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FREQUENTLY ASKED QUESTIONS 1. What Is Fermentation?

Ans.) Fermentation is defined as the metabolic process in which chemical changes are brought about on an organic substratum, whether carbohydrate, protein, or fat, through the action of enzymes liberated by specific living microorganisms.

2. What are the different types of food fermentations?

Ans.) Food fermentations are classified into those in which the main products are organic acids and those in which ethanol and carbon dioxide are the primary products. Lactic acid fermented foods such as, cultured milk products, sauerkraut, pickles, fermented sausages, and fermented cereal-legume foods, and ethanolic fermented foods such as, bread and alcoholic beverages are the most important commercial fermented foods.

3. Define lactic acid bacteria?

Ans.) Those bacteria that produce lactic acid as the major or sole product of carbohydrate fermentation are called lactic acid bacteria.

4. Which type of starter culture is used in fermented milk products?

Ans.) A lactic starter is a basic starter culture with widespread use in the fermented milk industry.

5. Define acidophilus milk?

Ans.) This is fermented milk, produced by inoculation of Lactobacillus acidophilus into sterile skim milk, whole, or partly defatted milk.

6. Define Sauerkraut and what is the role of salt in sauerkraut making?

Ans.) Sauerkraut is a fermented product of fresh cabbage. The salt is added at 2.25-2.5% of the weight of the cabbage to enhance the release of tissue fluids during fermentation.

7. What are the different types of pickles?

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Ans.) There are two chief types of fermented pickles-salt or saltstock pickles and dill pickles. The salt pickles are prepared for use in making special products such as sour, sweet-sour and mixed pickles and relishes. Dill pickles are so named because they are flavored by addition of dill herb.

8. What is the role of lye treatment in olive fermentation?

Ans.) The olive fermentation is preceded by a treatment of green olives with 1.6 to 2.0% lye (NaOH), depending on type of olive, at 21 to 24°C for 4 to 7 h to remove oleuropein, a bitter glucoside, which is degraded into glucose and aglycone.

9. Name different fermented soybean products?

Ans.) The different fermented products of soybeans are soy sauce, tofu, tempeh, natto, and miso.

10. What are the benefits of fermented cereal legume foods?

Ans.) This is the most dominant group of fermented foods next to dairy products. The addition of legume gives higher protein content and provides a better balanced ratio of amino acids, overcoming the danger of lysine deficiency from cereals alone or sulphur containing amino acid (methionine) deficiency from legume alone.

11. What is the origin of idli and name the raw material used for idli making?

Ans.) Idli is a fermented bred type product common in South India, particularly Tamil Nadu. It is made from rice and black gram (urd beans).

12. What is the origin of dhokla and name the raw material used for dhokla making?

Ans.) This is a fermented food commonly used in Gujrat, prepared from a batter made of coarsely ground rice and bengalgram (Cicer arietinum) dal.

13. What is the role of nitrite and ascorbic acid in fermented sausages?

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Ans.) The use of nitrite is considered essential because of its antimicrobial, colour forming, and antioxidant and flavouring properties. Both ascorbate and ascorbic acid are used to improve the stability of the nitrosylated pigment.

14. Define Fish Sauce?

Ans.) Fish sauce is a brown liquid with a characteristic meaty flavour and aroma. It is mainly used as a condiment to flavour rice and other cereal dishes.

15. What is the role of fermentation in food preservation?

Ans.) The microorganisms used in food fermentations play a critical role in preservation of foods through production of antimicrobial metabolic products such as lactic acid, acetic acid, formic acid, free fatty acids, ethanol, ammonia, hydrogen peroxide, carbon dioxide, diacetyl, acetoin, 2, 3-butanediol, acetaldehyde, benzoate, D-amino acids, bacteriolytic enzymes, bacteriocins (e.g., nisin, lactocins, sakacin A, pediocin PA-1, carnobacteriocins, helveticin and caseicin) and antibiotics