

Policy for Chaga Cultivation, Harvesting, and Sustainability

This detailed document will provide a guideline for chaga (*Inonotus Obliquus*) farming practices, and recommendations for the establishment (inoculation), management, and harvesting, to the best of today's knowledge.

1. *Inonotus Obliquus* a.k.a Chaga mushroom

Chaga is a tree fungus that belongs taxonomically to the family Hymenochaetaceae in the family of Basidiomycota. It is known both as a plant pathogen and therapeutic fungi (reference: [Chaga chemical composition](#)).

Naturally, the chaga is a rather rare fungus, found mainly on birch trees, in smaller cases also on alder. Rarely has the chaga been found on wounds, maples, and even spruces.

However, the chaga growing on birch is the most valued in folk medicine, as the number of its biochemical components is currently known to be the highest.

2. Chaga farming area

2.1 Choice of tree species

The cultivation of the chaga is particularly suitable as an alternative forest use in the birch forests. Sterile formations of chaga conks grown on birches are of particular economic value. High levels of anti-carcinogenic bioactive substances have been observed in sterile formations of chaga grown in birches.

2.2 The age of the tree and the stand

The life cycle of the chaga in natural conditions is about 20 years. In the case of the naturally occurring chaga, development of the fungus has been observed especially on middle-aged or older trees.

To prevent natural spread, it is recommended to plan the establishment of a chaga farm no later than 20 years before the permitted felling age and/or maturity diameter for regeneration felling specified in the stand management regulations or protected area regulations is reached.

2.3 Dimensions of tree and stand

The average assessment characteristics of an individual tree or stand can have a significant effect on the mass of sterile formation formed during the growth cycle of chaga. The latter determines the yield or profitability of cultivation. Sterile formations of chaga conks of a larger size and weight have been found to develop on larger diameter trees. The profitability of cultivation can thus be positively correlated with the average size of the tree and/or the stand (especially the breast diameter).

When growing chaga, it is recommended to select a tree or stand where the diameter of the host tree (measured at a height of 1.3 m from the root collar) exceeds 10 cm. (Reference: [Inoculation success of *Inonotus obliquus* in living birch \(*Betula* spp.\)](#))

2.4 Age and characteristics of the tree and the stand

The sanitary condition of the tree and/or the stand can have a significant impact on the profitability of the chaga farm and the length of the successful farming period. The life expectancy of a tree or stand is an important indicator to monitor before a farm is established. To ensure the highest yield for each unit of cultivating material, the chaga farm should be established on a tree or stand in good health. It is recommended to inoculate only the stronger and more viable trees that dominate the first front, which are less likely to die during the growing season of the chaga under the conditions of natural competition of growing trees.

Trees that are clearly older than the average age of the stand (the so-called previous forest generation) should be avoided. Also trees with visible external damage and trees that are lagged in growth in competition with neighboring trees.

It is recommended to avoid the use of cultivation material on single trees older than 100 years. In the case of stands, it is recommended to avoid establishing stands in stands older than 70 years. The appropriate age limit should be decided when taking into account all the characteristics of the stand.

2.5 Pre - cultivation preparation of the stand

Before establishing a farm, it is recommended to optimize the density of the stand and the number of trees, i.e. to regulate the distance between the trees in the stand and the competition between them in such a way that a sufficient growth resource is ensured for all growing trees. The number of trees or the density of the stand can be adjusted by implementing maintenance felling.

2.6 Place of growth

In the case of the natural spread of chaga, a higher occurrence has been observed in forests with an excessively moist habitat type.

Today's knowledge says that it is most economically viable for a forest owner to grow chaga in low-fertility and/or excessively moist habitats, offering a higher return in addition to the so-called classical timber growing compared to the favorable water regime, and fertile habitat types. Medium to high moist forest floor type is particularly suitable for cultivation.

2.7 Cultivation area

The farming of chaga is suitable for establishment in a stand on forest land without nature protection restrictions or the forests of a restricted zone of nature protection areas provided that the establishment of the farming does not conflict with the protection objectives.

Cultivation may not be established on forest land with the strictest nature protection restrictions, i.e. in areas of the special protection zone.

3. Chaga cultivation material

3.1 Cultivation material

An artificially inoculated wooden dowel with *Inonotus Obliquus* mycelium is used as the cultivation material for the chaga conk.

3.2 Storage of the culture

The recommended temperature for the wooden dowels of chaga is between 0 .. + 6 degrees. In an airtight environment, wood dowels last for 1 year. After opening the airtight container, the dowels can be used for about 3 weeks.

3.3 Storage of cultural material

The original strain - originating from Estonia and is naturally occurring - chaga mushroom must be used in the production or manufacture of the cultivating material. The introduction of a foreign parent strain may involve risks, such as more aggressive spread and infection.

3.4 Inoculation of culture material

Dowels are planted in the host tree by drilling (a.k.a inoculating the tree). The size of the hole should be drilled according to the diameter and length of the dowel. After drilling the hole and inserting the dowel into the hole, it is recommended to cover the dowel hole with grafting wax.

3.5 Inoculation time

It is recommended to install dowels during the growing season. It is recommended to avoid installation in the spring, during the period of active birch sap movement. ([Reference: Inoculation success of *Inonotus obliquus* in living birch \(*Betula* spp.\)](#))

3.6 Inoculation density of culture material

The number of dowels per tree should be chosen so that the tree can "serve" and provide sufficient resources for the growth of the chaga conk, and the demand for the resources needed for the growth of chaga does not cause an excessive burden on the tree. It is recommended to increase the growth of the chaga by the number of cultivated trees rather than the number of cultivated dowels per tree.

Depending on the diameter and characteristics of the tree, it is recommended to install 1-6 dowels on one tree.

It is recommended not to inoculate trees with straight trunks, healthy, and dominant trees in the stand with a chaga. From these, in the final phase of cultivation, suitable seed trees can be selected during the regeneration felling.

4. Chaga cultivation material

4.1 Natural distribution

Short-lived fruiting bodies that produce chaga will develop on tree carcasses when a tree dies. Fruiting body development takes place from spring to autumn. Spores are spread over a very short time period by air currents and the spread of certain insects after the formation of fruiting bodies (reference: [Chaga Significant Other](#)). Although extremely rare, the spores of the chaga's sexual development are ideally able to infect nearby birch scars or bark-damaged birches (and other chaga hosts), but the range of infection is very short (reference: [Fungal communities decline with urbanization](#)).

4.1 Measures to prevent the natural spread

The best-known method of preventing (unintentional) natural spread is the felling of a tree or stand after the harvesting of sterile formations of chaga, the collection and sale of timber as a quality assortment, or another permitted disposal. The felling of the tree or stand and the sale of timber should take place immediately before the death of the tree or stand in order to prevent the unintentional natural spread of the chaga spores.

5. Chaga harvesting

5.1 Harvesting method

The principle of sustainability must be followed when harvesting chaga conks. This means that when removing a conk from a tree trunk, it must be done in a way that does not damage or injure the tree. Tools used to remove the conk must be disinfected (using alcohol or disinfectant solution). Chaga conks must be stored in specific bags or boxes that are provided or approved by Chaga OÜ.

5.2 Harvesting risks

It is not recommended to harvest chaga conks from a dead tree, and a chaga collected from a dead tree must not be sold commercially. It is also recommended to process freshly harvested chaga within 24-48 hours or to store it at freezing temperatures (below 0 degrees Celcius) for



long-term storage to prevent the growth of other fungi that are harmful to health (eg mold and other mycotoxins).