



Outdoor Elm pleurotus cultivation

Despite its common name, Elm pleurotus Elm (*Hypsizygus ulmarius*) are not in the *Pleurotus* genus, although it often resembles oyster mushrooms. Widely distributed in North America, it is a parasite of deciduous trees, especially of boxelder maples (*Acer nigundo*). Edible, with a slightly acid smell, a sweet, nutty taste, and a firm flesh, it can be cultivated on the ground, in a garden for instance, like the better known wine-cap *Stropharia*. Its cap, white-buff, reaches up to 15 cm in diameter, while its stipe grows up to 10 cm.

1. Selecting an Outdoor Site

Your new bag of garden giant mycelium can be stored for up to one month at 10-15°C. Just before use, the substrate within the bag should be almost completely colonized (indicated by a white color). Choose a humid and shady or partially shady site: vegetable gardens, flower beds, sites under shrubs and trees (except cedar (*Thuja*) and trees from the walnut family (*Juglandaceae*)) are particularly well suited. It is possible to sow the chosen site with grass after it has been prepared. This will help retain humidity. Digging small trenches throughout the site will also help retain humidity and prevent large temperature fluctuations. Trenches dug alongside gardens and flower boxes can also work. With some exceptions (the white button mushroom), most mushrooms require light to properly develop. Your bag should contain enough mycelium per kg of substrate to inoculate approximately one m² at a 15-30cm depth. It is recommended to have a smaller site rather than a large one.

2. Preparing the Substrate

The garden giant eats cellulose, and as such, it develops best on a woodchip or straw substrate. Hardwood woodchips, especially maple, birch, poplar and alder are preferred. Conifer can also be used if mixed with hardwood woodchips. Avoid cedar (*Thuja*) since this tree produces strong anti-fungal chemicals. The woodchips should be fresh, 1.5-15cm in length and 0.3-2.5cm in width. To this, a moderate amount of leaf litter and small branches can be added to provide the mushroom with additional nutrients. Be careful not to add too many small pieces of litter as they encourage an excessive decomposition rate which can quickly heat up the substrate, damaging the mycelium. Large amounts of fine sawdust are not recommended either since it encourages anaerobic conditions when wet and does not retain moisture well. If you cannot get a hold of woodchips, wheat straw is a good alternative. Hay is not recommended since it is usually too fine and too rich in nutrients, which encourages the growth of molds and other competitors. It is also susceptible to over-heating.

3. Inoculating and Preparing the Site

Lay down single sheets of newspaper at the bottom of your chosen site then cover it, alternating between a 2-5cm layer of wet woodchips or wet compacted straw and a thin layer of colonized substrate, until you reach a height of 15-30cm. Note that the top layer of your site should be woodchips or straw, and should be more or less flush with the surrounding terrain. Lay down more newspaper on the top layer, sprinkle smaller woody or leafy particles (if any) and water for 5-10 min.

4. Growth

The ideal growth temperature fall between 15 and 30°C. Under 10°C, growth will be very slow; above 37°C, the mycelium will be damaged and even killed. The site should be watered every



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couple of weeks, or more if dry. If experiencing a particularly dry periods, sheets of cardboard can be laid down on top to help conserve humidity. Make sure that the sheets of cardboard allow for proper air circulation and that they do not encourage too hot an environment. Once a fair amount of white mycelial strands appear on the top surface, remove the cardboard sheets and cover the site with a 2-5cm thick uniform layer of wet, clean topsoil. Active compost is not recommended, as it may contain harmful micro-organisms. **Do not compact this new layer.** Water the new soil layer frequently, making sure to never flood it. This soil layer serves 3 purposes: first, it retains humidity, second, it protects the mycelium and finally, since it is a nutrient poor region, it stimulates fruiting. A light frost will not damage the mycelium. During or before longer periods of sub-zero temperatures (winter), it is recommended to cover the site with an additional layer of woodchips or straw.

5. Harvest

If conditions are favourable, you will be able to harvest your first mushrooms within a few months. 2 weeks after the last frost in spring is the ideal time to inoculate. The later you wait, the more likely your first crop will appear the following year. Elm Pleurotus usually fruit in pair after rain or a significant watering. The mycelium will use all of the nutrients contained in the original substrate in two years if the woodchips were relatively large and in less time if they were smaller. Your mushroom patch will last longer if you add new layers of substrate at the beginning of each year. Always be on the lookout for other mushrooms that can grow in your garden giant patch. To properly harvest a specimen, twist the stalk so it breaks off right at the base. Doing this will help preserve the mycelium and any neighbouring primordium.

6. Growing with Limited Space, or Inside

Place 5cm of wet, clean topsoil at the bottom of a 20L pot that has drain holes. Remove the colonized substrate from the bag and place it on this layer. Add wet, clean topsoil to cover the sides and to create a 2-5cm thick layer on top of the colonized substrate. Do not compact. Water generously without flooding and cover with a sheet of cardboard, or a plank of wood. Place the pot in a 15-25°C environment and water regularly without flooding. After two weeks of this procedure, the white mycelium should appear on the top layer. Remove the cardboard covering and water generously. Let sit for 2 hours and then drain out any excess water. Mushrooms should appear within the week. Once the mushrooms have appeared, lightly mist them with water every couple of days. If no mushrooms have appeared within 2-4 weeks after removing the covering, remove the old layer of topsoil add a new layer of clean topsoil and start over again. After a harvest followed by a rest period, new flushes will appear every 3 weeks or so after watering.

Other mushrooms can sometimes grow in your mushroom patch: make sure that the ones you eat are indeed Elm Pleurotus!