of mycelia for use in the food industry.

[0018]. As can be seen in the state of the art, the PI7800368 document describes a process for texturing a fungal mass of mycelium with defined steps and subsequent freezing.

[0019]. The document WO2021092051 describes an improved mycelium suitable for use as a food product. While the document US20200305486 describes a food comprising particles of a filamentous fungus of the genus *Fusarium*, agar and an edible hydrocolloid, and the document WO2020061502 describes method of production of protein foods based on filamentous fungal mycelium.

[0020]. The teachings of US20190373934 reveal systems to cultivate fungal mycelium and an edible meat substitute product containing fibrous mycelium mass in defined weight %.

[0021]. Thus, focusing on this new need and seeking improvements in relation to the state of the art, including the development of edible product alternatives that can replace animal protein, the researchers of this invention developed a mycelial biomass for the preparation of a food product with high nutritional properties. In addition to developing a simple process, easy to scale and low production cost.

[0022]. It is important to emphasize that, in the state of the art, there is no solution equivalent to the one presented by this invention, which combines technical differentials, obtaining a "*clean label*" product, simpler production process, economic advantages and preservation of the environment.

SUMMARY

[0023]. The main objective of this disclosure is to provide a mycelial biomass with high nutritional properties and its production process.

[0023a]. In one aspect, the present disclosure refers to PRODUCTION PROCESS OF MICELLAR BIOMASS CHARACTERIZED BY COMPRISING THE STAGES OF:

(a) Growth of the filamentous fungus in solid medium, with the fungus selected from the group consisting of: *Pleurotus ostreatus, Ganoderma lucidum, Rhizopus oligosporus, Rhizopus microsporus var, oligosporus, Rhizopus oryzae, Neurospora intermedia, Neurospora glabra*;

(b) Pre-inoculum in liquid culture medium, the liquid culture medium consisting of corn starch, yeast extract, malt extract, brewery residual yeast, ammonium nitrate, magnesium sulfate, monobasic potassium phosphate and/or mixtures thereof;

(c) Fermentation in a bioreactor containing a set of flat blades near the air inlet and stepping elephant ear blades at the top;

(d) Filtration of filamentous fungal mass;

(e) Washing/rinsing of the dough;

(f) Inactivation of the fungus; and

(g) drying.

[0023b]. In another aspect, the present disclosure refers to PRODUCT PRODUCTION PROCESS as defined in claims 10 or 11, CHARACTERIZED BY comprising the stages of:

(a) Preparation of mycelial biomass according to the process defined herein;

(b) Pressing

(c) Addition of the additional components

(d) Heating and

(e) Freezing.

[0024]. In a second example, the present disclosure aims to use mycelial

biomass as a basis for the production of a food product. Mycelial biomass, the object of this disclosure, allows the obtaining of a food product, a substitute for animal meat, with a high protein index, low caloric value and low amount of fat, in which 95% or more of the product corresponds to mycelial biomass.

[0024a]. In one aspect, the present disclosure refers to USE of biomass obtained in accordance with the process described herein, CHARACTERIZED BY being used to prepare a food product that is a partial or total substitute for animal protein.

[0024b]. In one aspect, the present disclosure refers to PRODUCT partial or total substitute for animal protein, CHARACTERIZED BY comprising: 40 to 99% of mycelial biomass, obtained by the process described herein, in relation to the total weight of the product, 0 to 50% of meat and 1 to 10% of additional compounds in relation to the total weight of the product.

[0025]. The food product based on mycelial biomass and its production process is still the object of this disclosure.

BRIEF DESCRIPTION OF THE FIGURES

[0026]. Figure 1 illustrates the food product containing the mycelial biomass obtained by the cultivation process using culture medium 1.

[0027]. Figure 2 illustrates the food product containing the mycelial biomass obtained by the culture process using culture medium 3.

[0028]. Figure 3 illustrates a hybrid burger 50:50 beef and mycelial biomass obtained by the process of this invention (left) and 100% beef (right).

[0029]. Figure 4 illustrates a visual comparison between products: 3 - 100% beef burger, 2 - product of figure 3 left without addition of natural coloring, 1 - product of figure 3 left with addition of 1% natural beet coloring

DETAILED DESCRIPTION OF THE INVENTION

[0030]. The main objective of this invention is the realization of a mycelial biomass with high nutritional properties and its use as a basis for the production of a food product. Mycelial biomass, the object of this invention, allows its pressing in a single step, resulting in the obtaining of cuts that simulate chicken breast, without the need for cuts of the pressed material and subsequent new pressings, as described in the state of the art.

[0031]. The present invention also aims at the process, the process of obtaining mycelial biomass and the process of preparing the food product.

[0032]. In addition, mycelial biomass, the object of this invention, is the