Benha University Date: 1/1/2014
Faculty of science Time: 2hrs
Botany department 3rd year students (microbiology &chemistry)
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Soil microbiology & yeast

Answer the following questions:

1) Give short notes on the following:

A) Behaviors of yeast in the dough.
B) Vitamin production of yeast.
C) Activity and function of fungi.
D) Activity of function of actinomycetes.

2) Complete the missing words

1- The soil composed of five matter components **.....,.....,.....,.....,…… .**
2) The organic fraction of soil often termed **.....** is a product of the synthetic and decomposing activities of the **.....**
3) Humans should be considered as a portion of the soil that composed of **.....**
4) The uptake of N2,s,zn and other essential elements is promoted by the **.....** in many plant species .
5) Soil contain five major microorganisms such as **.....,.....,.....,.....,.....** .
6) The number of filamentous fungi in soil vary with the content of utilizable **.....**
7) Carbon dioxide is converted to organic carbon by the action of**.....**
8) Plant tissues and microbial cells contain large amount of **.....** approximately **.....** of dry weight.
9) From the final decomposition of humus**.....** produced and the cycle is completed .
10) In **.....** organic complexes is converted to inorganic ions (ammonium and nitrate).
11) **.....**leads to the biosynthesis of complex molecules of microbial protoplasm from ammonium and nitrate.
12) **.....** is a process carried by certain microorganisms by which nitrate are converted to N2 gas.

With Best wishes

Model Answer

Soil microbiology and yeast

Answer the questions:

1)

A) - Behavior of yeast in the dough .

1-The action of the gas produced by fermentation of the dough sugars stretches the fluted fibers of the flows protein, this helps to attain the texture of the bread .

2- Raising of the dough is due to the gas (co2) produced

3- Yeast provides an important past of the attractive bread flavor and droma.

B)- Vitamin production by yeasts

-bakers yeast and condide utilize are good sources of thiamine .riboflavin ,folic acid biotine .

-Sine strains yeast like organisms of organism's *ashbya gossypli* can synthesize large amount of riboflavin.

- some strains of *saccharomyces* can produce 7-10% *ergosterol* on the dry weigh basis .

C)- Activity and the function of fungi.

1-Certain fungi dependence on higher plants in thier nutrition

2-Fungi participate in formation of humus from fresh organic residues .

3- The uptake of N2, S, Zn and other elements in many plant species.

D)- Activity and function of actinomycetes.

1- Decomposition of carbonaceous material .

2- Formation of humus.

3- *Nocordia* causes infections of human and animal

4-actinomycetes acts as antagonisms.

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2)

1- Mineral matter ,water ,air, organic matter

2- Humus, microflora.

3- Heterogeneous group of substances.

4- Mychrrhizal fungi .

5- Bacteria, actinmycetes, fungi, algae and protozoa .
6- Organic matter.
7- Photoautotrophic.
8- Carbon, 40-50%
9- Co2
10- Nitrogen mineralization.
11- Microbial immobilization.
12- Denitrfication.