METHOD FOR PRODUCING MYCELIUM OF FILAMENTOUS FUNGI

BACKGROUND

Field of Invention

[0001] The present disclosure relates to a method for producing a mycelium of fungi, in particular to a mycelium of filamentous fungi and a method for producing the same.

Description of Related Art

[0002] For the reasons such as health, epidemic prevention, weight management, animal welfare or animal rights, religious beliefs, environmental protection and/or resource usage reduction, more and more people choose vegan, vegetarian or flexitarian diet. Among them, the flexitarian diet refers to a large intake of non-animal foods such as plant, fungal and/or algae foods, and a moderate intake of fish, poultry, eggs, and dairy products, but a small intake of red meat and processed meat, or an intake of the vegan diet at least one day a week. According to a survey conducted by a global market research company in 2021, a population of flexitarian was more than 40% of the total population.

[0003] One of sources of vegan protein is beans. In addition to being edible directly, beans can also be further processed into soy milk, dried tofu, tofu skin, tofu and vegetarian meat products. However, cultivation of beans not only consumes a large amount of land resources, but also requires use of pesticides and/or chemical fertilizers during the cultivation process, thereby polluting the environment. Secondly, in order to provide the vegetarian meat products made

WHAT IS CLAIMED IS:

1. A method for producing a mycelium of filamentous fungi, comprising:

performing a solid-state culture step on a first mycelium of *Fusarium venenatum* by using a solid medium at 15°C to 30°C for 3 days to 5 days, so as to obtain a second mycelium;

performing a liquid-state culture step on the second mycelium by using a first liquid medium at 15°C to 30°C, pH 5 to pH 8, and a shaking speed of 10 rpm to 100 rpm for 2 days to 7 days, wherein the *Fusarium venenatum* is deposited in American Type Culture Collection (ATCC) with an accession number of ATCC 20334, so as to obtain a third mycelium;

performing a fermentation step on the third mycelium by using a second liquid medium at 15°C to 30°C, pH 5 to pH 8, a rotational speed of 10 rpm to 100 rpm for 2 days to 7 days, so as to obtain a fermented product, wherein at least one of the solid medium, the first liquid medium and the second liquid medium is added with seawater or diluted seawater, the seawater comprises 30 g/L to 40g/L of sea salt, and a concentration of the seawater in the diluted seawater is 50% by volume and less than 100% by volume; and

performing a solid-liquid separation step on the fermented product to obtain the mycelium.

2. The method for producing the mycelium of the filamentous fungi of claim 1, wherein the first liquid medium and the second liquid medium further comprise grains, beans, inorganic salts, carbohydrates, yeast extracts and/or malt extracts.

3. The method for producing the mycelium of the filamentous fungi of claim 1, wherein the fermentation step is performed in a fermentation tank, and performing the fermentation step further comprises introducing a gas into the fermentation tank.

4. The method for producing the mycelium of the filamentous fungi of claim 3, wherein the gas is selected from the group consisting of air, oxygen, carbon dioxide, helium and any combination thereof.

5. The method for producing the mycelium of the filamentous fungi of claim 1, further comprising performing a drying step and/or a grinding step on the fermented product to obtain a dried product of the mycelium.

6. The method for producing the mycelium of the filamentous fungi of claim 1, wherein the seawater is subjected to a sedimentation step and a seawater filtration step.

7. The method for producing the mycelium of the filamentous fungi of claim 1, wherein a volume ratio of the first liquid medium to the second liquid medium is 1:100 to 1:200.

8. The method for producing the mycelium of the filamentous fungi of claim 1, wherein a dry biomass yield of the mycelium is 1.00% by weight to 1.50% by weight.