

6. **Synthesis of Fats** → Many fungi synthesis fats from carbohydrates like penicelium and odium have a high fat contains.

7. **As a Vitamin source** → The yeast are the best source of Vitamin B complex. A no. of yeast are utilized in the synthesis of Ergote of which contain Vitamin B and riboflavin a vitamin is obtained from a yeast.

8. **Grise of Ulvina** → It is extracted from penicelium, Grisco pulvum. This medicine is effective against skin disease such as ring worm and food diseases.

9. **For preparation of Calvacin** → The giant ball calvica of basidiomycetes contains an anticancer substance calvacin. This is also prevents stomach tumor.

10. **For preparation of Litmus paper** → It is also an important dye which is obtained from Rocella fungi. It is used as an indicator to determine the acidity of a solution.

11. **For preparation of dyes and reagents** → From different species of lichens dyes and reagents are produce prepared. The most important dyes orchil.

12. For preparation of ergote  $\rightarrow$  It is extracted from the *claviceps purpurea*. It is highly poisonous. It contains several alkaloid. They are ergotoxin, ergorubin, ergotamin etc. from these alkaloid ergote is prepared. This medicine is used to check the wine disease and female disease.

13. Manufacture of Proteins  $\rightarrow$  As a supplement to the normal diet, some fungi particularly the yeast are employed in the synthesis of proteins. The manufactured product is called "Food Yeast." It contains 45% proteins and B group of vitamins.

14. For preparation of Antibiotic  $\rightarrow$  The role of fungi in producing antibiotics was first established by Sir Alexander Fleming in 1929. He extracted the great antibiotic drug from *penicillium*. It has no adverse effect on human protoplasm but kills gram (+) bacteria. In India *penicillium* factory is situated at Pimpri (Puna). Here penicillin is extracted from *penicillium*. *Asteromyces* is obtained from *asteromyces*, a type of fungi which destroys many organisms but does not destroy *penicillium*. Following are some of the important species of *penicillium* the

Serial No.	Antibiotic	Fungus
1.	Citrinin	<i>P. citrinum</i> .
2.	Claviformin	<i>P. claviforme</i>
3.	Notatin penatin	<i>P. notatum</i> .
4.	Penicillin	<i>P. chrysogenum</i>
5.	Penicillin B	<i>P. notatum</i> .
6.	Puberulic acid	<i>P. puberulum</i> .

## ROLE OF FUNGI IN AGRICULTURE →

Some soil fungi are beneficial to agriculture because they maintain the fertility of the soil. Some saprophytic fungi particularly in acid soils where bacterial activity is at its minimum cause decay and decomposition of dead bodies of plants and ~~and~~ their wastes taking up the complex organic compound (cellulose and lignin) by secreting enzymes. The enzymes convert the fatty, carbohydrate and nitrogenous constituents into simpler compounds such as  $\text{CO}_2$ ,  $\text{H}_2\text{O}$ ,  $\text{NH}_3$ ,  $\text{H}_2\text{S}$  etc. Some of these return to the soil to form humus and the rest of the air from where they can again be used as raw material for food synthesis. There are fungi in the soil which produce more ammonia from protein than the ammonifying bacteria.

Many saprophytic fungi

of decay maintain the never ending cycle of carbon dioxide which is a most important raw material for plant photosynthesis in nature.