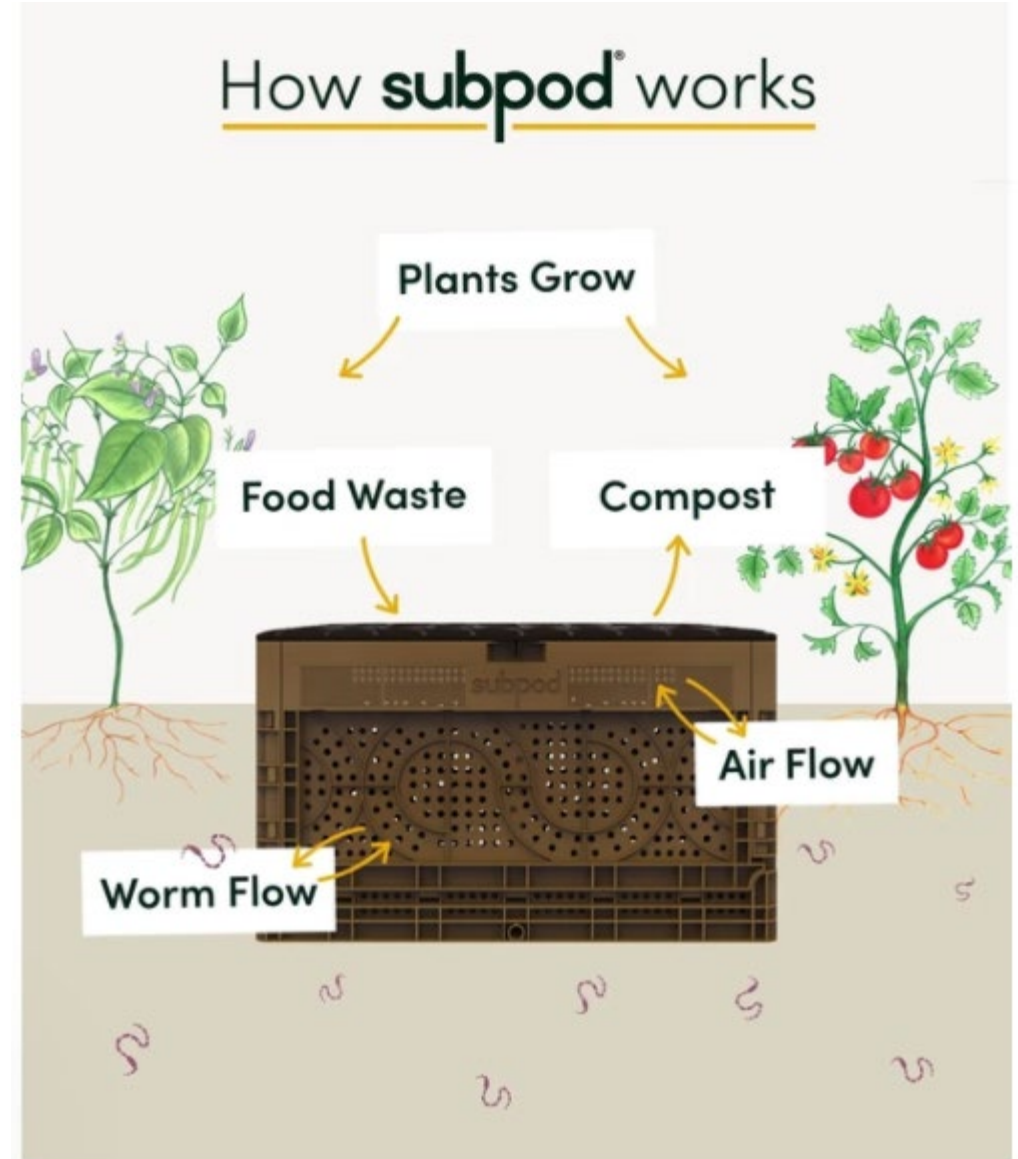
TUMBLERS




INTEGRATED SYSTEMS



VERMICOMPOSTING (WORMS)





Brief overview of
Best Management
Practice (BMPs)

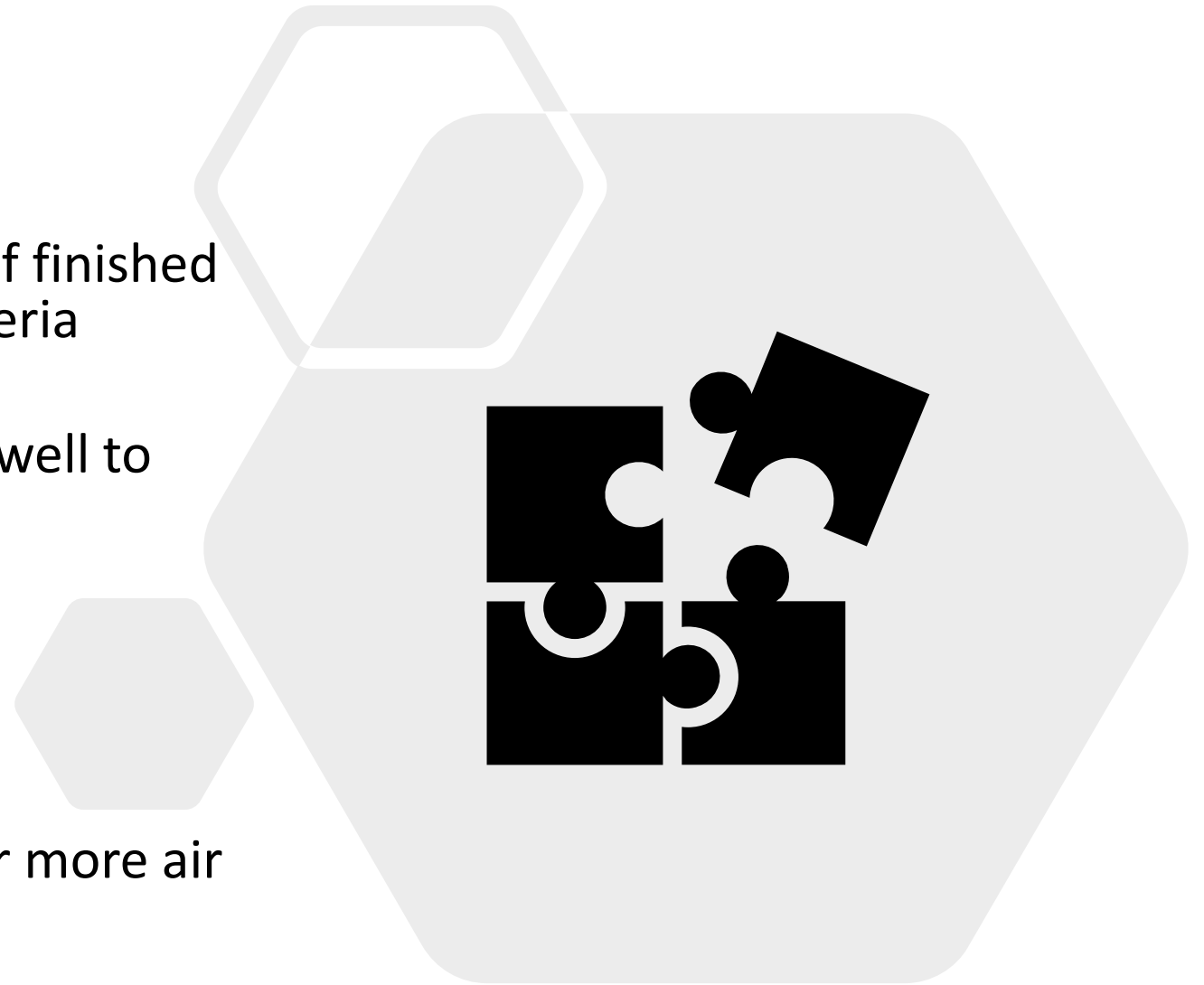
What Went Wrong?

My pile is inactive...

- **New pile?** Add a few scoops of finished compost/soil to kickstart bacteria
- **Too dry?** Add greens and mix well to aerate

I smell a bad odor...

- **Too damp?** Add browns
- **Compacted material?** Fluff for more air space





Animal/Pest Management

Bears, skunks, racoons, etc.

- Line bins with wire mesh
- Cover pile with carbon layer
- Avoid adding material on a windy day
- Enclose/cover with tarp
- Noise repellent
- Lock your bin
- Stop adding food scraps

Winter Composting



- Insulate/cover with tarp/create windbreak
- Insert a hot water bottle
- Relocate to a sunny spot
- Aerate – add scraps on a warmer day
- Work with neighbors

- CVSWMMD Winter Composting Recording
www.cvswmmd.org/home-composting.html

- Little Gardens NH (Plymouth) – event coming up



JORA Compost Tumbler



Tuftonboro Community Garden

*permit to bring off-site food scraps

*meat & dairy waiver



HELPFUL LINKS/RESOURCES

New Hampshire:

- LRPC Solid Waste Webpage: www.lakesrpc.org/service/solidwaste.asp
- [HB 617](#); *Committee to Study Recycling Streams and Solid Waste in NH* – Nov. 2019 Report
- NHDES (des.nh.gov/) – Oct. 2019 Biennial State Report
- UNH Cooperative Extension - <https://extension.unh.edu/>

Regional/Out-of-State:

- Northeast Recycling Council (nerc.org/) – tip sheets w/ Composting Association of Vermont
- Northeast Waste Management Officials Association (www.newmoa.org/)
- Northeast Resource Recovery Association (nrra.net/)
 - School Club (schoolrecycling.net/)
- Center for EcoTechnology Wasted Food Solutions (wastedfood.cetonline.org/)
 - Toolbox of factsheets/guidance documents for food system stakeholders
- ReFED – Rethink Food Waste (refed.com)

Questions/Comments?

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USDA Rural Development - Disclaimer

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