How to Make Rich Compost Using the 100% Organic, Liquid Bio-fertilisers, Bio-Plant and Pro-Plant

Artemis & Angel Co., Ltd.
99/296 President Park, Sukhumvit 24, Klongtoey,
Bangkok 10110, Thailand
Tel.: (President) +66-86-329-6083; (Sales): +66-99-3377866 Fax: +66-2-661-1752
E-mail: (Sales): artemisandangelcoltd@gmail.com Website: www.artemisthai.com

Part 1. (p. 2)

How to Make a Layered Compost Pile

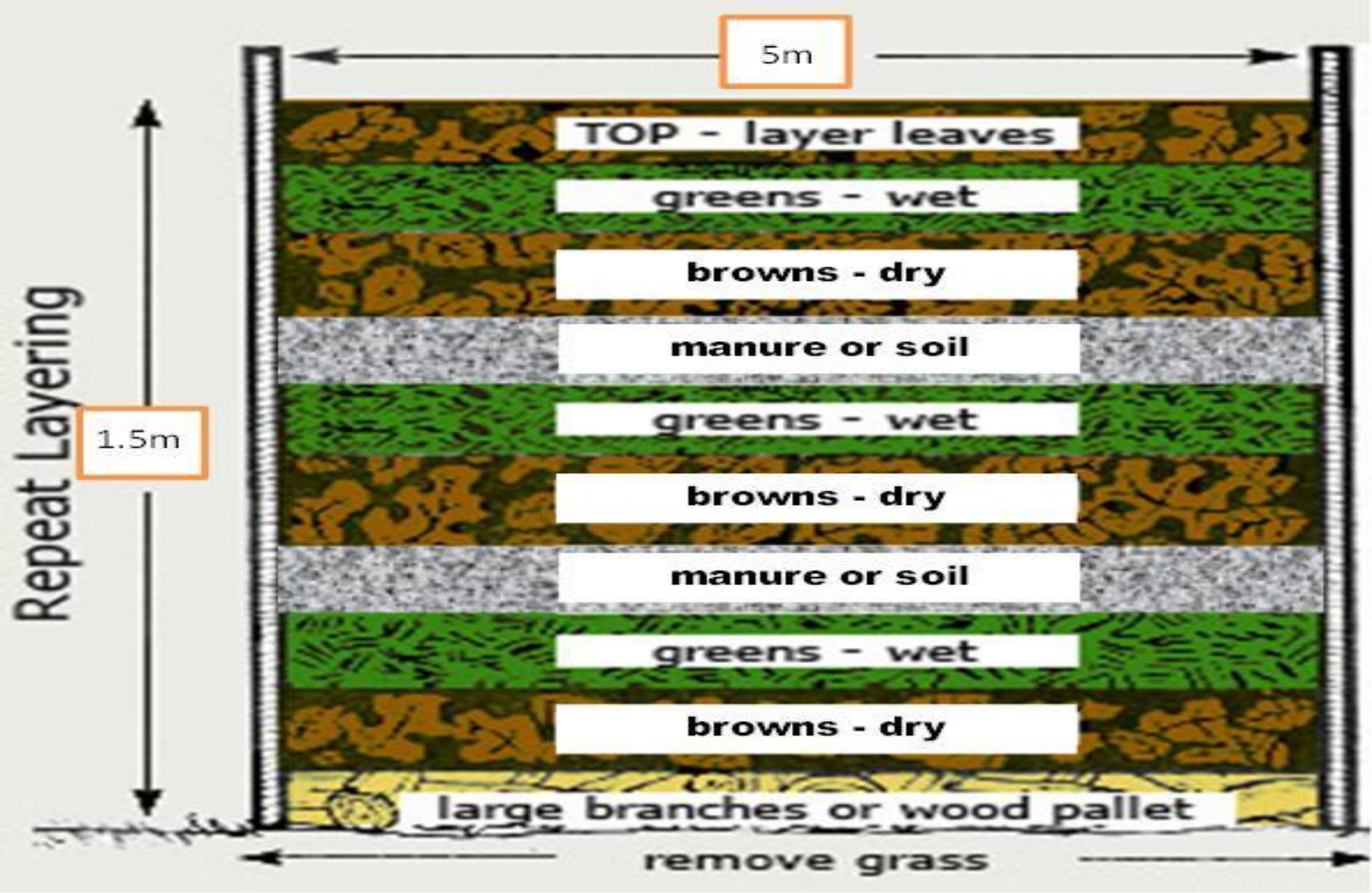
How to Make a Layered Compost Pile

https://www.youtube.com/watch?v=Hk4gNHNPuQ0

Comment Construire un Tas de Compost en Couches

https://www.youtube.com/watch?v=k3Gj8HhMGcI

1.1 (p. 2)
Diagram Showing the Layers in a Compost Heap



1.2 (p. 3)

Selecting the Site

Where to Make a Compost Pile

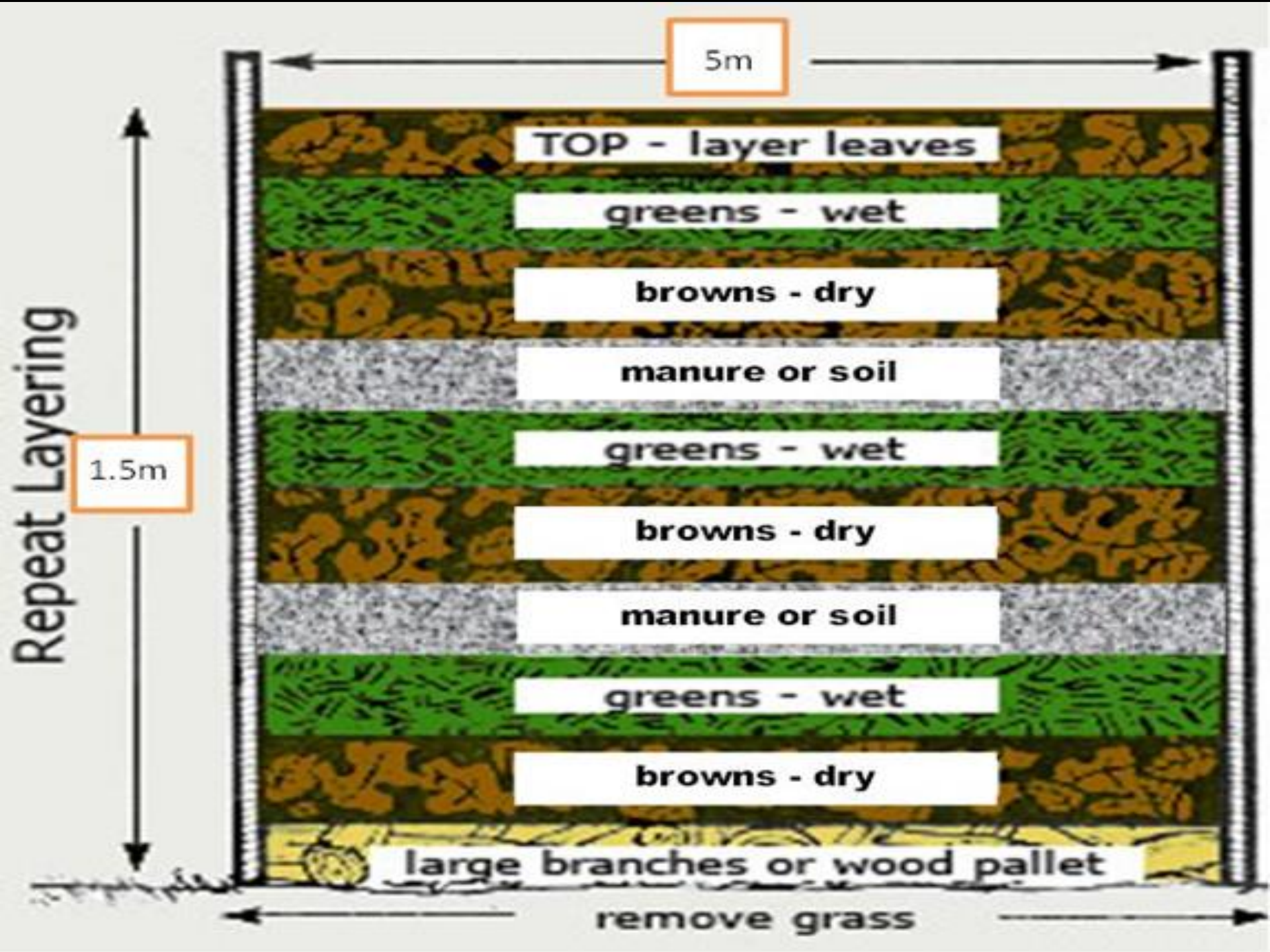
A Compost Heap Where It Is Needed

1.5 (p. 3)

The Layers in Making the Compost Heap

The Foundation Layer

- Attention must be given to the aeration of the compost pile. Without air, the heap will not heat up and it will become anaerobic and smelly.
- Build an air tunnel at the bottom of the heap with layers of hay or maize stalks, twigs, or pipes.
- This also stops the heap from settling down too much.


5m
TOP - layer leaves
greens - wet
browns - dry
manure or soil
greens - wet
browns - dry
manure or soil
greens - wet
browns - dry
large branches or wood pallet
remove grass
Repeat Layering
1.5m

The Foundation and Other Layers

Create a Layered Pile on the Foundation

- Make the ratio of Browns to Greens 2 : 1 or 2.5 : 1. (2 shovels of Brown, 1 shovel of Green and ½ shovel of manure (High Nitrogen).
- Make the Foundation Layer and the Brown layers 6-8” thick while the Green layers are 3-4” (half the size).
- In this way the Greens will supply enough Nitrogen for the bacteria to grow and break down the Carbon material.
- Keep the layers loose. Do not firm the material down too much as that will prevent oxygen penetrating the layers.

Collect Carbon-Rich Material (Brown)

Brown carbon-rich

- dry leaves
- straw and hay
- shrub prunings
- pine needles/cones
- chopped twigs/branches
- wood ash
- newspaper
- shredded paper (avoid glossy paper)
- cardboard (shredded)
- corn cobs, stalks
- dryer lint (from natural fibers)
- sawdust (from untreated wood)
- eggshells
- brown paper bags (shredded)

Green nitrogen-rich

- table scraps
- fruit scraps
- vegetable scraps
- fresh grass clippings
- lawn and garden weeds (if they have not gone to seed)
- flowers
- seaweed and kelp
- chicken manure
- coffee grounds/filters
- tea leaves (loose or in bags)
- corn cobs, stalks
- hedge clippings
- garden waste
- fresh leaves

Collect Nitrogen-Rich Material (Green)

Collect Manure

Ideally Use Chicken Manure

Ideally Shred the Organic Matter

Prepare the Bio-Plant and Water Mixture

- Mix Bio-Plant with water at the ratio of 1 litre of Bio-Plant with 500 litres of water.
- The normal ratio is 1 litre for 1,000 litres of water. But this amount of water would be suitable for a compost pile of 10 metres long x 1 metre wide x 1.5 metres high or for 2 piles of 5 metres in length.

Spread the Mixture on Each Layer

- You will need to spray the mixture over each of the roughly 6 layers of Browns, 6 layers of Greens, and 6 layers of manure or soil.
- You could spread out the material to be used with each layer and wet it until it is damp, not soaking wet. Then create the layer.

Spray the Mixture on Each Layer

Adding Rock Phosphate

- If the soil needs phosphate, add rock phosphate to the pile, approx. 25 kgs per $5m^3$.
- Sprinkle it on one of the bottom layers.
- The organic acids in the pile will gently work on the phosphate rock and make the phosphate available.
- Rock phosphate helps fungi to grow.

Sprinkling Rock Phosphate

Alternate Green and Brown Layers

Alternate Green and Brown Layers

The Size of the Compost Pile

- Make the pile about 5 metres long x 1 metre wide x 1-1.5 metres high.
- The finished compost will be about 70% of this.
- Some farmers make heaps of bigger proportions than this, but usually they will have a compaction problem due to the large volume and consequent lack of aeration.

Use Soil for the Covering Layer

A Layered Compost Heap

Things we Do and Do Not Compost

Do

Leaves, grass, weeds, small garden clippings, pine needles, wood ash, bark, nutshells, fruit and vegetable scraps (peels, skins, or seeds), coffee grounds (including the paper filter), tea bags, sawdust, newspaper, paper towels, napkins

Do Not

Meat, fish, bones, dairy products, vegetable oils, fats, human or pet waste, charcoal ash, plastic food packaging and glass containers

1.5.7 (p. 6)

Making Compost with Cocoa Pod Husks

Rorak Ditches Between Cocoa Tree Rows

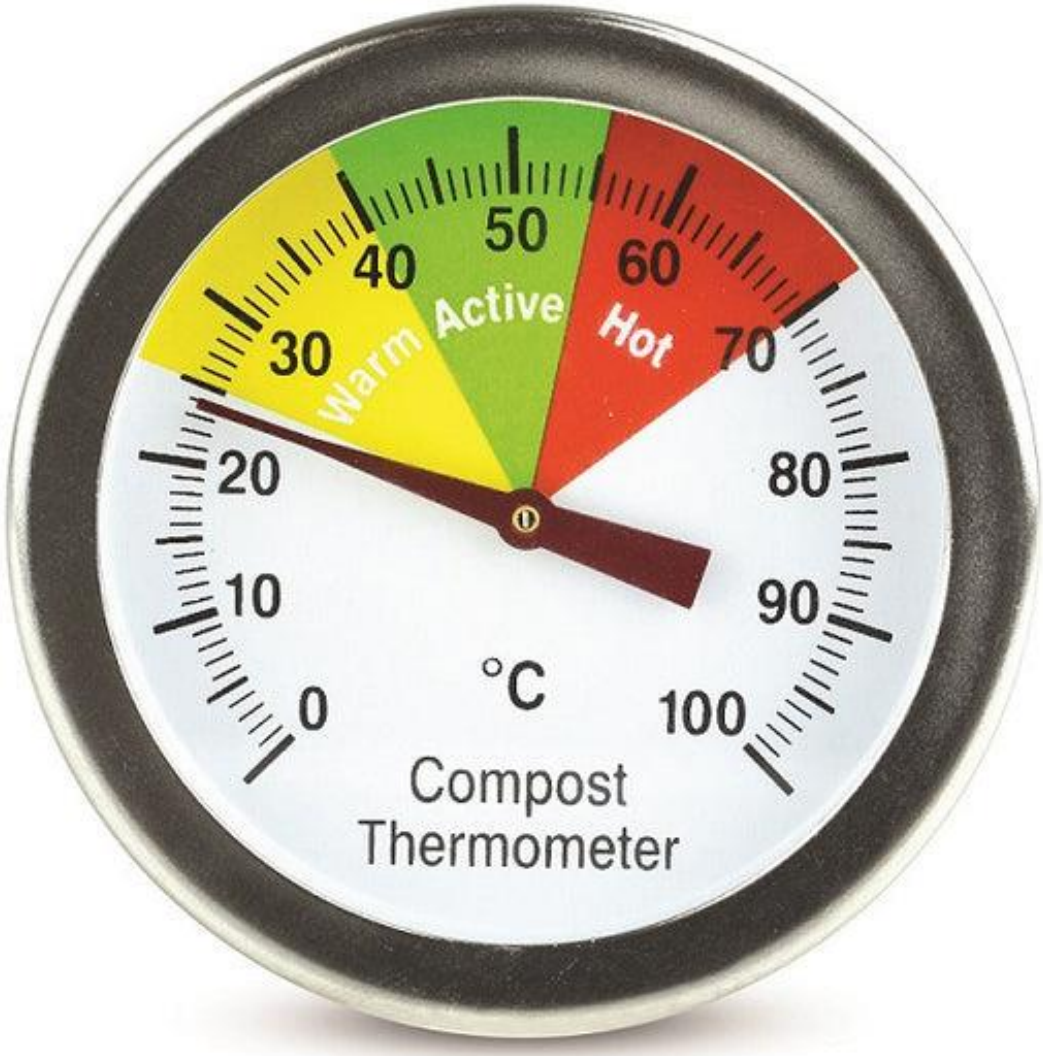
Part 2. (p. 7)

What to Do During the Compost-Making Process

2.1 – 2.4 (pp. 7-9)

Checking the Temperature and Dealing with Temperature Issues

Temperature Sticks


0
10
20
30
40
50
60
70
80
90
100
Warm
Active
Hot
°C
Compost
Thermometer


0
20
40
60
80
100
120
140
160
180
200
°F
AG FC

How to Know If the Compost Pile Is Hot Enough Without a Thermometer

- If you can hold your arm in the pile up to your elbow for longer than a few seconds, the heap is not 55^{o} Celcius and is not hot enough.
- If you can hold your arm in the pile up to your elbow for just a few seconds, the heap is probably hot enough.
- If, however, you cannot even hold your arm in at all, then the heap is over 65^{o} Celcius and too hot. (An overly hot heap loses excessive amounts of nutrients and micro-organisms.)

What to Do If the Temperature Is Too High

- The optimum temperature is 55°-65° Celsius.
- At temperatures over 65° Celsius a white “mould” spreads through the compost, which is actually ”fire blight”, an anaerobic bacteria.
- You must turn the compost pile at once.

2.3 – 2.4 (pp. 7-9)

Checking the Temperature and Dealing with Temperature Issues

2.5 (p. 9)

Checking the Moisture Level

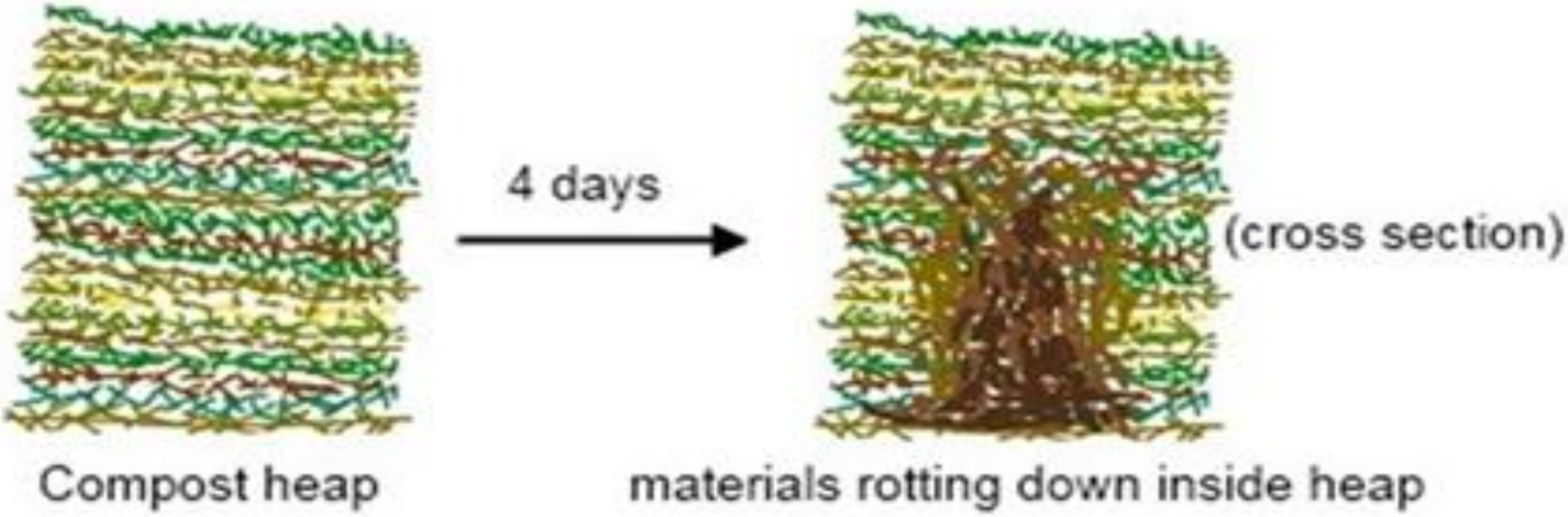
Checking moisture content in compost

- Squeeze a small handful of your raw material.
- It should feel like a wrung-out sponge.
- If the material does not feel moist and crumbles, it is too dry.
- If you can squeeze water from the material by hand, it is too wet.
- If it sticks together slightly and leaves a few drops of water on your hand, it's just right.

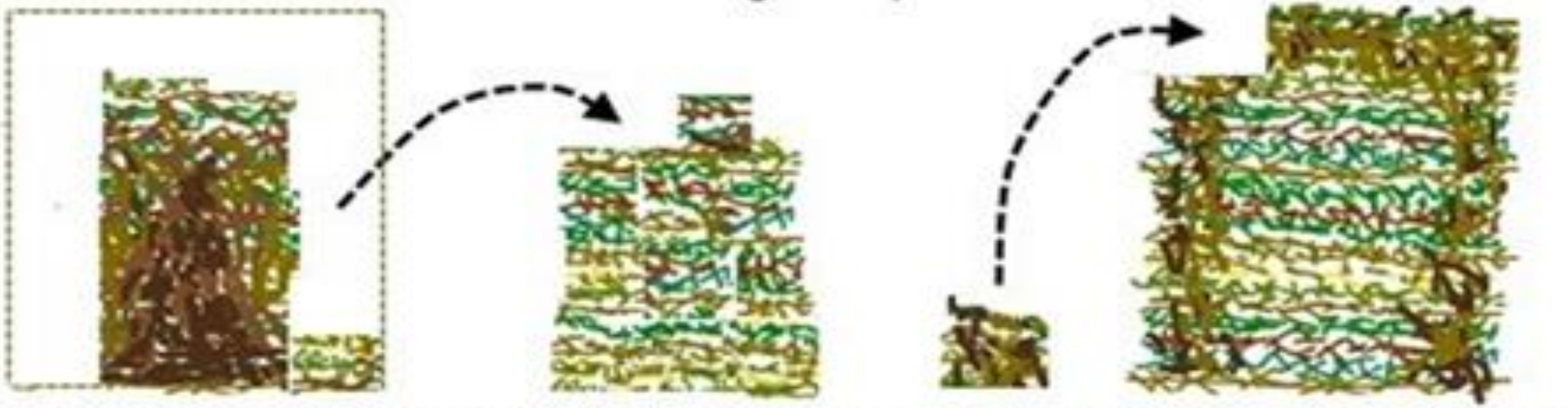
3.1 (p. 9)

How to Turn a Compost Pile

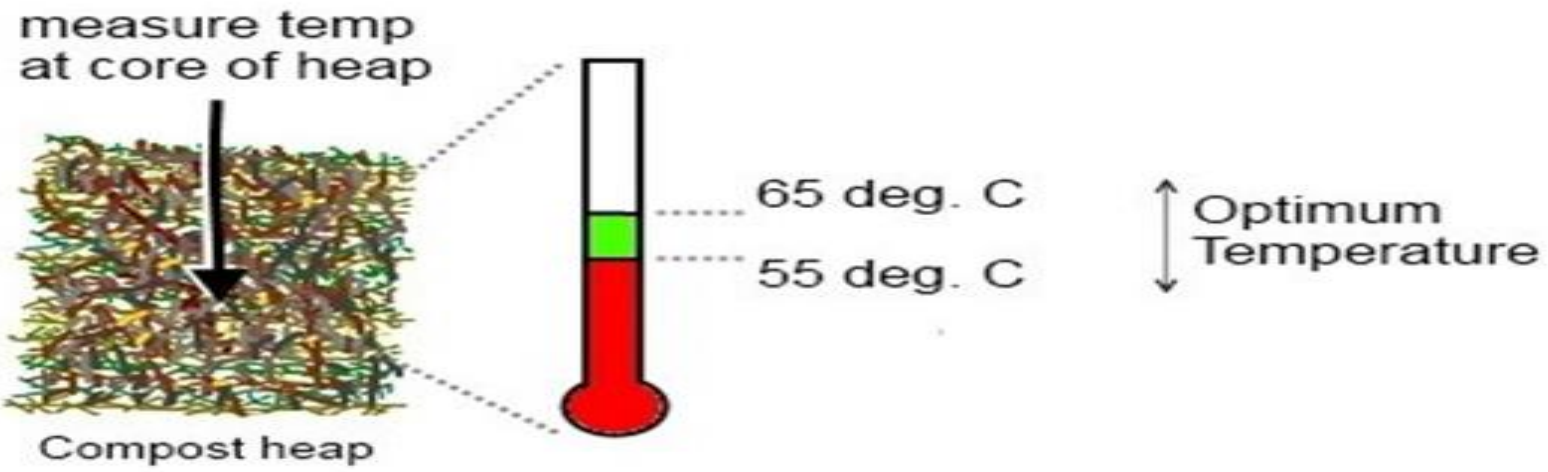
Turn the Pile on Day 4



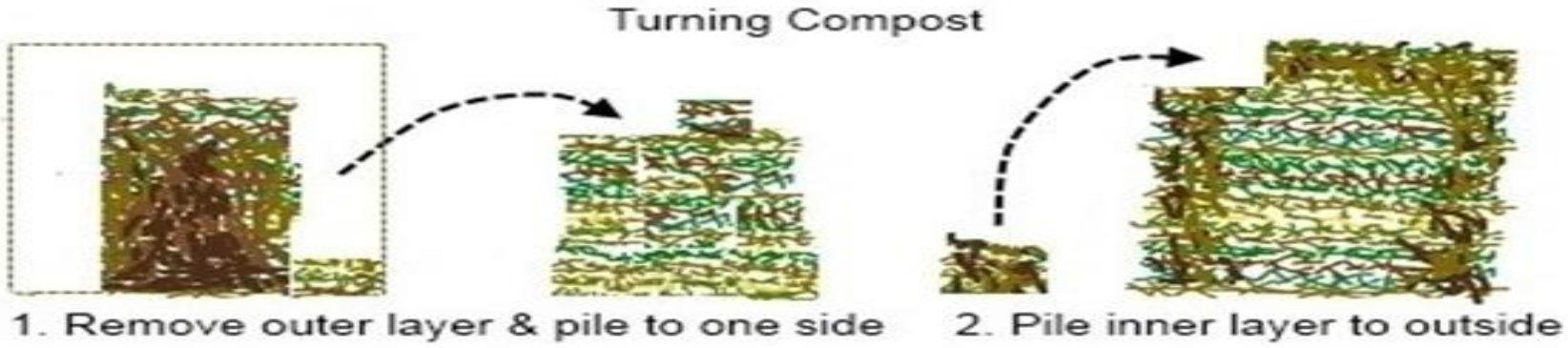
Turning Compost



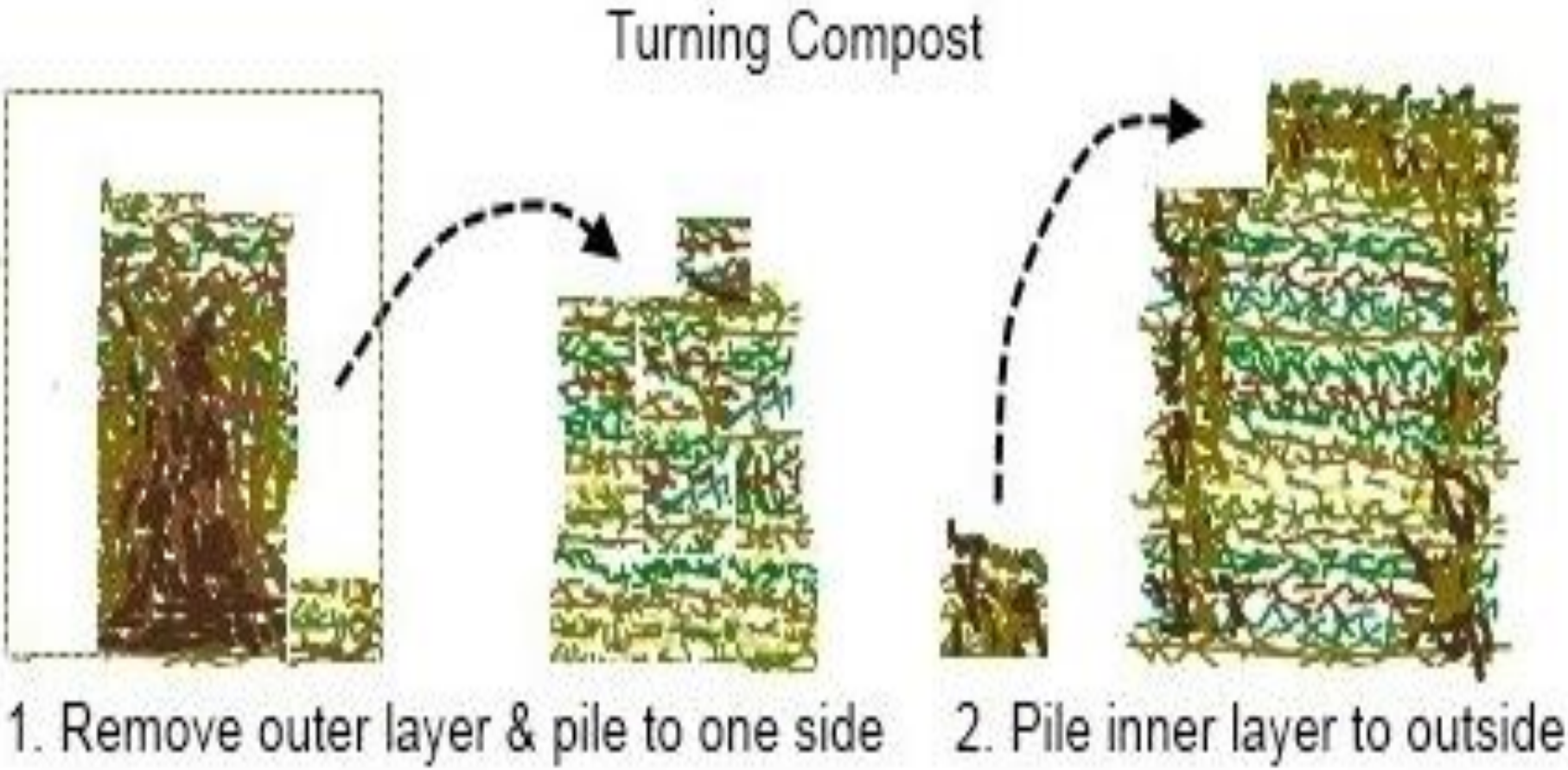
Turn the Pile on Day 6 and Day 9



Day 6 and Day 9



Days 12, 15, and 18



Part 4. (p. 10)

When is the Compost Finished?

4.1 (p. 10)

The Importance of Curing Compost

Cure the Finished Compost Heap

Cure the Finished Compost Heap

Make Many Piles at the Same Time

4.2 (p. 11)

How to Know When the Compost is Ready

Compost Piles Before and After

Before and After

4.3 (p. 11)

Screen the Compost Before Using or Bagging

Sieve the Compost

Sieve the Compost

Sieve the Compost

Sieve the Compost

Sieve the Compost

Finished Compost

Sieved Compost

Finished, Screened Compost

Additional

Windrow Composting

Turning Windrow Compost Heaps

Turning a Windrow Compost Heap

Turning a Windrow Compost Heap

A Tractor-Pulled Windrow Composter

A Tractor-Pulled Windrow Composter