

# *Recycle Plant and Animal Residues and use them as Organic Fertilizer*

*إعادة تدوير البقايا النباتية والحيوانية واستخدامها كسماد عضوي*

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# Factors influencing biodegradation

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graph TD; A[Factors influencing biodegradation] --> B[Physical & Chemical]; A --> C[Biological]; B --> D["1. Temperature<br/>2. Oxygen<br/>3. pH<br/>4. Soil moisture content<br/>5. Nutrients"]; C --> E["1. Microbial degradation (bacteria)<br/>2. Fungi<br/>3. Algae & protozoa<br/>4. Plants"];
```

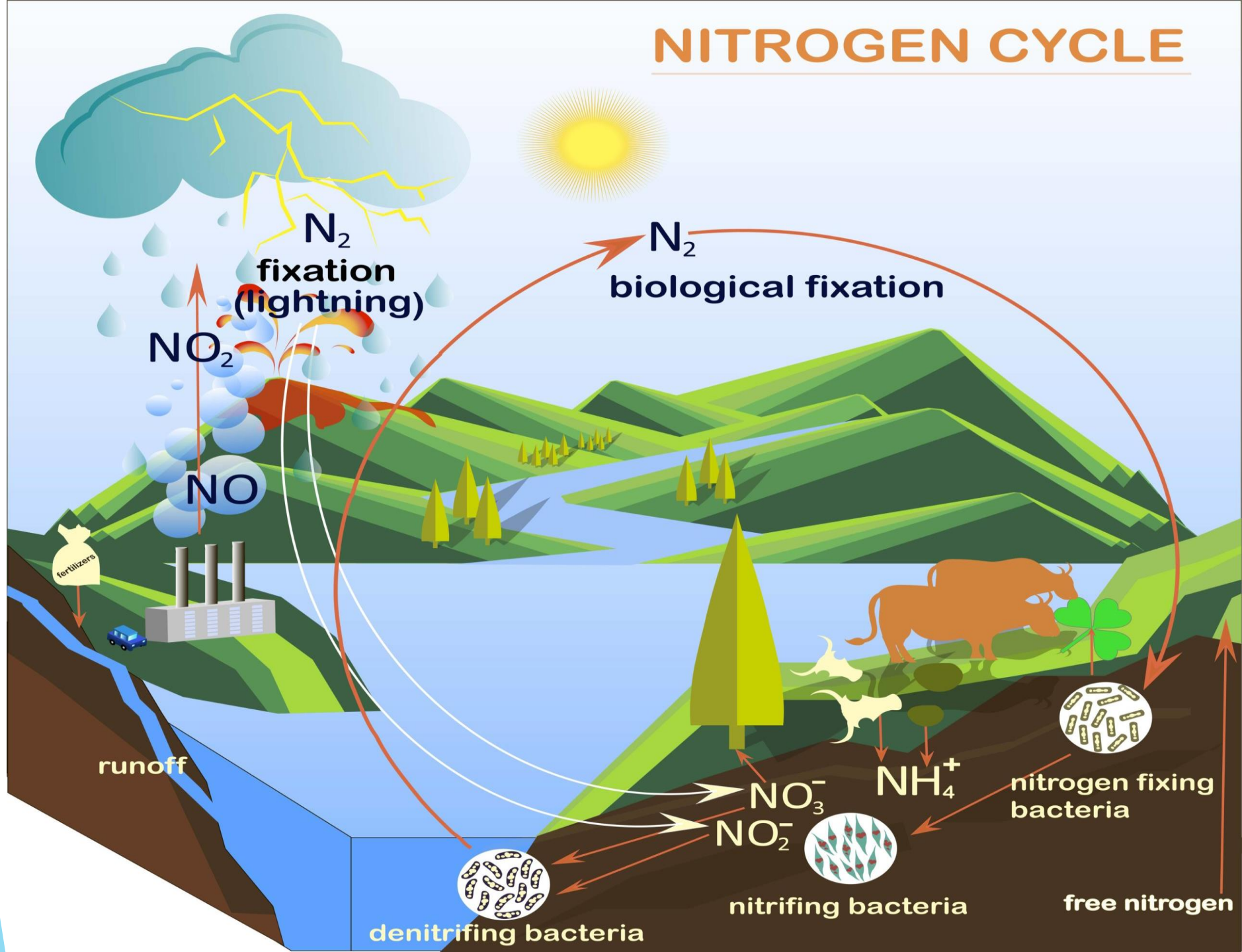
Physical & Chemical

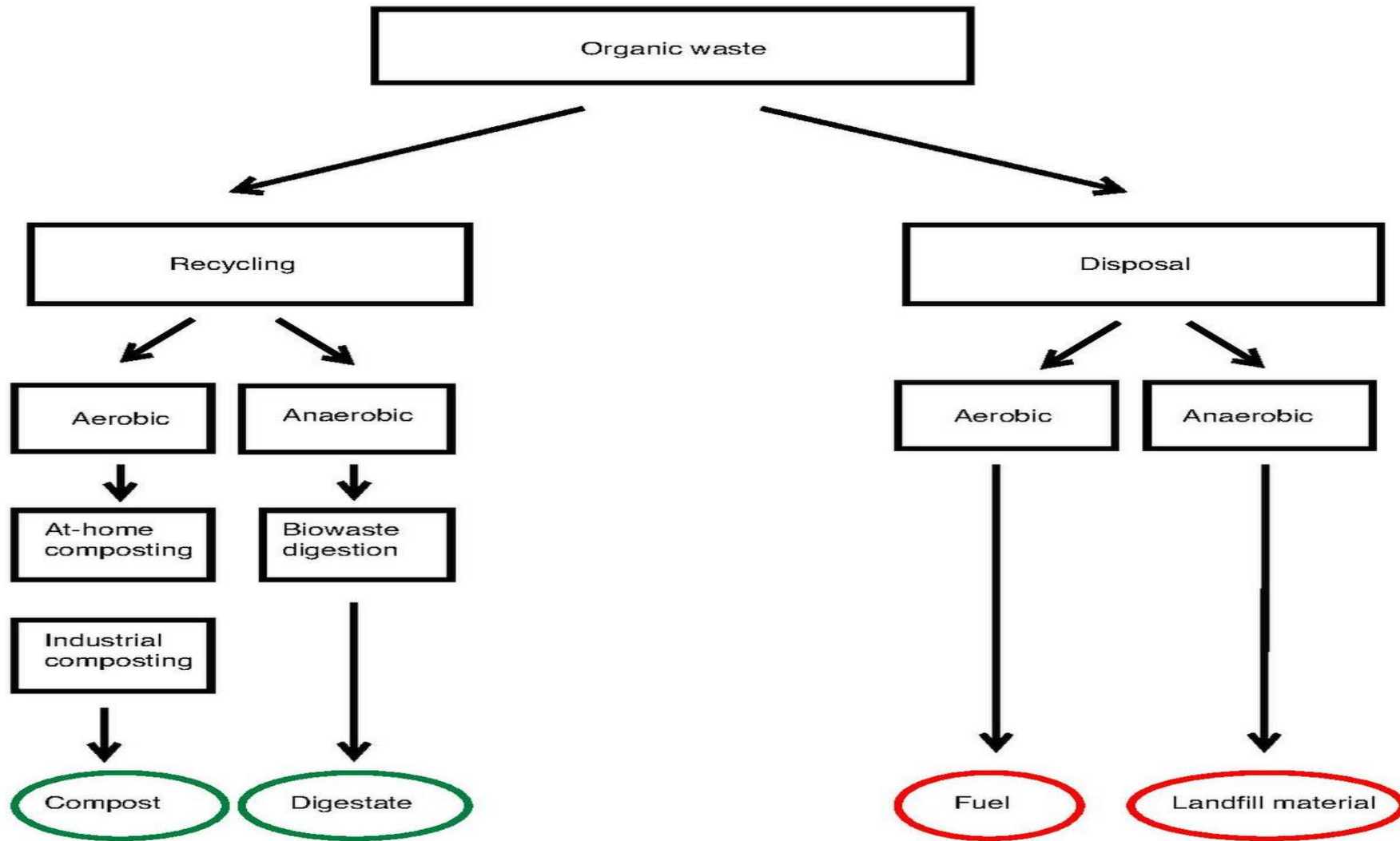
1. Temperature
2. Oxygen
3. pH
4. Soil moisture content
5. Nutrients

Biological

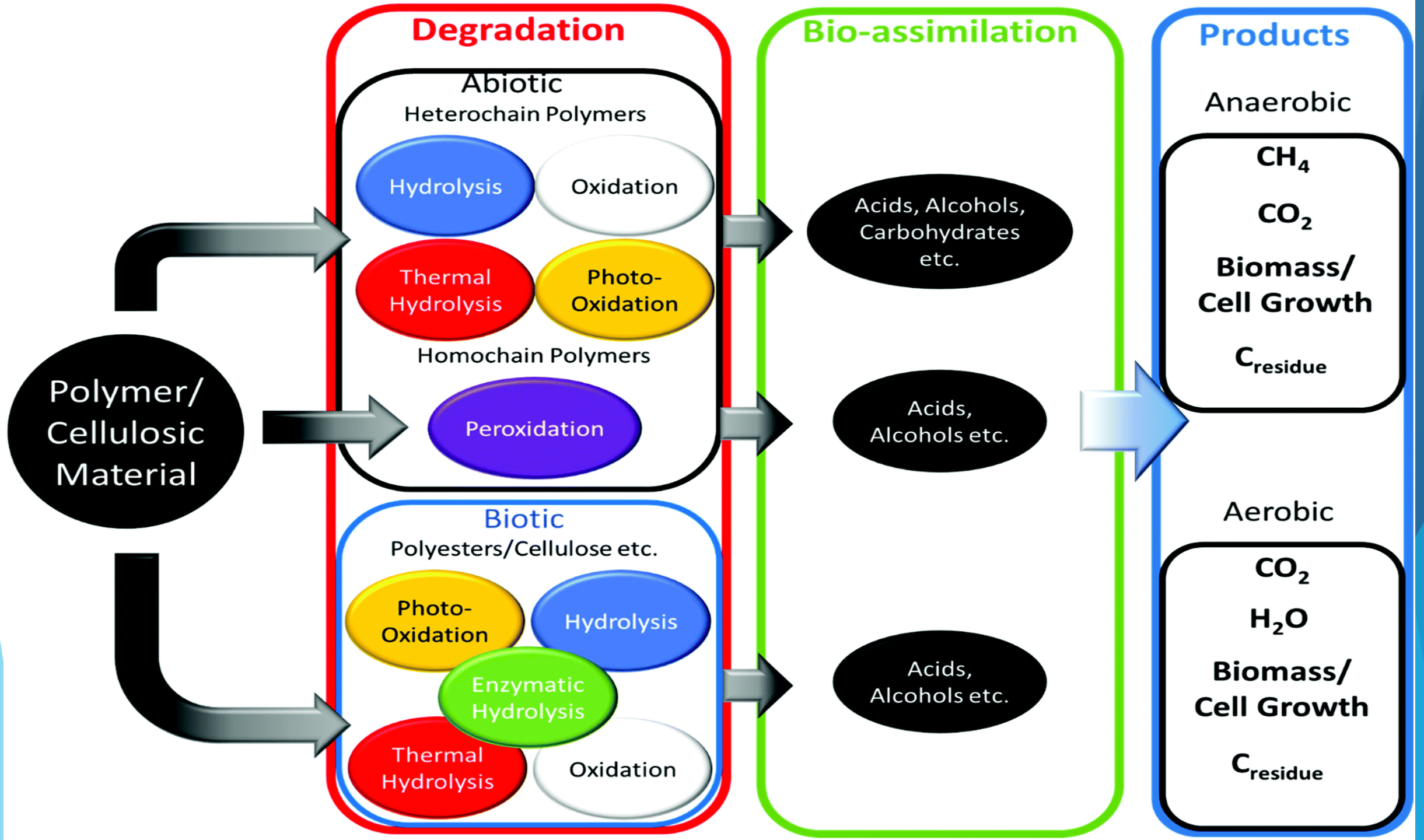
1. Microbial degradation (bacteria)
2. Fungi
3. Algae & protozoa
4. Plants

# NITROGEN CYCLE



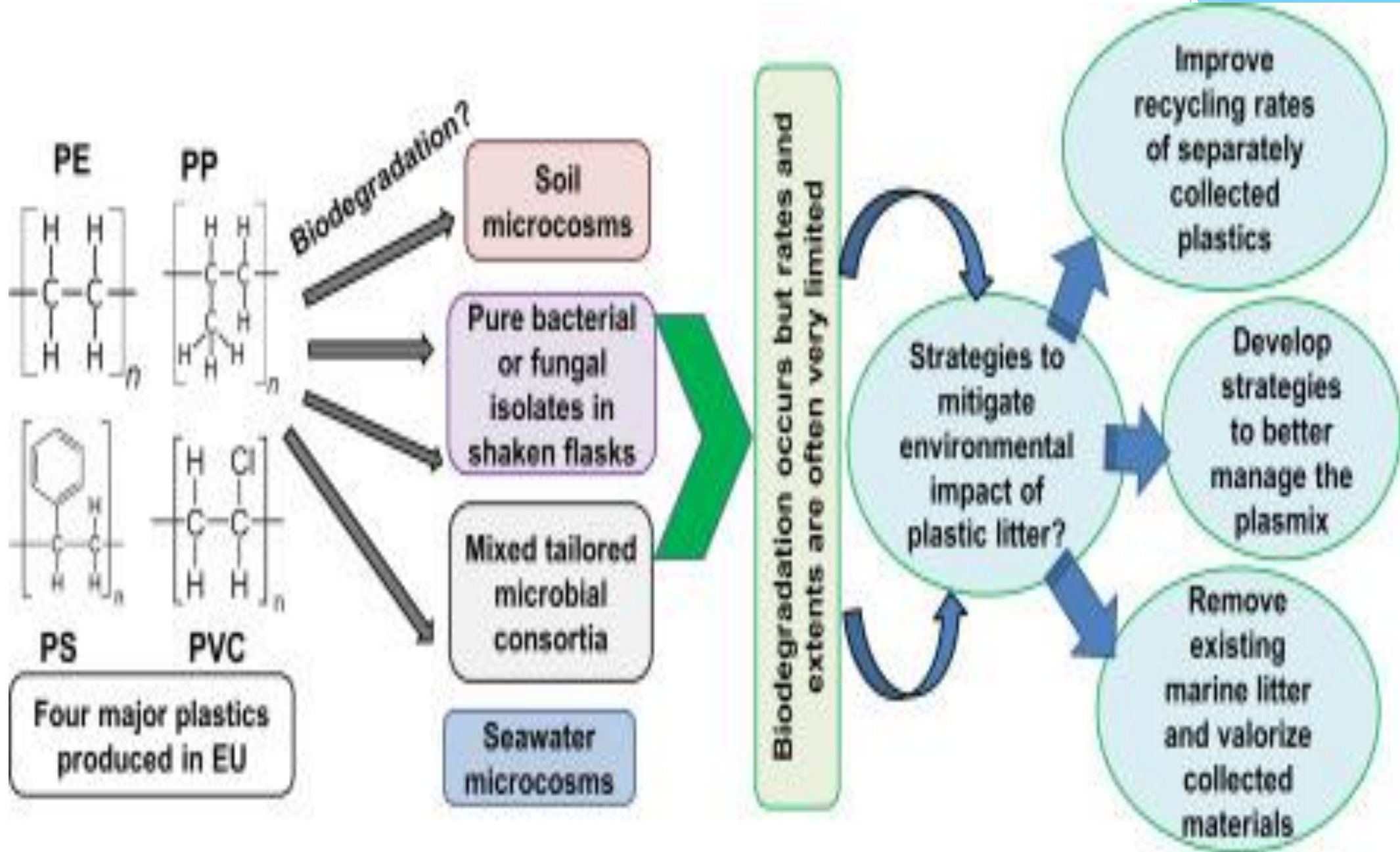










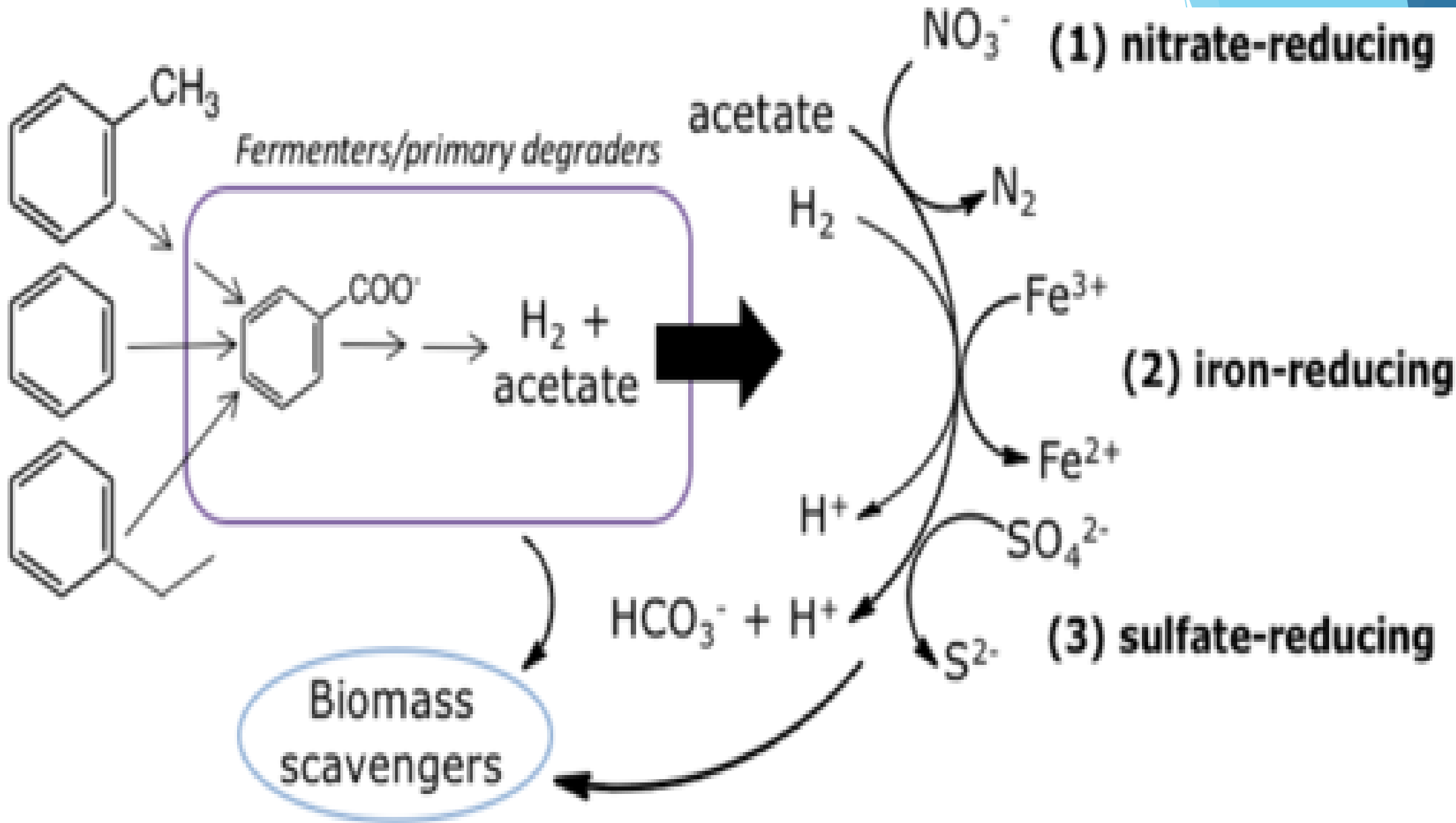


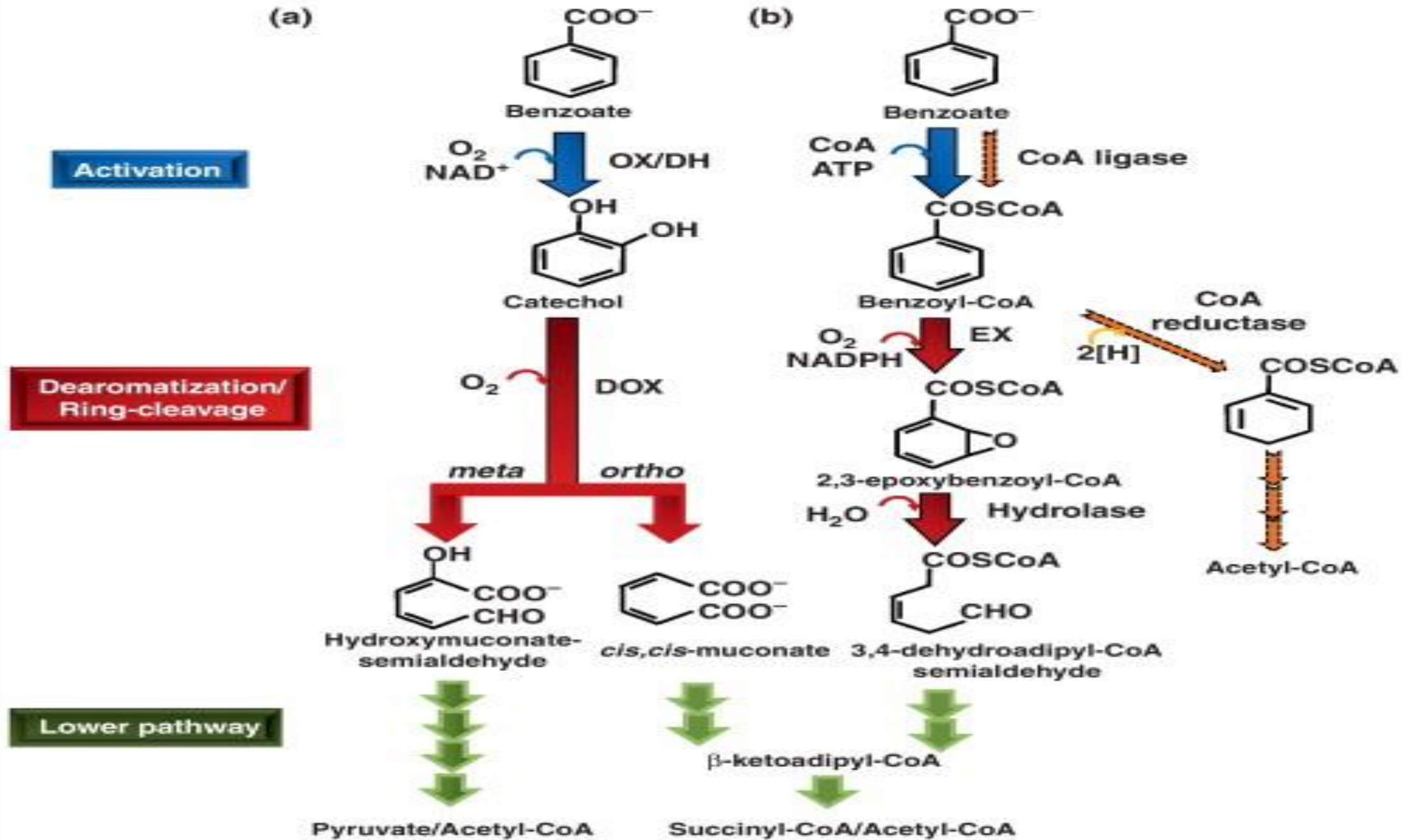


compost











## Bone Tissue Engineering

	Young's modulus (MPa)	Compressive strength (MPa)
Cancellous bone	20–500	4–12
Cortical bone	3000–30,000	130–180
Biopolymers	1.8–17,000	0.0080–0.02
Synthetic polymers	1.1–56	0.11–1024

## Vascular Tissue Engineering

	Tensile strength (MPa)	Young's modulus (MPa)
Native vessel	2.5	1
Biosynthetic polymer and their blends	0.2–4.0	0.44–20

Mechanical properties

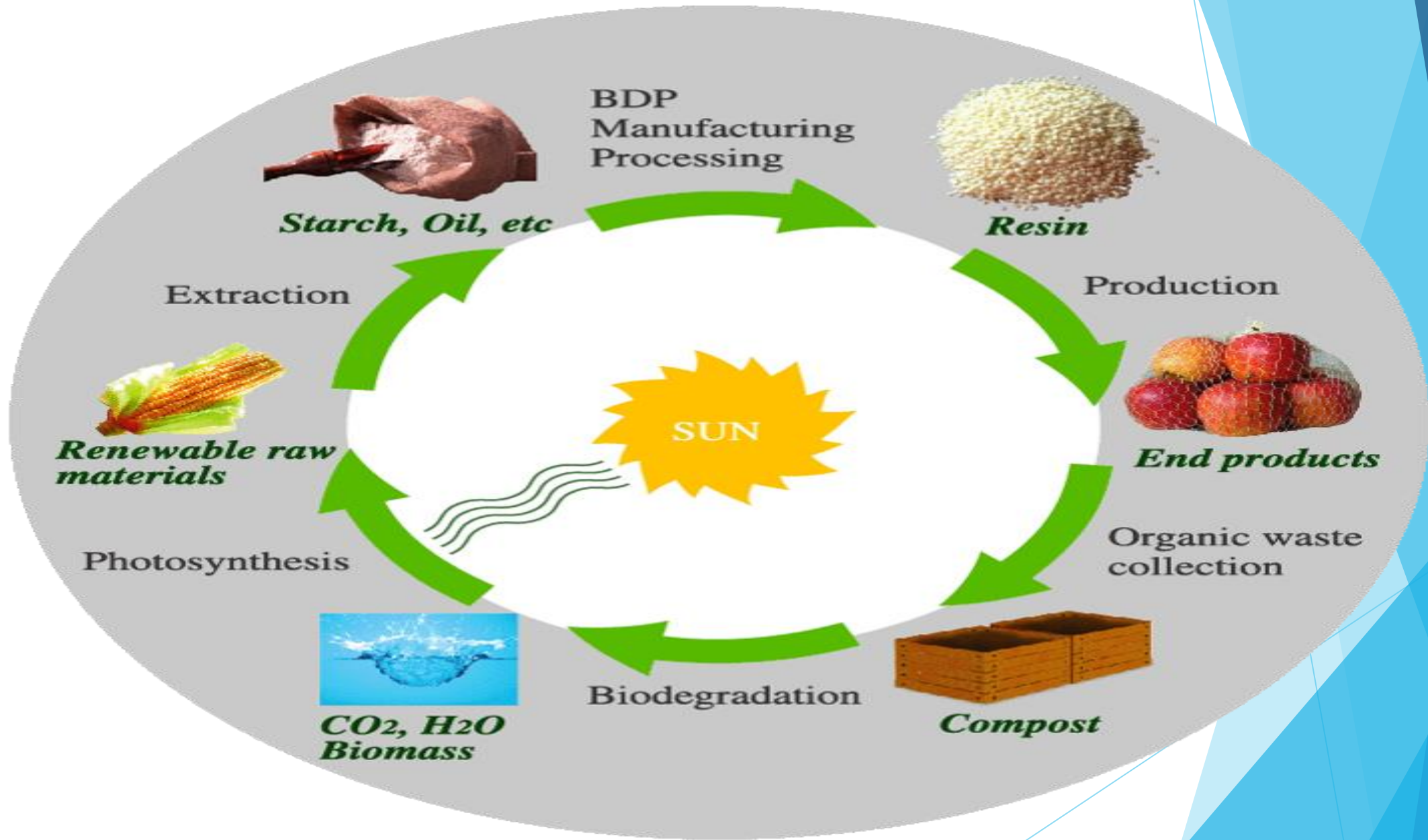
Biodegradable

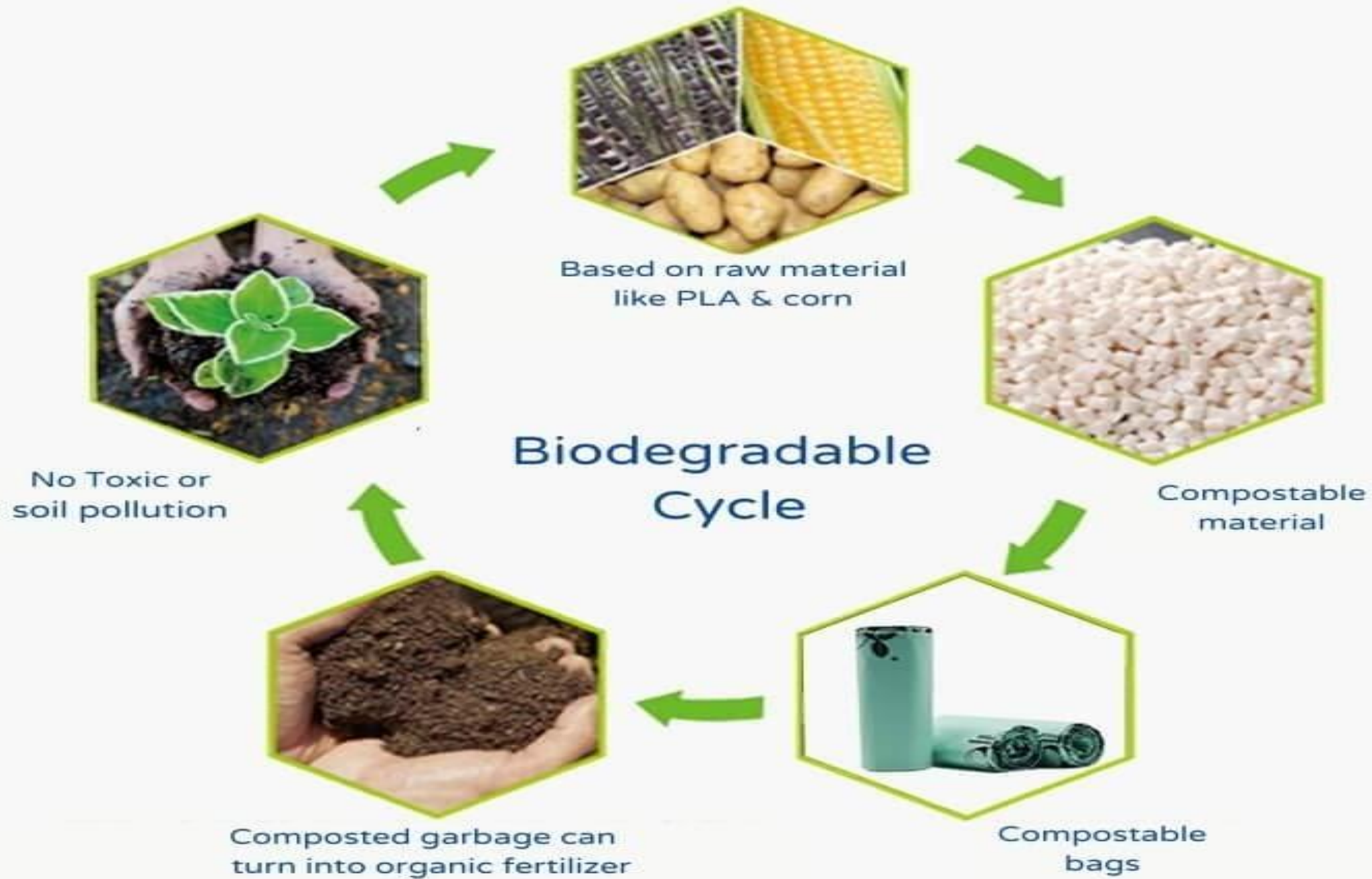
Biocompatible

Polymer scaffolds

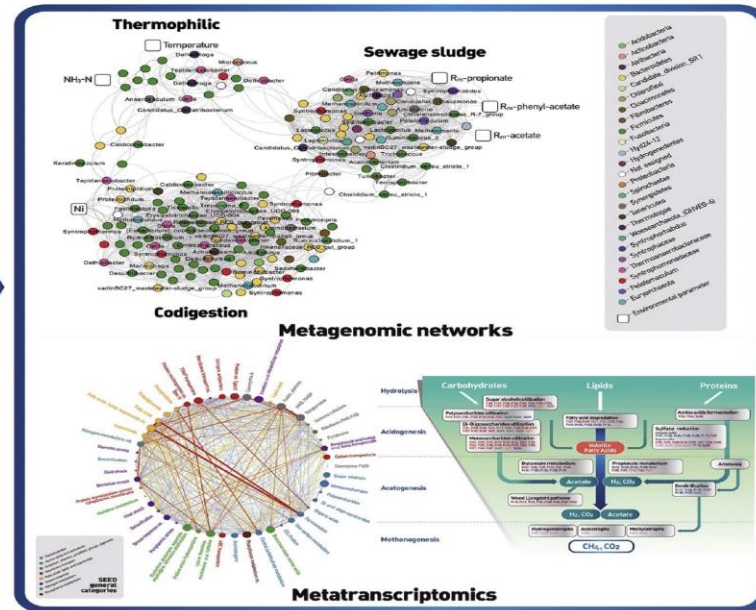
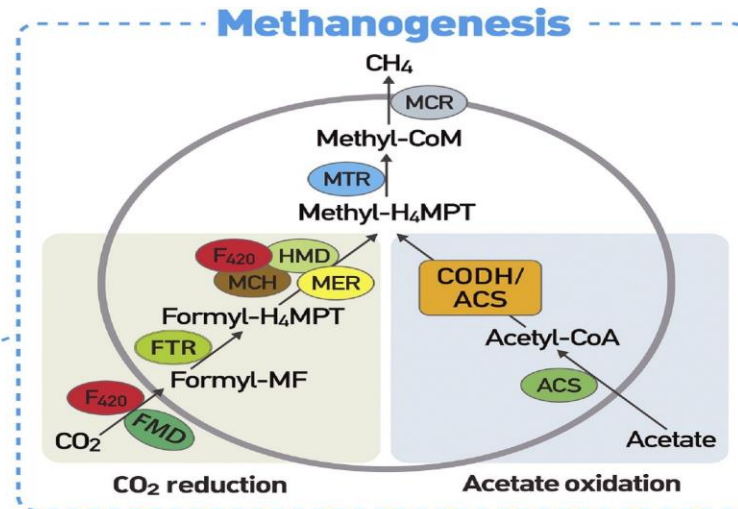
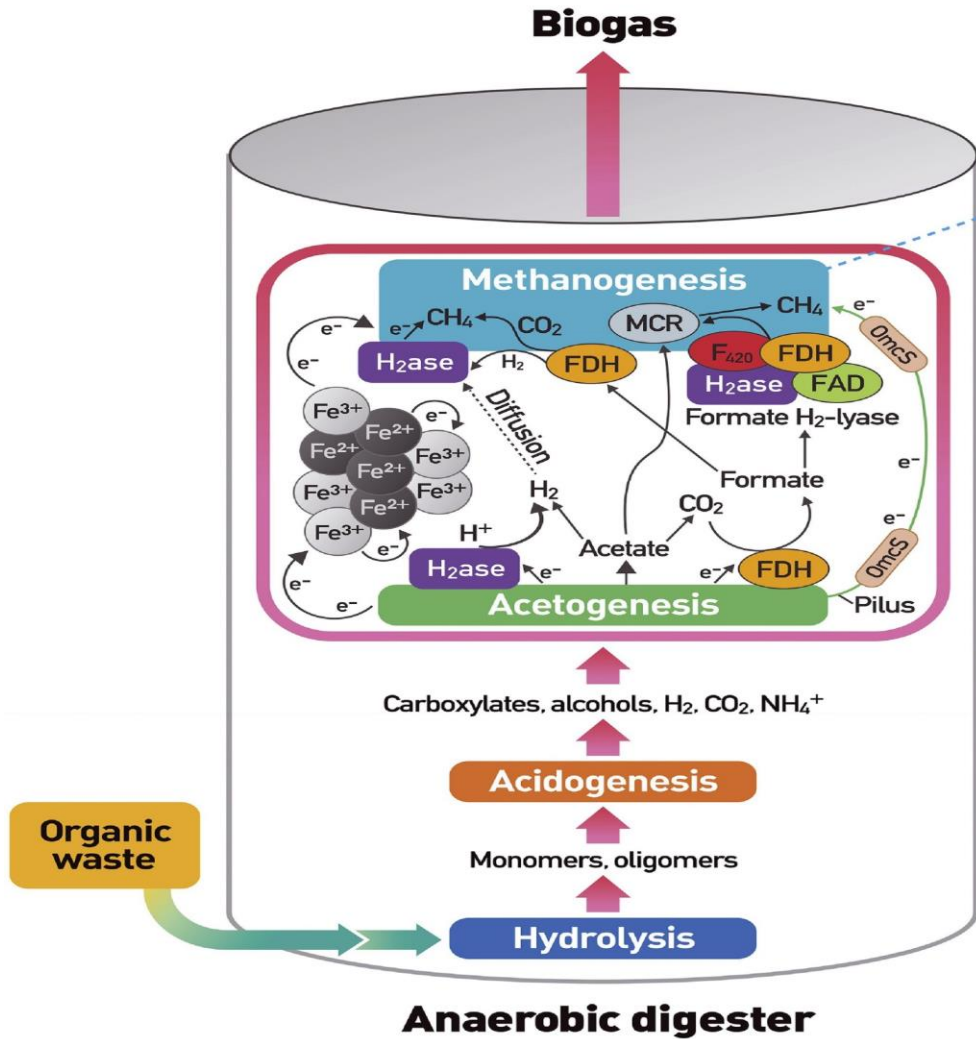
	Approx. degradation time
Biopolymer	12 h – 5 months
Synthetic polymers	1 – 24 months

	Pore size ( $\mu\text{m}$ )		Porosity (%)	
	BTE	VTE	BTE	BTE
Biosynthetic polymer and their blends	100–350	0.8–60	38–98	80–90









**COMPOSTABLE**

**VS**

**BIODEGRADABLE**



**CONTROLLED**



**FULLY DECOMPOSES**



**NATURAL**



**CONTAMINANT RESIDUE**



WHEN YOU NEED TO BE SURE

**SGS**

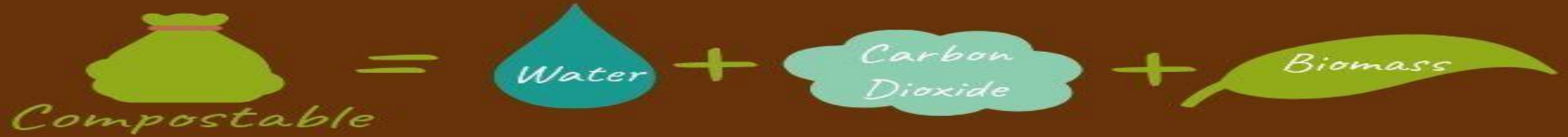


# Compostable VS Biodegradable

What's the difference?



Compostable bags are made of plant material & BREAK DOWN DURING THE COMMERCIAL COMPOSTING PROCESS INTO NON TOXIC COMPONENTS



Biodegradable bags have additives that over time will break the plastic DOWN INTO SMALLER SIZED PIECES WHICH TAKE MANY DECADES TO DISAPPEAR



Biodegradable bags are not compostable & will contaminate your compost

Make sure you only buy compostable and natural products

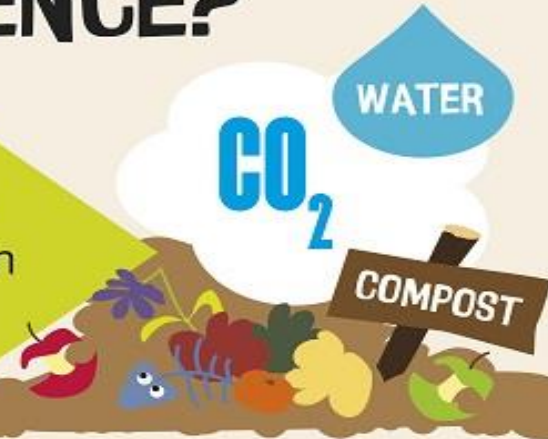


# WHAT'S THE DIFFERENCE?



## COMPOSTABLE

- Leaves **NO** microplastics
- Can be put in compost bin or organics recycling bin



## DEGRADABLE (OXO)

- Is not completely dissolved in nature
- Contaminates environment with microplastics that can end in foodchain



## PLASTIC

- Cannot dissolve in nature
- Contaminates environment with microplastics that can end in foodchain







A magnifying glass with a black handle and frame is positioned over a stack of colorful sticky notes (yellow, orange, pink, green) on a light blue background. A black pen with a silver tip is resting on the bottom right corner of the top yellow sticky note. The text 'Thank you For your Attention' is written in a black, cursive font on the yellow sticky note.

*Thank you  
For your  
Attention*