



SNS COLLEGE OF TECHNOLOGY

**An Autonomous Institution
Coimbatore - 35**

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

DEPARTMENT OF AGRICULTURE ENGINEERING

19AGT203 – AUTOMATION TECHNIQUES IN AGRICULTURE ENGINEERING

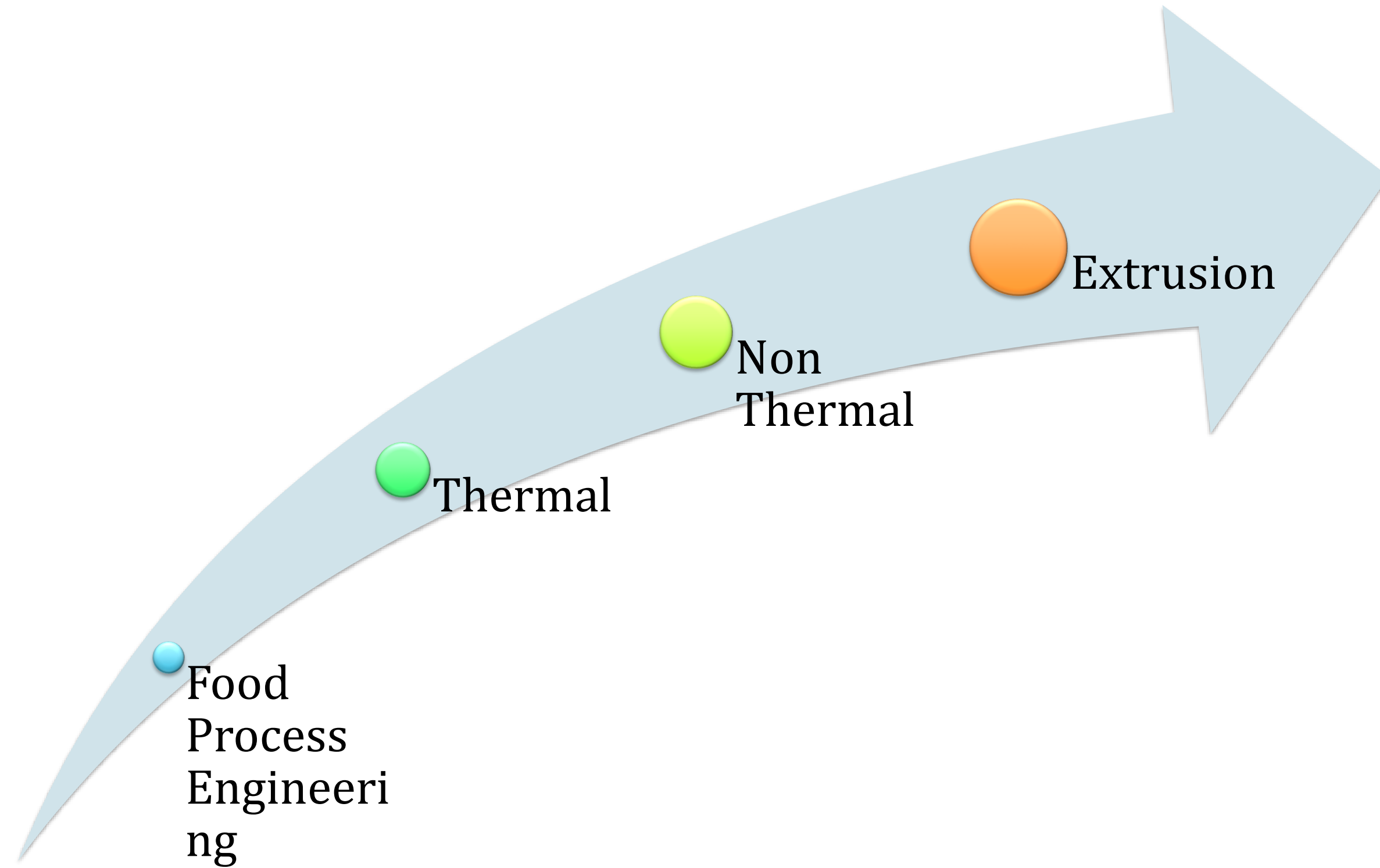
II – YEAR IV SEMESTER

UNIT 2 – ADVANCED MACHINERY/EQUIPMENT IN AGRICULTURAL ENGINEERING- II

TOPIC 4– BIOCHEMICAL CONVERSION SYSTEM



Last Class Review





Energy sources

- ❖ About 70% of India's energy generation capacity is from fossil fuels, with coal accounting for 40% of India's total energy consumption followed by crude oil and natural gas at 24% and 6% respectively.
- ❖ India is largely dependent on fossil fuel imports to meet its energy demands — by 2030, India's dependence on energy imports is expected to exceed 53% of the country's total energy consumption.





Biochemical conversion method!!!



- ❖ Biomass is organic material made from plants and animals. Biomass contains stored energy from the sun.
- ❖ Plants absorb the sun's energy in a process called photosynthesis.
- ❖ The chemical energy in plants gets passed on to animals and people that eat them.
- ❖ Biomass is a renewable energy source because we can always grow more trees and crops, and waste will always exist.
- ❖ Some examples of biomass fuels are wood, crops, manure, and some garbage. life



Source!!!



- ❖ Woody forest residue, fuelwood, mill residues, short rotation crops
- ❖ Non-woody agricultural crops, crop residue, processing residues
- ❖ Animal waste such as manure from feed lots and municipal sewage and waste





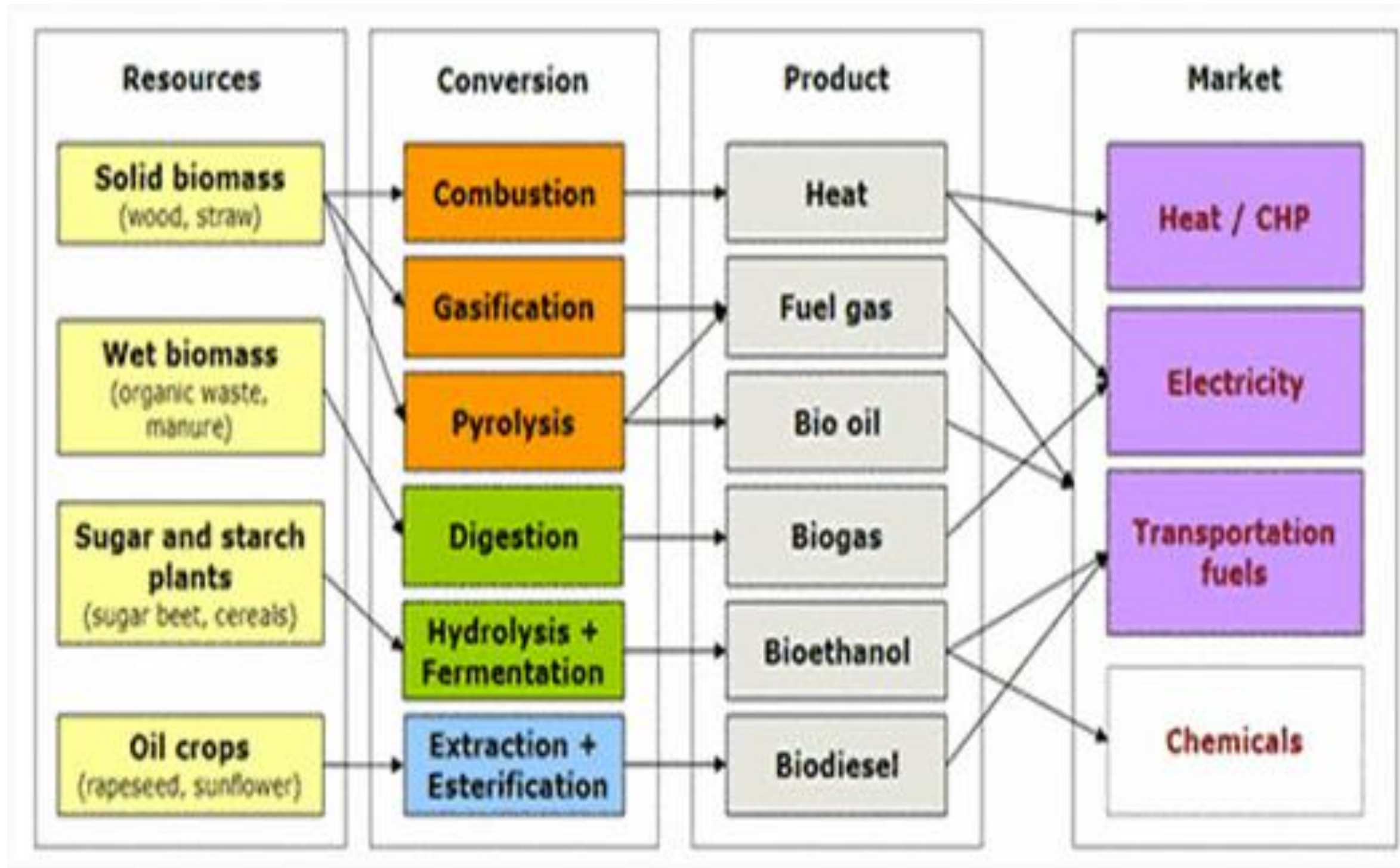
Uses....



- ❖ Biomass energy can be used directly or indirectly.
- ❖ Firewood is a common example of direct use by combustion.
- ❖ But biomass energy can be transformed into other forms of fuel.
- ❖ Ethanol from agricultural crops such as sugar cane and methane from manure and sewage are examples of indirect use fuel.

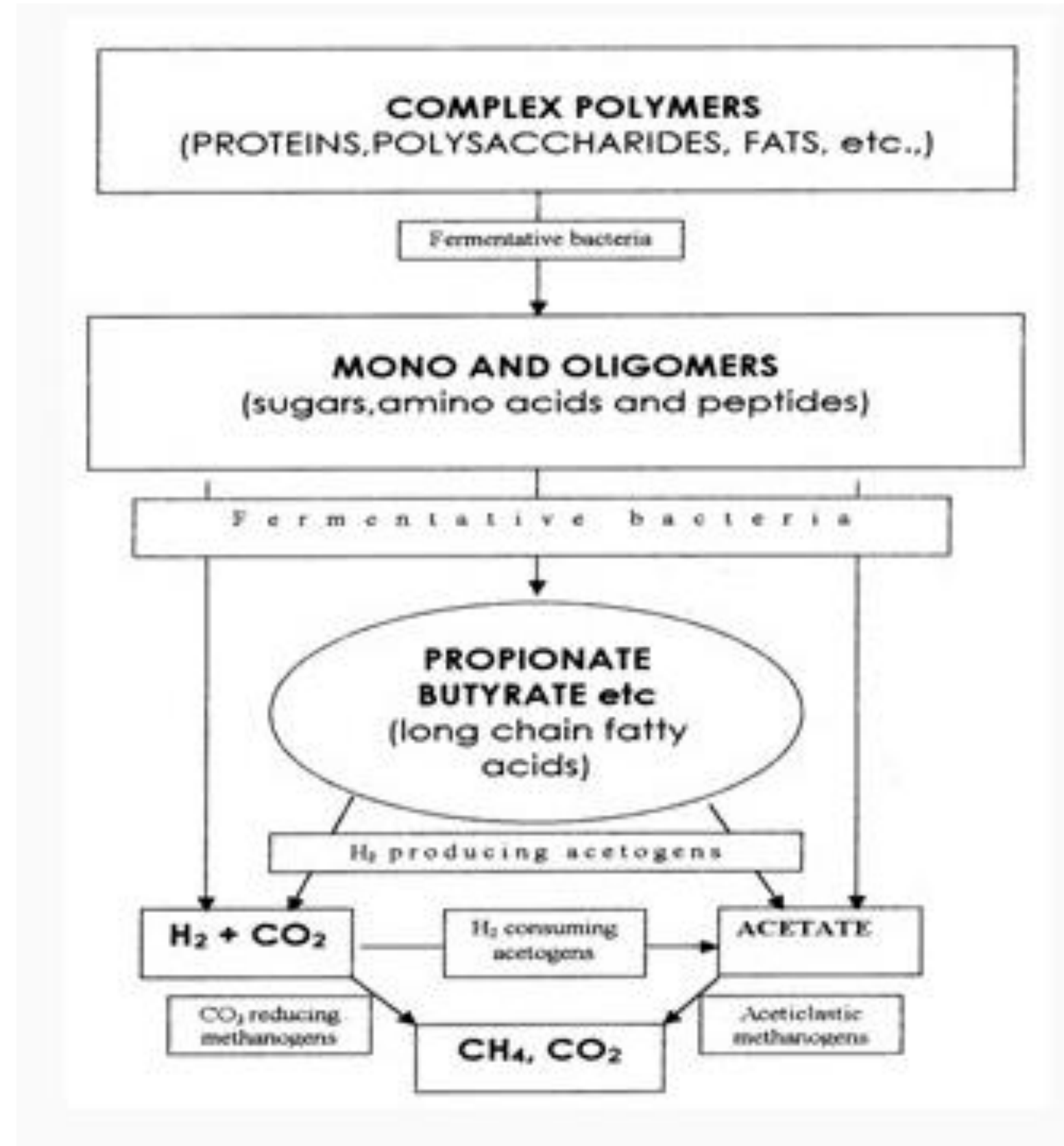


Biomass energy – conversion





Microbial Groups





Benefits



- ❖ On-Site Farm Energy
- ❖ Reduced Odors
- ❖ High Quality Fertilizer
- ❖ Reduced Surface and Groundwater Contamination
- ❖ Pathogen Reduction





See You at Next Class!!!!