

THE ROLE OF WHITE BIOTECHNOLOGY IN OBTAINING SECONDARY METABOLITES FROM EDIBLE FUNGI

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Abstract. The macromycetes and among them, the edible mushrooms, offer a number of secondary metabolites with recognized biological activities. Among the various biological activities exhibited by the secondary metabolites that have been proven are: antioxidant, hypocholesterolemic, hypoglycemic, antibacterial, antiviral, regulatory activities of the cardiovascular system, anticarcinogenic and immunomodulatory [1].

Edible mushrooms are known for their high protein value, their considerable concentration of vitamins, minerals, dietary fiber, low levels of sodium and unsaturated fats. This makes them an excellent nutraceutical because their medicinal properties are directly related to compounds that present biological actions with therapeutic potential. These compounds can be isolated from both the mycelium and the carpophore and from the spent culture medium. Among these are: glucans, enzymes, polyketides, fatty acids, polyphenols, flavonoids and terpenoids, among others.

The development of biotechnology facilitates the management of the variables in the cultivation of edible fungi and in the processes of extraction for the obtaining of the active components, achieving an increase in the production of their metabolites of pharmacological and nutritional interest, which has boosted considerably the production of: commercial, pharmaceutical and quasi-pharmaceutical medicines and functional foods.

In this case, biotechnology develops profitable and productive techniques to obtain these secondary metabolites that become a significant reduction of time and increase in the production of their metabolites which would lead to a reduction in costs and, in the end, a reduction in the price for the consumer.

This review contains different types of processes used in this field, which biotechnology has developed; the improvement in the results and some examples of products that have been developed using those technologies.

1. Carolina Suárez A., Ivonne Nieto, Rev Iberoam Micol. (2012).