

COMPOST WITHOUT TURNING

METHOD DEVELOPED BY MAEJO UNIVERSITY



FFT VOLUNTEER BENIN 2019



Benefits of Compost

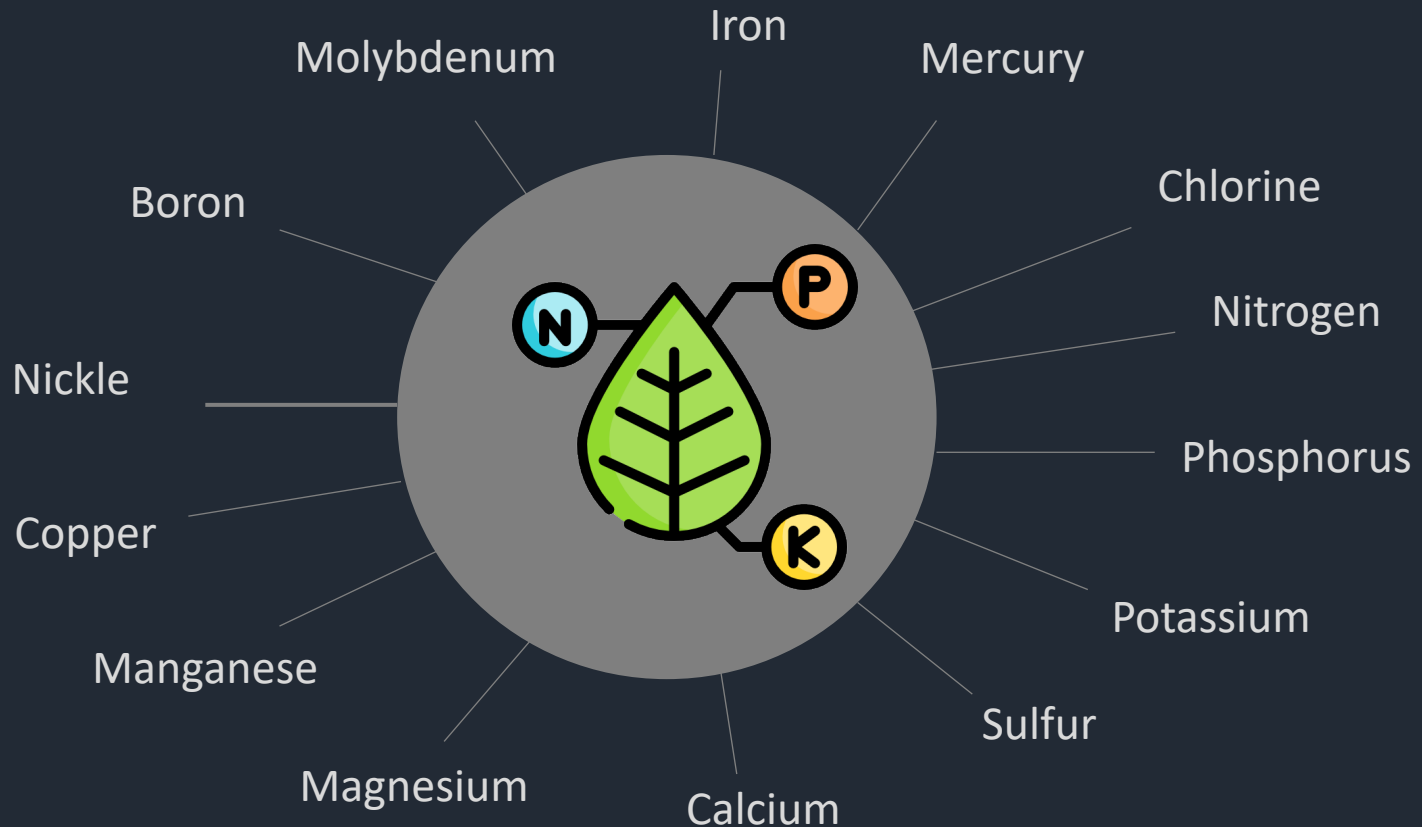
It is so easy for farmers to make



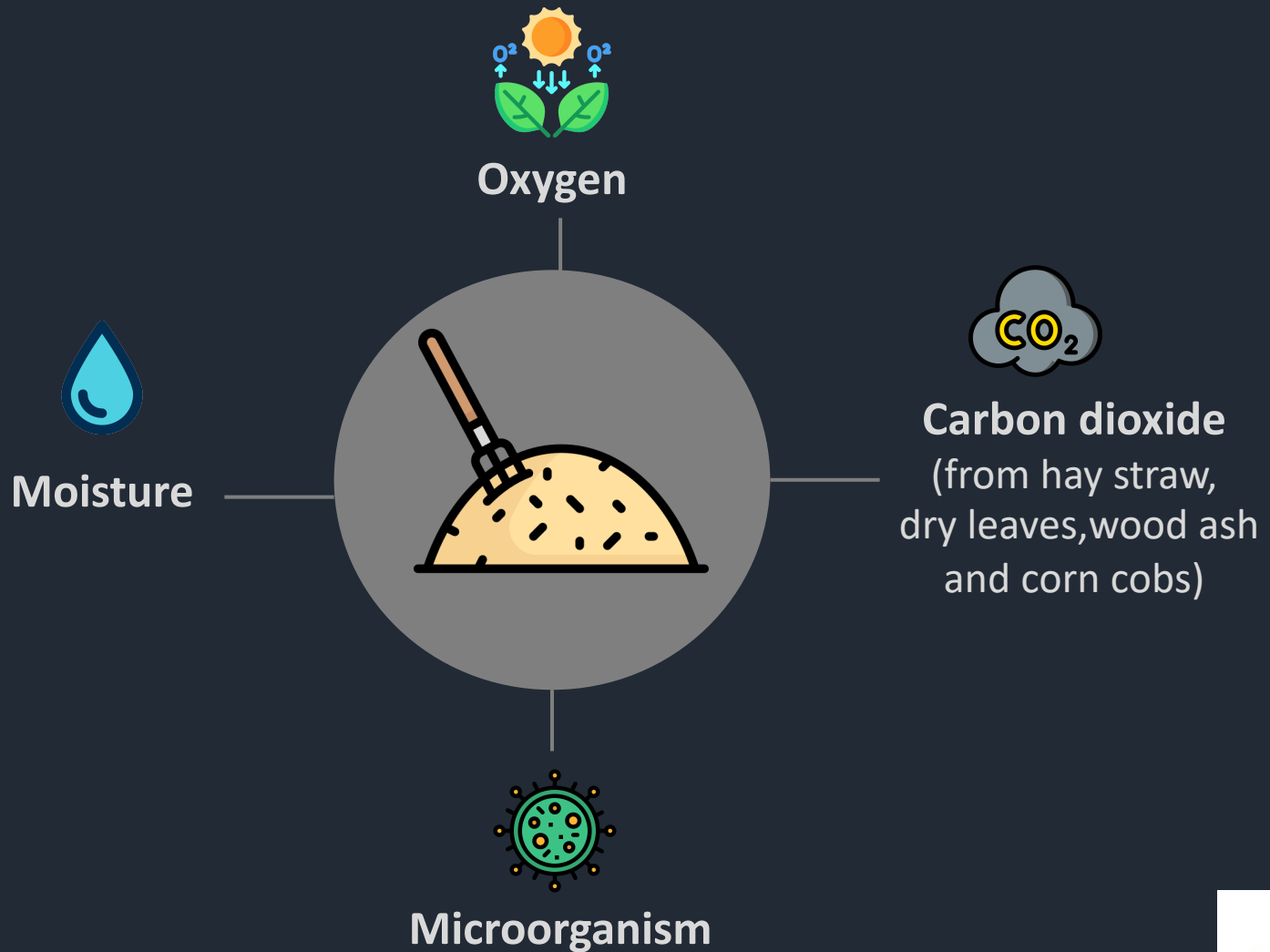
Reduce the use of environmentally destructive practice of rice stalks burning

The resulting organic fertilizers replaces expensive chemical fertilizers and reducing farmers' cost production

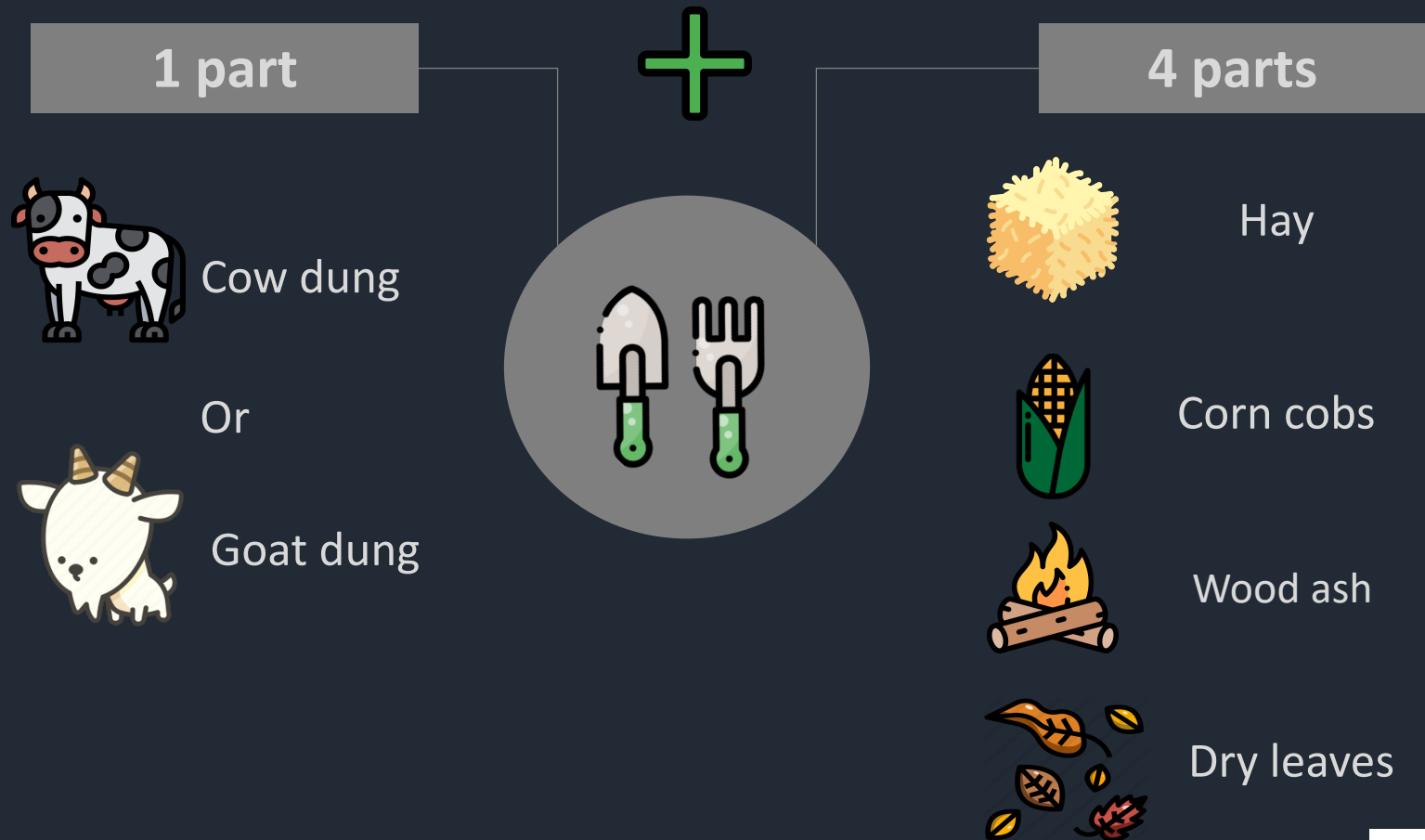
The resulting compost is organic and high - quality



Heart of Compost pile



Raw Materials and ratio



How to make compost



1. Measure the raw materials using the hay to animal dung ratio of 4 to 1
2. Mark area a 4 x 2.5 m. Mark the height of the pile : 1.5 m.
3. Pile - building by layering. Layer the measured 4 parts of hay on our marked rectangular area. Try to make each layer about 10 cm. thick. Then on top of the hay, layer the measured 1 part of dung. water the layer but do not add too much water.
4. doing 15 of these layers. Each layer 10 cm. thick. creating a 1.5 m. tall prism structure. Water entire structure once again and wait for 2 months

Usage

Amount used in cultivation 900 - 9,000 kilograms per 1 acre (4,050 square meters)

Compost pile structure

Compost pile should be
a triangular prism.
height 1.5 m.

*Do not step on the pile

Length 4 m.

Width 2.5 m.

On top of the pile layer
the measure 1 part of
animal dung

Lay animal dung and
water every layers.

The layer of animal
dung, 1 part,
no thickness.

The layer of hay 4
parts, thick 10 cm.

*1 compost pile (size 4 x 2.5 m.) can produce 1 ton of compost

How to make compost



<https://www.youtube.com/watch?v=AfQWggmuZw&t=3s>

4 baskets of hay



<https://www.youtube.com/watch?v=AfQWggmuZw&t=3s>

1 basket of animal dung

How to make compost



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Mark area : a 4 x 2.5 m. height 1.5 m.



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Layer the measured 4 parts of hay
on marked rectangular area

How to make compost



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Layer the measured 1 part of dung



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Water the layer
but do not too much water

How to make compost



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Do 15 of layers. Each layer 10 cm. thick, creating a 1.5 m. tall prism structure



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Water the entire structure once again and wait for 2 months

How to make compost



<https://www.youtube.com/watch?v=AfQWggmuZw&t=3s>

Every 10 days, puncture the structure to add water. Create holes using stick in intervals of 40 cm.



<https://www.youtube.com/watch?v=AfQWggmuZw&t=3s>

Add water directly into each hole

How to make compost



<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

Add water directly into each hole wait until each hole is filled (almost overflowing) and proceed to other holes.

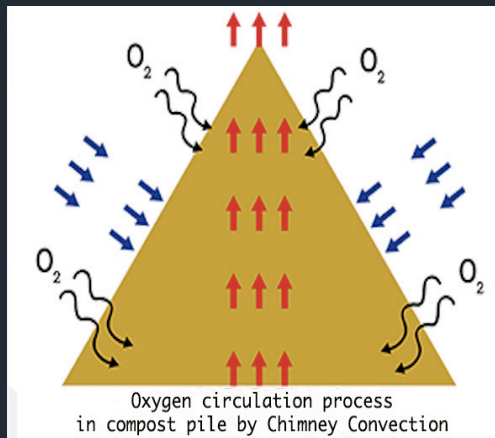


<https://www.youtube.com2watch?v=AfQWggmuZw&t=3s>

After 2 months break structure and spread its content until it's about 20 - 30 cm. thick, Leave the fertilizer to dry for 3-4 days

How to make compost

1. Measure the raw materials using the hay stalks to dung ratio of 4 to 1 (use 4 baskets of hay straw to 1 basket of cow or goat dung. This ratio allows microorganisms (from the manure) to decompose our hay into fertilizer most effectively.



2. Mark area : a 4 x 2.5 meters base. Mark the height of the pile : 1.5 meters. The resulting pile should be a triangular prism. This structure (1.5 meter-tall triangular prism) facilitates the crucial self-aerating process unique to our method, allowing hot air from the composting process to rise and escape the pile, pulling cold air from the outside into the pile providing microbes with oxygen necessary for the composting process.

3. Pile-building by layering. Layer the measured 4 parts of hay on our marked rectangular area. Try to make each layer about 10 centimeters thick. Then, on top of the hay, layer the measured 1 part of dung. After that, water the layer but do not add too much water. If water seeps out of our layer, we are essentially losing the nutrients in dung.

How to make compost



4. We are going to be needing 15 of these layers. Each layer 10 cm. thick, creating a 1.5 meter-tall prism structure. Water the entire structure once again and wait for 2 months

5. During these 2 months, there are some steps taking care of our fertilizer structure and its microbial community

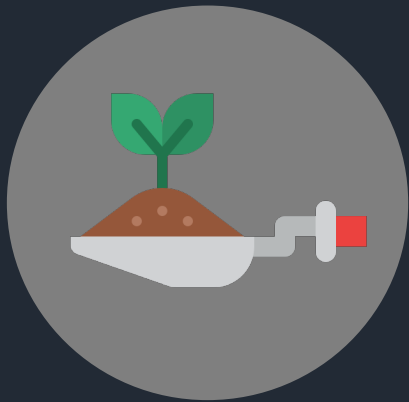
6. After 2 months the height of the structure would have decreased to half its original size. Break structure and spread its content until it's about 20 - 30 cm. thick.

7. Leave the fertilizer to dry and microbial activities to be quelled for 3 - 4 day so that microbes in the fertilizer will not be harmful to plant roots.

*If circumstances do not facilitate spreading and drying leave the fertilizer in the pile for about 1 month without watering

How to make compost

During these 2 months, there are some steps taking care of our fertilizer structure and its microbial community



1. water the entire structure once a day (at any time during the day)
2. every 10 days, puncture the structure to add water INTO the structure to maintain moisture. Create holes using long stick in intervals of 40 cm. Angle each stick in a way that it touches the approximately the bottom of the structure's center. Remove the stick and proceed to create the next holes until all sides have been punctured. Then add water directly into each hole wait until each hole is filled (almost overflowing) and proceed to other holes. This way moisture is maintained even at the deepest part of the structure. After that cover the holes with hay to stop the moisture from escaping. This puncturing procedure should be carried out every 10 days.

Caution



1. Once the first layer of hay-dung is watered, DO NOT step on the layer. Stepping can make the structure compact, decreasing the amount of oxygen within the structure hindering aerobic microbial activities involved in our fertilizer-making process.
2. DO NOT build the structure near small trees or vegetables because aerobic microbes in the structure produces heat which can harm tree roots
3. DO NOT cool down the structure's internal temperature because many of our fertilizer - making microbes are thermopiles and work well in high temperatures.