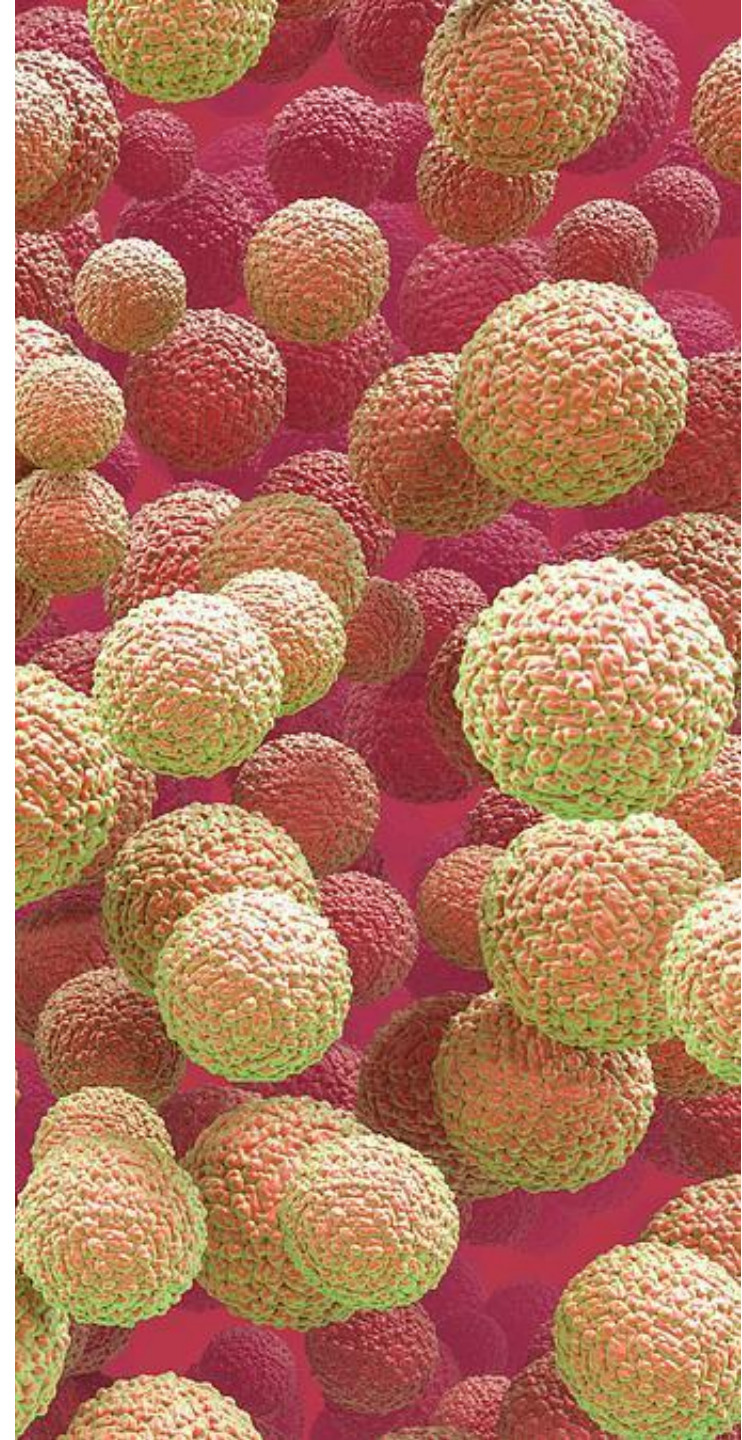




- Bioconversion is the conversion of biomass and waste by microorganisms to produce thermal energy and biofuels. Multi-stage bioconversion takes place in several stages. To perform a multi-stage bioconversion, you need to use mixed cultures of microorganisms or add different strains of microorganisms at different stages of the process.



Composting is an exothermic process of biological oxidation.

Composting — method of processing organic waste into soil fertilizer. Organic materials are degraded under the influence of microorganisms and microscopic fungi.





# Composting requires:

heat, high humidity, and microorganisms.

- It is advisable to use:  
compost piles, special boxes and barrels.
- It is advisable to add:  
sugars, nitrogenous compounds and **composting bacterial accelerators.**



- Vermicompost - product of processing of organic waste by earthworms (*Eisenia fetida*, *Eisenia andrei*, *Dendrobaena Veneta*, *Lumbricus rubellus* etc.). Weed seeds pass through the worm's body and lose their germination. This technology greatly increases the yield of vegetables

- Raw materials:

1. Livestock waste;
2. Crop production waste;
3. Waste of processing of agricultural products;
4. Woodworking waste;
5. Domestic waste;
6. Peat etc.

- Raw materials for compost are divided into "green" and "brown". Green raw materials are rich of nitrogen. And brown raw materials are rich of carbon. Optimal proportion of carbon to nitrogen is 25-30 to 1.

- The development of the composting industry includes two main branch:
  - ✓ breeding of new strains of microorganisms;
  - ✓ use of a variety of life forms (snails, worms etc.)



- Composting of food waste developing rapidly in some countries. For example, in 2016 in New York 23 thousand tons of waste were collected, such as: orange peels and apple seeds etc. Now their main problem is in densely populated areas, it is difficult to find a place for additional containers.

- In May 2019, the state of Washington legalized the composting of human corpses.
- This technology is already legalized in Sweden.