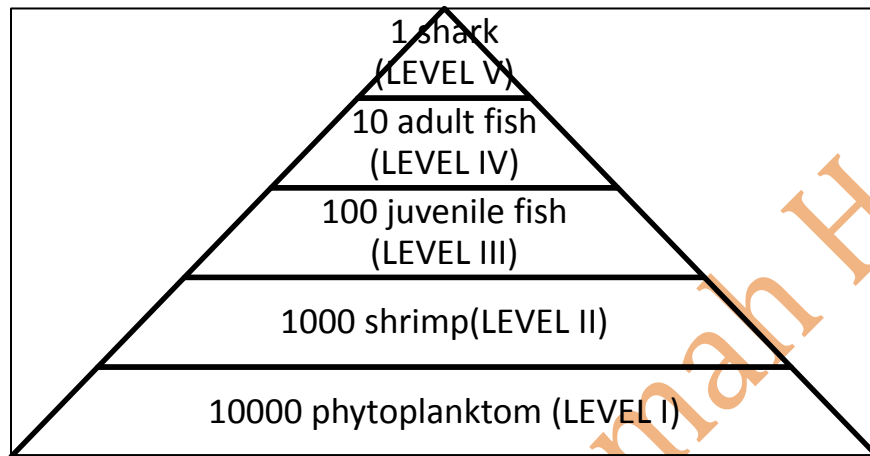


Ecological Pyramids

The relationship between trophic levels could be presented as pyramids. These pyramids are called ecological pyramids. The quantity is high for the lowest trophic levels (plants) and low for the highest trophic level.

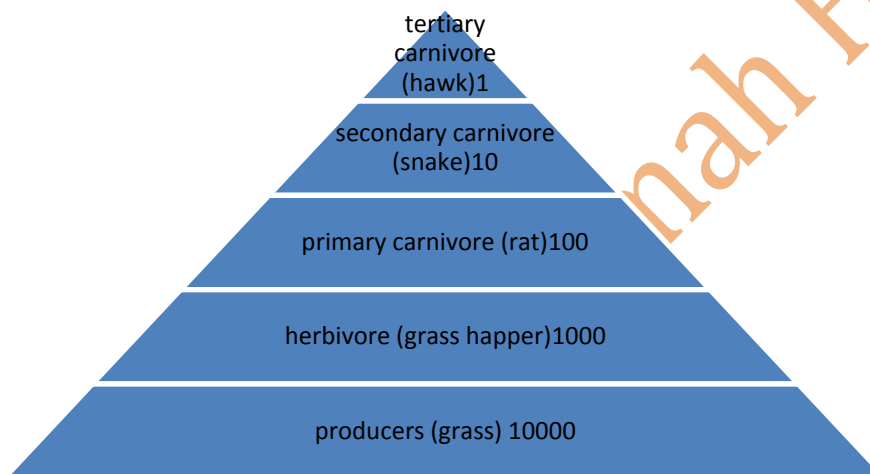
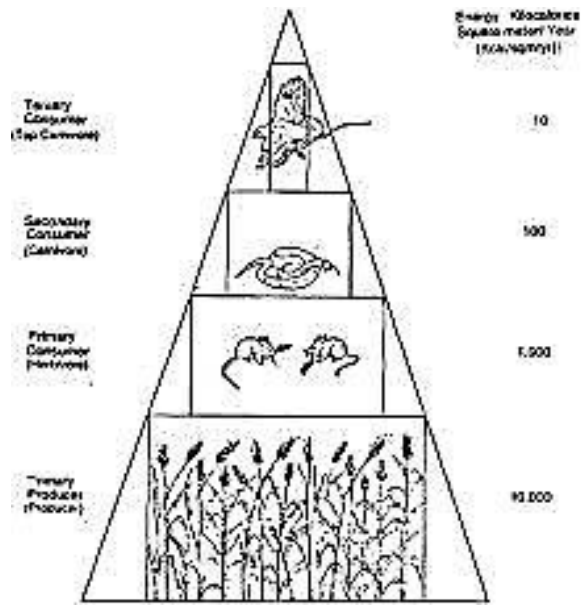


In ecological pyramids, the **producers or the decomposers** form the base of the pyramid and the successive trophic levels make up the apex.

The ecological pyramids may be one of the following three kinds:

1. Pyramid of Number:

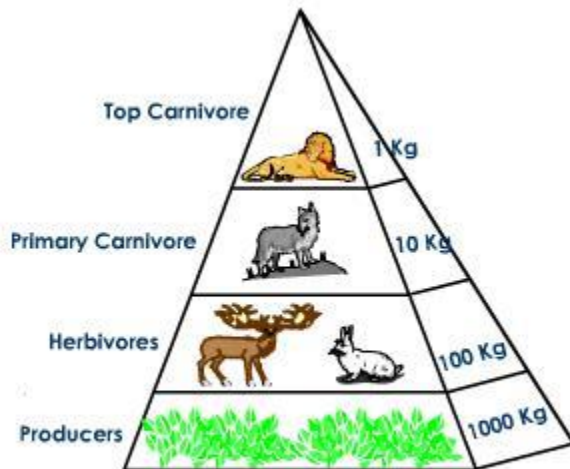
It illustrates the number of individual organisms at different trophic levels of food chain. Successive levels of trophic structure decrease rapidly in number until there are very few carnivores at the top.



The pyramid of number **ignores the biomass** of organisms and it also **does not indicate the energy transferred** or the use of energy by the groups involved.

2. Pyramid of Biomass:

The biomass of the members of the food chain present at any particular time forms the pyramid of the biomass. Pyramid of biomass indicates decrease of biomass in each trophic level from base to apex.

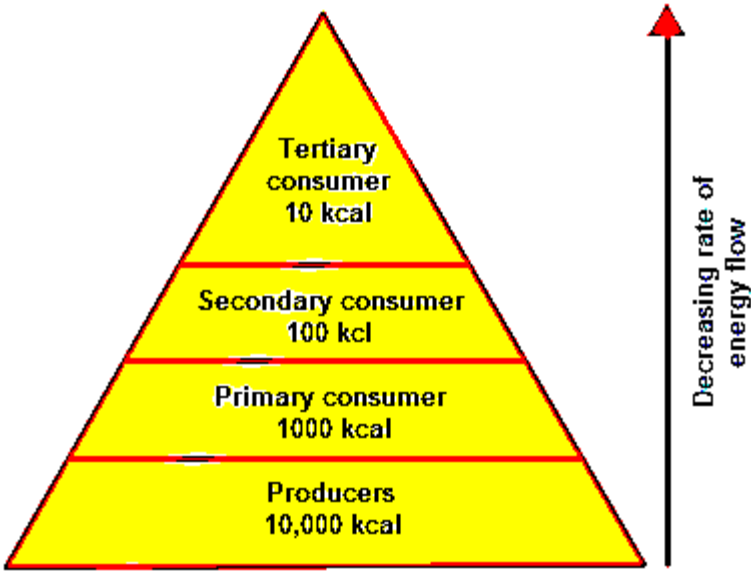


Upright Pyramid of biomass in a Terrestrial Ecosystem

The total biomass of the producers ingested by herbivores is more than the total biomass of the herbivores in an ecosystem. Likewise, the total biomass of the primary carnivores (or secondary consumers) will be less than the herbivores and so on.

3. Pyramid of Energy:

When production is considered in terms of energy, the pyramid indicates the amount of energy flow at each level. An energy pyramid illustrates how much energy is needed as it flows upwards to support the next trophic level.



Pyramid of Energy

The pyramid is constructed according to the rate at which food material (in the form of energy) passes through the food chain.

Prof. Dr. Usamah H. Yousif