



Universidad
de Alcalá



MYCORRHIZAL FUNGI, TAXONOMY, IN VITRO CULTURE AND FUNGAL FRUCTUATION

Code
730

MICORVITRO

APPLICATION AREA

Experimental Sciences

RESPONSIBLE

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KEYWORDS

Mycorrhizae, truffle cultivation, in vitro culture mycelium, fungal taxonomy, fungal biodiversity.hongos

AIM

- Truffle plantations
- Greenhouses
- Mushroom companies (mycelium and fructification)
- Mycological Societies

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ABOUT US

The group works in Mycology since the decade of the seventies and has published numerous new species and genera for Science. Starting in 1990, through a series of projects, we opened a new line of research in Mushroom cultivation, which allowed the achievement of projects with the Administration and Research Contracts with Companies, to provide ongoing funding. In this way, new lines of work were opened in cultivation of fungi (*Amanita caesarea*, *Boletus*, desert truffles and truffles, etc.) of gastronomic interest, synthesis of ectomycorrhizae, as well as in vitro culture investigation of saprophytic fungi and formulation of lignocellulosic substrates (biological efficiency) to be degraded by fungi. These researches have generated relationships with the business sector from 2003 until today. Likewise, in vitro cultivation techniques for fungi and their fruiting were the basis for studies on the transfer of radionuclides via mycelium to the fruiting body of *Pleurotus eryngii* (Project with the Spanish Nuclear Safety Council and Contract with ENRESA). All this, together with the infrastructure obtained, favored research in Molecular Biology of fungi applied to the resolution of taxonomic and phylogenetic problems up to the present time. On the other hand, starting in 2004, the group began to investigate on the biological cycle of *Ganoderma lucidum* (the Immortality mushroom of the Chinese Pharmacopoeia) and on the extraction of its anti-tumor active ingredients (which was patented), in collaboration with the Molecular Department of the Univ. of Alcalá. The group has published numerous international and national books, a large number of articles with impact index and directed numerous doctoral theses.

RESEARCH LINES

- Mycorrhizal fungi applied in reforestation and agriculture.
- Production of edible mushrooms of commercial interest (truffles, desert truffles, etc.).
- Molecular and classical taxonomy of fungi.
- In vitro culture of saprophytic, parasitic and mycorrhizal fungi.

OFFERED SERVICES

- Advice on the cultivation of saprophytic fungi (*Pleurotus eryngii*, *Agrocybe aegerita*, exotic mushrooms, etc.).
- Production and certification of mycorrhized truffle plants.
- Molecular monitoring of truffle plantations.
- Truffle plantation induction.
- Productive evaluation of truffle plantations.
- Phytopathogenic and contaminants fungi identification using molecular biology and classical taxonomy.

MARKETABLE RESULTS

