



Yeast technology

Answer the questions :

1) A- Plants as yeast habitat

- 1- Exudate from tree trunks, *candida* and *trichosporon* were isolated from the exudate of four different genera of trees in japan
- 2- Phyllosphere , leaves exude a sugary fluid which can supply the necessary carbon sources of yeast .
- 3- Flowers : flowers harbor yeasts
- 4- Fruits : fruits of apples , grapes , isolated yeasts present on the surfaces of fruits
- 5- Plant pathogenic yeasts : some yeast fungi are recognized as plant pathogens .

B) Vegetative reproduction of yeast

- 1- Budding : represents the most common mode of reproduction , buds arise on the shoulders and at the ends of long axes of avoidable or elongate vegetative cell .
- 2- Fission : reproduction is carried out by the formation of a septum or cross wall , the cross wall divides in to two individual walls and newly formed cells can thus separate
- 3- Budd - fusion
- 4 - Asexual reproduction by conidia : a cell forms one or more sterigmata,

each of which gives rise to a single terminal conidium .

C - Growth on media of high osmotic pressure :

Osmophilic yeast species grow best on media of high osmotic pressure , Osmotolerant species are those able to tolerate high concentrations sugar or salt .

D - Behaviors of yeast in the dough: The action of the

1- Gas produced by the fermentation of the dough sugars stretches the gluten fibres of the flour protein

2- Raising of the dough is due to gas (CO₂) produced

3- The yeast provides important part of bread flavor and drama.

E- Active and fodder dried yeast: Drying of the pressed yeast is carried out using warm air to keep the cells viable.

The organism commonly used is *Candida utilis* where it grows rapidly on many cheap substrate.

F- Vitamin production by yeasts: *Candida utilis* can synthesize all necessary vitamins from simple precursors .some strains of *ashbya gossypii* can synthesize large amounts of riboflavin.

Some strains of *saccharomyces* can produce 7-10% ergosterol on the dry weight basis. *Candida utilis* is good source of thiamine folic acid and biotine .