

Domande n° 1: il/la candidato/a esponga per sommi capi:

- Microbiologia e tecniche microbiologiche di base: il concetto di isolamento microbico
- Conoscenza dello Statuto e del Regolamento Generale d'Ateneo: quali sono gli organi dell'Università di Perugia
- Conoscenza dei più diffusi software di Office Automation: Power Point

Traduzione del seguente testo:

Fungi are part of the ecosystem, and the world would look totally different without them. Most people know only mushrooms and their fruiting bodies as fungi. However, the main fungal biomass is their filaments, which can have many applications. Filamentous fungi can grow on a large variety of materials that contain carbohydrates, proteins, fats, etc., by degrading the macromolecules and then assimilating the monomers to grow and produce various enzymes and metabolites. This means that there are a large number of substrates on which to grow fungi, from agricultural and forest residuals to industrial residuals and products, to household wastes and wastewaters. Depending on the ecosystem and the environmental or cultivation conditions, fungi can grow in various morphologies, and many fungal strains are dimorphic, meaning that they can grow like yeast or short or long filaments. In addition, they can grow in various environmental conditions, such as aerobic or anaerobic. They adapt their enzyme machinery as required to these conditions, producing a variety of metabolites that are necessary for the fungi to grow

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Domande n° 2: il/la candidato/a esponga per sommi capi:

- Microbiologia e tecniche microbiologiche di base: il concetto di determinazione del numero di microrganismi
- Conoscenza dello Statuto e del Regolamento Generale d'Ateneo: ruolo del Senato Accademico dell'Università di Perugia
- Conoscenza dei più diffusi software di Office Automation: Excel

Traduzione del seguente testo:

We should not forget that the only goal of fungi is to grow. However, in certain conditions they can produce, for example, enzymes and/or various metabolites, which can be used as products. Bearing in mind the single goal of fungi, one of their major products is always fungal biomass or mycelium. This biomass normally contains protein, fat, and other biopolymers such as chitosan or beta-glucan in its cell wall, and a variety of bioactive compounds. As a result, the biomass of many filamentous fungi can be a good source for food and feed. Some of these fungi, particularly among the Zygomycetes and ascomycetes, are edible and can be used for different food preparations such as tempeh, and koji. However, there is also an interest nowadays in developing new food and feed such as fish feed from fungi as an environmentally friendly and healthy alternative to meat, chicken, or even soy-based vegetarian products, for example. However, as some fungi produce mycotoxins, the fungal strain and the process conditions should be chosen carefully in order to avoid any risks to humans or animals.

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Domande n° 3: il/la candidato/a esponga per sommi capi:

- Microbiologia e tecniche microbiologiche di base: il concetto di sterilizzazione
- Conoscenza dello Statuto e del Regolamento Generale d'Ateneo: ruolo del Consiglio di Amministrazione dell'Università di Perugia
- Conoscenza dei più diffusi software di Office Automation: Word

Traduzione del seguente testo:

Fungi can colonize new places by growing as a system of branching tubes, known as hyphae, whose aggregates form the mycelium (filamentous fungi). Mycelium can be found in the substrates where the fungi grow or belowground and play an important role in obtaining nutrients for growth and development. The hyphae are characterized by the presence or absence of septa, cross-walls that are distinctive among different taxonomic groups. They are absent in Oomycota and Zygomycota, known as coenocytic hyphae. The presence of septa is a common feature of Basidiomycota and Ascomycota, in which the exchange of cytoplasm or organelles is ensured by septal pores. These pores can be simple or dolipores, pores with a distinctive morphology that have a barrel-shaped swelling that surrounds the central pore. Under senescence processes, differentiation or simply under mechanical breaking off, different organelles act as septal pore plugs, preventing the detrimental effect of trauma senescence or permitting differentiation processes.

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