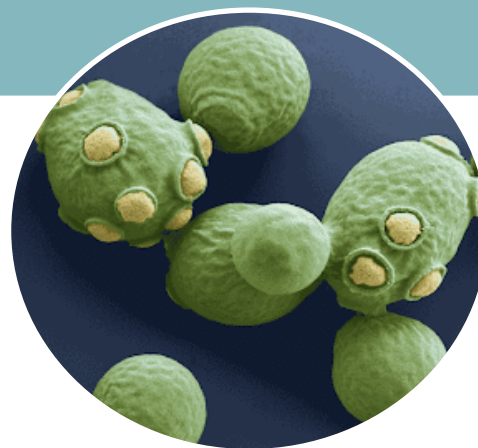


8

CHAPTER

UNIT - III

Microbes in Human Welfare



Saccharomyces cerevisiae, a species of yeast used in baking and brewing industry.

Chapter outline

- 8.1 Microbes in household products
- 8.2 Microbes in industrial products
- 8.3 Microbes in sewage treatment and energy generation
- 8.4 Microbes in the production of biogas
- 8.5 Bioremediation



Learning objectives

- Differentiates probiotics from pathogens.
- Understands the use of microbes in household products.
- Learns about antibiotic production and fermented beverages.
- Realizes the importance of microbes in sewage treatment and energy generation.
- Realizes the applications of microbes in bio-remediation.



Microbes such as bacteria, fungi, protozoa, certain algae, viruses, viroids and prions are some of the major components of the biological system on Earth. Several microorganisms are beneficial and contribute to human welfare. Microbes are present everywhere – in soil, water, air and within bodies of animals and plants. Microbes like bacteria and fungi can be grown on nutritive media to form colonies which can be visibly seen. Some of the microbes useful to human welfare are discussed here.

8.1 Microbes in household products

In every day life, microbes and their products are used in the preparation of idli, dosa, cheese, curd, yogurt, dough, bread, vinegar, etc., Bacteria like *Lactobacillus acidophilus*, *L. lactis* and *Streptococcus lactis* commonly called **lactic acid bacteria** (LAB) are probiotics which check the growth of pathogenic microbes in the stomach and other parts of the digestive tract.

The LAB bacteria grows in milk and convert it into curd, thereby digesting the milk protein casein. A small amount of curd added to fresh milk as a starter or inoculum contains millions of *Lactobacilli*, which under suitable