

## **Value-added food: Single cell protein**

### **Abstract**

The alarming rate of population growth has increased the demand for food production in third-world countries leading to a yawning gap in demand and supply. This has led to an increase in the number of hungry and chronically malnourished people. This situation has created a demand for the formulation of innovative and alternative proteinaceous food sources. Single cell protein (SCP) production is a major step in this direction. SCP is the protein extracted from cultivated microbial biomass. It can be used for protein supplementation of a staple diet by replacing costly conventional sources like soymeal and fishmeal to alleviate the problem of protein scarcity. Moreover, bioconversion of agricultural and industrial wastes to protein-rich food and fodder stocks has an additional benefit of making the final product cheaper. This would also offset the negative cost value of wastes used as substrate to yield SCP. Further, it would make food production less dependent upon land and relieve the pressure on agriculture. This article reviews diversified aspects of SCP as an alternative protein-supplementing source. Various potential strains and substrates that could be utilized for SCP production are described. Nutritive value and removal of nucleic acids and toxins from SCP as a protein-supplementing source are discussed. New processes need to be exploited to improve yield. In that direction the solid state fermentation (SSF) method and its advantages for SCP production are highlighted.