

The method of making artificial leather from mycelium includes growing mycelium on the starting material and further processing the grown material into a finished product. Spelt wheat grains and sawdust from hardwood trees are used as feedstock, and the mycelium of the reishi mushroom is used as mycelium. At the first stage, spelt grains are prepared and processed. The grain is soaked for 12 hours, then boiled to al dente, the boiled grain is poured into 250 ml glass jars, $\frac{2}{3}$ full, the jars are closed with lids (not tight), covered with foil on top, and autoclaved for no longer than 90 minutes. Under the laminar flow box, add 1 ml of reishi mushroom mycelium to the jars from a syringe, transfer the jars with the mycelium to a thermostat, and incubate at 27 °C for 7 days. The second step involves the preparation and processing of sawdust, which is sprinkled with distilled water. Autoclave in food containers for 2 hours, then allow the sawdust to cool under a laminar flow box, cover it with a layer of prepared grain with mycelium from cans, apply gauze and add the next layer of sawdust on top, leaving the food container more than half-filled with sawdust, wrap the food container in cling film or a plastic bag so that no air can enter. Transfer to a thermostat, where it is kept at 27 °C for 24 days, remove the plate of mycelium that has grown on the surface of the medium from the food container, press it 3 times in a heat press for 20 seconds each time at 150 °C, soak the pressed plate in each of the plasticizers for 48 hours in the following sequence: Glycerol 15%, Ethylene glycol 15%, Polyethylene glycol (PEG) 20%. The plasticizers are washed, dried and treated by wiping the mycelium plate with 20% corn grain and 5% tannic acid and dried again at room temperature and, at the final stage, the mycelium plate is embossed using a heat press to give it the appearance of real leather.