

Lasagna Garden Composting

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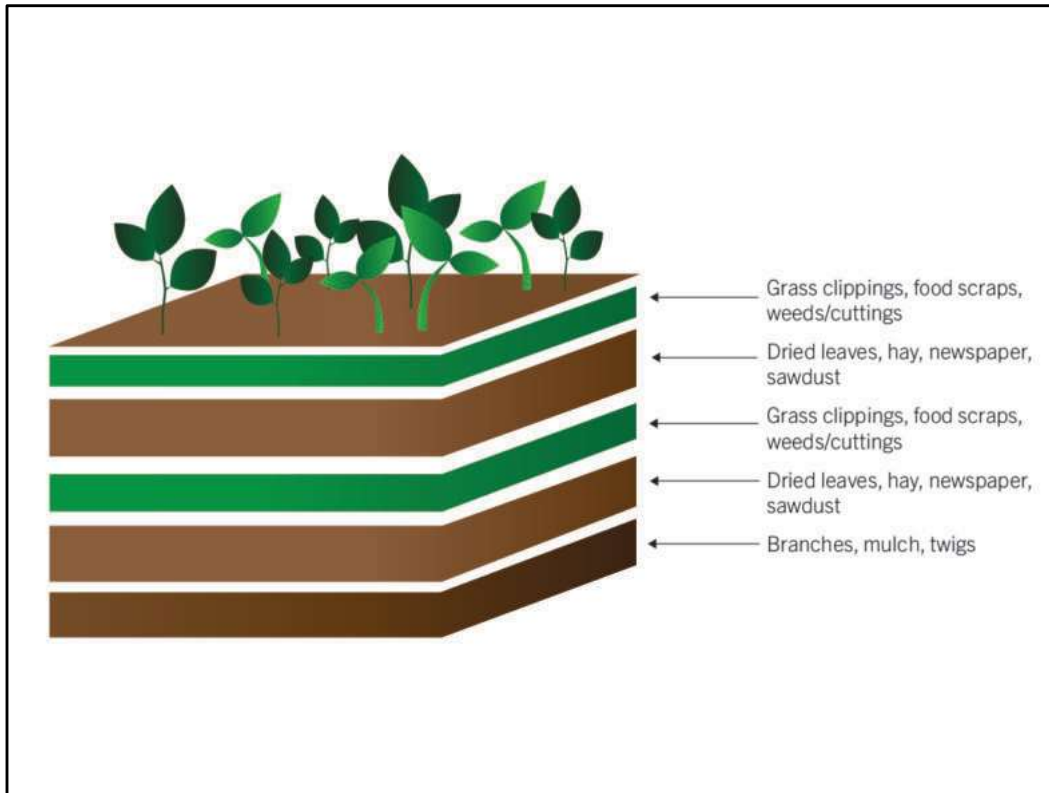
Learning
objectives

How to build

How to plant

How to maintain

How to store and
manage your organics



Building a habitat for organisms / decomposers. Farming them to break down organics
"Browns" and "greens" in 4"-8" layers
Repeated until the "lasagna" is 18"-24" deep
Recommended ratio of "brown" to "green" 4:1 by volume



No till system

Create better soil, which grows better plants

Look neat and attractive throughout the entire process

Saves Time , Energy, Work, Money

4 feet wide, adults can reach to the center to plant and weed



- Retains water and hinders evaporation
- Reduces water consumption and lowers water bill
- Reduces dependence on pesticides
- Keeps organic materials out of the waste stream

Build it and it will grow



Maintains soil structure

Reduces erosion

Preserves wildlife for myriad minibeasts

1st Layer - Weed Barrier



Instead of digging up sod, cover it with wet newspaper and/or cardboard to smother the grass and build on top of.

- Cardboard or 20-25 thick layers of newspaper
- Overlap so no grass/weeds come through
- Dampen the top and undersides as you lay them out
- Do NOT put bed over perennials or trees or shrubs

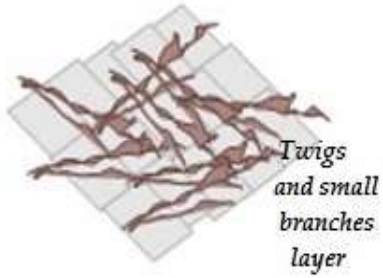




Cardboard – many stores have large pieces; plain brown; tape ok
no slick finish, big staples

Newspaper: no slick, shiny finish; most newspapers published in Portland/Vancouver use
soy ink – ok

2nd Layer - Aeration



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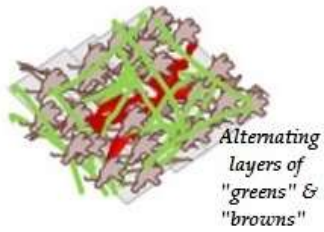
Create a “pick up stick” sort of nest of woody material that has a lot of air space in it. Great way to clean up and use brush piles.

- Small to medium twigs and branches
- Prunings, brush or woody materials
- Moisten layer with water
- 4” inches deep



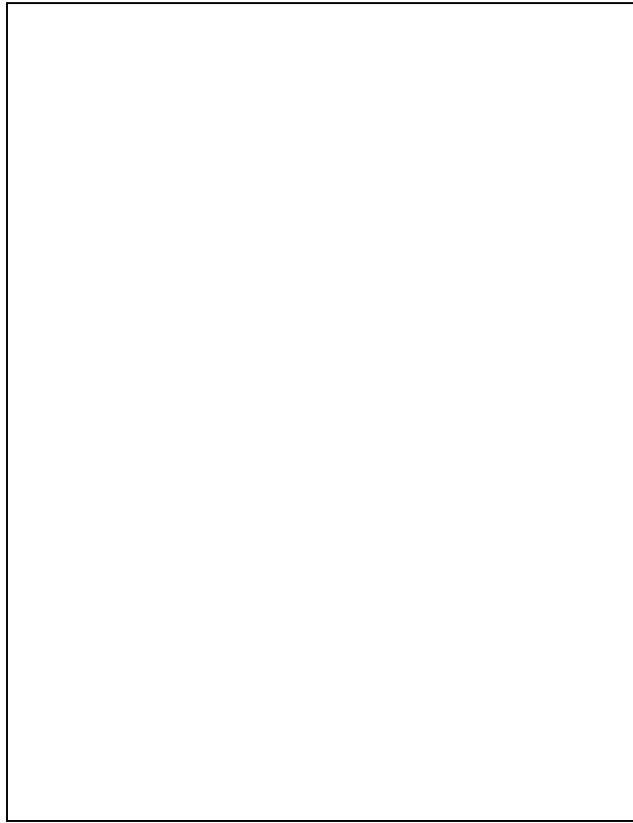
Chop and drop. Healthy aerial plants
Sunflower stalks – cut off 2' above for beneficial insects to overwinter
Don't worry about powdery fungus – air born, not soil
Tomato vines – waste reduction pile

3rd - 6th Layers – Greens & Browns



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- "Green" and "brown" layers, alternated
- 1:1 volume ratio to 1:4
- The more layers, the better
- Total depth - 8" deep ok, 24" even better!
- Moisten each layer as placed down



- www.sharewaste.com
- www.makesoil.org
- Do's and Don'ts of food
- Grasscycling
- Weeds

Let's Turn Trash to Treasure

Material	Est. Percent	Est. Tons
Inedible Food – Fruits & Veggies	6.6%	22,961
Edible Food - Vegetative	6.1%	21,222
Yard & Garden Waste - Leaves & Grass	5.7%	19,830
Animal Manure	3.5%	12,176
Inedible Food - Meats, Fats, Oils	2.2%	7,654
Edible Food - Meat, Fats, Oils	2.1%	7,306
Total	26.2%	100,000

Subtotals and totals in tables and figures may not exactly match due to rounding

Manure Hierarchy

Kind of animal	Nitrogen (N)	Phosphate (P2O5)	Potash (K2O)	Organic Matter
Alpaca	1.7	0.7	1.2	
Rabbit	2.4	1.4	0.6	33
Chicken	1.1	0.8	0.5	25-45
Sheep / Goat	0.7	0.3	0.9	32-34
Steer / Cattle	0.7	0.3	0.4	17
Horse	0.7	0.3	0.6	22-26
Pig	0.5	0.3	0.5	14

Raw manure

- At this time, the FDA does not object to farmers complying with the USDA's National Organic Program standards
 - 120-day interval between the application of raw manure for crops in contact with the soil
 - 90 days for crops not in contact with the soil.

Some animals are better digesters than others (hay, weeds, grass seeds)

Chicken – high in “Hot” Nitrogen. Leave 3-6 months if fresh, put towards bottom

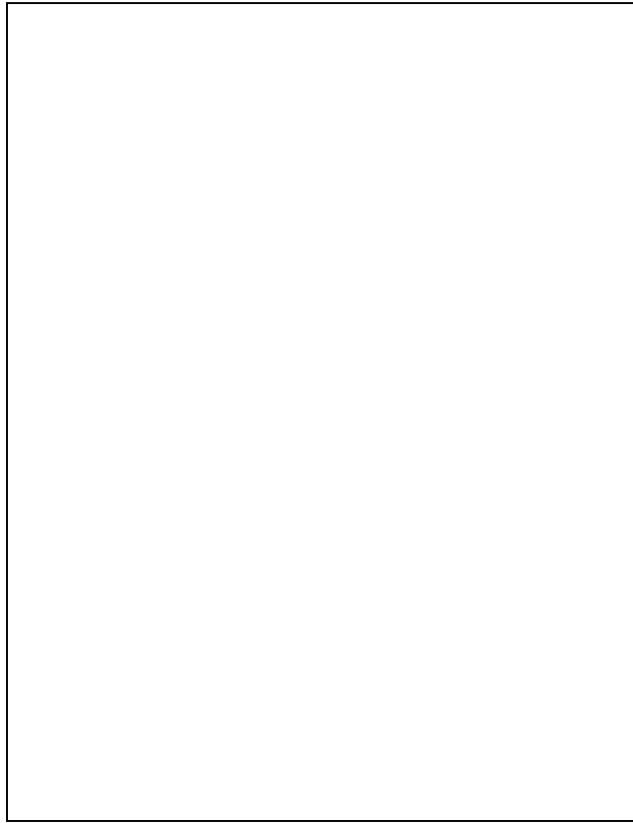
Cows 4 stomach

Horses 50 pounds of manure per day

Horse – may get weeds but lasagna garden bed soil is friable so easy to pull; best to know where your horse manure comes from – no noxious weeds

Manure exchange

No pet waste (cat, dog, caged bird, pot bellied pig) can carry pathogens



- www.getchipdrop.com – mulch
- Straw vs. Hay

Grass: Green or Brown







Browns

Dry fall leaves

Paper

shredded office paper (NO plastic credit cards)

NO slick, shiny finish

Sawdust

Straw - Not hay!

Woody material





Top (Last) Layer - Planting Zone

- If planting TODAY –
 - Layer with 2"-4" of soil or compost
 - Plant seeds or transplants!
- If overwintering
 - Layer with straw or leaves



Optional: top w. plastic tarp – but, may get too dry
and slow down bacteria

Reduces weeds and erosion from winter rain

Completed lasagna bed may be allowed to compost on its own

Cover the bed with straw or leaves - not necessary to chop up the leaves

After 3-6 months remove the protective layers

Plant as usual

One Year Later





How to plant in lasagna bed?



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- **SEEDS**
 - Scatter on a seed bed & lightly cover w. soil/sifted compost
 - Dig small hole or row, drop in seed, cover w. soil/sifted compost
- **PLANTS – a little different!**
 - Reach in with your hands
 - Form a hole

- Separate soil to width of plant roots
- Put plant in
- Pull soil back around the plant

Adding Additional Layers

- **Fall/Winter:**
 - Cover with leaves *or* straw *or* sow cover crop
- **Spring:**
 - weed then plant immediately *or*
 - add more soil/compost, then plant *or*
 - add layers of green/browns, top with soil, then plant
- Bed will sink down 40-50% in first season
- Don't re-do cardboard/newspaper layer each year

- **PERENNIALS:**
 - Die-back every fall: e.g. asparagus, horse radish
 - After plant has died back add 2"-4" mulch layer
 - Non-die-back: e.g. blueberries, roses, grapes, shrubs, trees
 - Donut hole 2-4" mulch to avoid smothering/killing

- Mulch does not touch trunk of plants

Adding Layers



- October 2019 Apples, Coffee Grounds
- November 2019 – Mushroom Bloom

Leaf Mold Compost



- Can hold up to 500 percent of its own weight in water. Besides helping retain moisture in the soil by reducing evaporation, leaf mold also absorbs rainwater to reduce runoff, and in hot weather, it helps cool roots and foliage.
- Coffee grounds make a good activator (and urine)
- Not necessary to chop up the leaves

Vermicompost

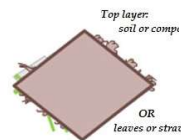
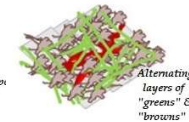
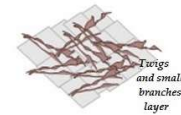
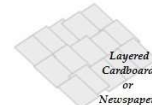
- 1 gallon can provide all fertilizer needs for a 4' by 8' garden per growing season



Worm castings on average contain 5X Nitrate, 7X Phosphate, 10X Potash than found in average topsoil.

Review of lasagna garden layers

- **1st (Bottom) Layer** - kills weeds/grass
 - **cardboard** or
 - 20-25 sheets of **newspaper** layers, overlapped
- **2nd (Aeration) Layer**
 - **woody material** of small-medium twigs and branches
 - air layer – 4”-8” deep
- **3rd – 6TH (or more) Alternated Green & Brown Layers**
 - 1 to 1 by volume
 - rot in place; min 8” – max 24” deep
- **Top (Last) Layer**
 - planting zone
 - 2”-4” soil or compost if planting now
 - Leaves or straw if overwintering



Don't forget to [WATER](#) each layer as you build your bed!

Amazing
Results



Other Questions?



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1) “Lasagna Gardening for Small Spaces” and “Lasagna Gardening” books by Patricia Lanza. Ms. Lanza has a **blog**:

<http://firstlasagnagardener.blogspot.com/>

and her **facebook page**, too:

<https://www.facebook.com/pages/Patricia-Lanza/204100295374>

2) A fun “**comic book**” on **Lasagna Gardening** put together by the Polk County (Oregon) Master Gardeners is available on line in .pdf (Adobe Reader) format. It is a fun, quick and educational read, too. (Remember, though, you **can plant immediately** – you don’t need to wait an entire season!):

http://extension.oregonstate.edu/polk/sites/default/files/PCMG_Organic_No_Till_Gardening_Comic_Book.pdf

3) **Master Composter Recyclers** and other groups offer class(es) on lasagna gardening every spring/summer. Check their web site for the next lasagna gardening.

<https://www.clarkcountycomposts.org/>