





Inventory

The inventory should be carried out in three steps:










1. A cartographic analysis of the area to be inventoried and a first field visit to verify the targeted stands of trees for their mushroom production potential.
2. Collection and recording of site data and yield tests within pre-selected stands.
3. An analysis of the results and recommendations.

The main mushroom species with commercial potential are presented in the table below.

Photo	English Name, Common Name and Latin
	<p>Chanterelle (Golden chanterelle, Girolle) <i>Cantharellus cibarius</i></p>
	<p>Porcini (Penny bun, Cep) <i>Boletus edulis</i></p>
	<p>Momitake (Swollen-stalked Catathelasma) <i>Catathelasma ventricosa</i></p>
	<p>Matsutake (Pine mushroom) <i>Tricholoma matsutake</i> (<i>Tricholoma magnivelare</i>)</p>

Wild Mushrooms

Harvesting commercial value wild mushrooms

Photo	English Name, Common Name and Latin
	Lobster mushroom <i>Hypomyces lactifluorum</i>
	Black morel <i>Morchella elata</i>
	Yellow morel (Common morel) <i>Morchella esculenta</i>
	Wood hedgehog <i>Hydnum repandum</i>
	Funnel chanterelle (Winter chanterelle) <i>Cantharellus tubaeformis</i>
	Black trumpet (Horn of plenty) <i>Craterellus fallax</i>
	Red-capped scaber stalk <i>Leccinum aurantiacum</i>
	Spruce bolete <i>Leccinum piceinum</i>
	<i>Lactarius thyrus</i>

NOTE : Photographs alone are inadequate for mushroom identification! Never consume a mushroom without confirming its identity, preferably with the assistance of an expert.

Wild Mushrooms

Harvesting commercial value wild mushrooms

1. Procedures for cartographic analysis and determining the stands to be inventoried

- 1.1 Locate potential stands of trees in the areas to be inventoried using forest vegetation maps or the most recent ortho-photos (aerial), based on the site characteristics for each type of mushroom e.g.:
 - Forest stands with a thick tree cover (class A or B).
 - Non-existent or slight slope (class A or C).
 - Good or bad drainage (according to the desired mushroom species).
 - Stands of conifers, or mixed stands with dominance of conifers (e.g. SS, ES, SFI, etc.).
 - Conifer plantations (White spruce and Norwegian spruce) more than 30 years old with good drainage.
- 1.2 Measure the total area of each of the potential stands.
- 1.3 Select at least 20% of the potential stands. The selected stands must be positioned so that they cover the overall territory being studied and should ideally be located near road access points.
- 1.4 Determine the number of inventory plots to be established based on the total area of the stands, which is ideally one plot per five hectares.
- 1.5 Prepare the maps showing the stands to be visited. Print two copies, preferably on water-proof paper. The maps must have compass points, the scale (1:2500 to 1:3500), road access points, etc.
- 1.6 Visit and verify each stand or ecological type previously selected. Plan the establishment of the plots within approximately 1 km of the access point.
- 1.7 If the stands do not seem to correspond to what was targeted, increase the inventory to other unvisited sectors in order to ensure that 20% of the territory is inventoried.

Wild Mushrooms

Harvesting commercial value wild mushrooms

2. Procedures for collecting & recording site data and yield tests within productive stands

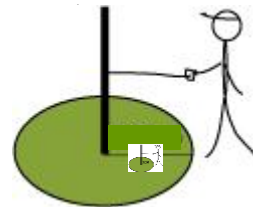
2.1 Creating access trails – Trails are created within the selected stands. Trails are positioned to cross areas judged to be the most homogenous and which best correspond to the selection criteria. Access trails are generally in the shape of a “V” or a “W”, which are adaptable to the size of the stand and enable a return to the starting point. The format and length of the trails must be established beforehand and must not be altered to deliberately cross over known or visible colonies of mushrooms (this would distort the inventory). The trails must have a width of 1 m on each side of the marked line and must have a total length of between 200 and 1,000 m. Mushrooms observed outside of this perimeter can also be recorded in the appropriate location on the site data recording sheets.

Identify the site trails as follows:

- Use a topofil (hip chain) to measure the length of the trail; the thread from the chain should be left in place.
- Using flagging tape, mark the extreme ends of the trail with a “B” for the beginning and an “E” for the end. Place the flagging tape along the trail so that it can be easily seen and write down the distance and the trail number on these ribbons (every 50 m for example). Place two (2) ribbons to identify the azimuth changes (angles). Note the coordinates of these important points (beginning, end and angles) with a GPS.

2.2 Setting up vegetation plots – With the goal of analyzing the correlations between mushroom production and the bio-physical characteristics of the surrounding habitat, at least one vegetation plot should be established between the trails in a location representative of the stand, or at all points where one of the characteristics of the stand changes.

To establish a vegetation plot, use an 11.28 metre cord to demarcate a circle with a surface area of 400 m² (0.025 ha). Mark the outline of the circle with forestry paint.



Record the information related to the plot on the “Recording Site Data” form including:

- General information (date, municipality, GPS coordinates, etc.)
- Length and width of the trail
- Physical characteristics of the site:
 - Forest stand type
 - DBH (diameter breast height) of the three main representative trees and their age
 - Main shrubs, plants and mosses, and the approximate covering of each stratum
 - Litter type and extent of the cover
 - Texture and depth of the soil
 - Type and depth of the humus
 - Drainage class
 - Position, orientation and slope %

Wild Mushrooms

Harvesting commercial value wild mushrooms

2.3 Mushroom Assessment – The inventory must be carried out between the beginning of July and the end of September, at the rate of one (1) complete assessment each week, or every two (2) weeks depending on the frequency of rain. The assessment is to be compiled only from within the 2 m wide linear band (of the inventory trail). In the “Outside of the Trail” section of the site data recording sheets, the position, the species and the number of mushroom colonies visibly situated close to the trail should be noted.

With a goal of calculating the average fresh mass and the average dry mass of each species, samples (around 30 specimens) of each of the main species harvested within the trail should be weighed over the course of the season. The specimens should then be dried in a convection oven or in a ventilated forage dryer for 24 hours at a maximum temperature of 60-70 °C. The mushrooms must not be cooked.

3. Procedures for analyzing results

- 3.1 Create a specific folder on the computer and record the data collected on the forms.
- 3.2 Transfer the GPS coordinates into the appropriate computer software and save a copy in a specific folder.
- 3.3 Mark off a polygon within each inventoried stand located in a zone 1 km from each side of the road. Measure the area of these polygons precisely.
- 3.4 Calculate the average quantity harvested (kg) for each of these polygons and do an extrapolation per hectare for each of the potential stands selected in step 1.3.
- 3.5 Estimate the quantity of harvestable biomass for all of the groupings. A comparison of the different trails will also allow for a calculation of the spatial frequency of the mushrooms. The trails may also be compared in order to obtain a ratio of the consistency of the different species within different types of habitats.

List of Materials

- | | |
|---|--|
| ✓ Maps and aerial photos of the area | ✓ Compass |
| ✓ Forms (waterproof recommended) | ✓ Cooler |
| ✓ Topofil (Hip Chain) | ✓ Knife |
| ✓ Cord (11.28 m in length) attached to a stake | ✓ Mushroom identification guides (at least two different ones) |
| ✓ Set square to measure the diameter breast height | ✓ GPS |
| ✓ Probe to measure tree age | ✓ Camera |
| ✓ Shovel or soil probe | ✓ Pencils and felt-tip pen |
| ✓ Paper bags for harvest identification (1 per species) | ✓ Flagging tape and marking paint |
| | ✓ Emergency kit |

Recording Site Data
Commercial Value Wild Mushrooms
Evaluation of harvest potential

General Information

Project title:
Date:
Evaluators:
Sector, municipality:
Trail number, total length and width (m):
Plot number and location along the trail:
Photo numbers:
GPS coordinates:

Physical Description

11.28 m Plot

Ecological type, forest population:			
Cover density:			
Silvicultural work:			
3 main types of trees, age & DBH			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center; padding: 5px;">1</td> <td style="width: 33%; text-align: center; padding: 5px;">2</td> <td style="width: 33%; text-align: center; padding: 5px;">3</td> </tr> </table>	1	2	3
1	2	3	
Main shrub species and cover:			
Main plant species and cover:			
Main moss species and cover:			
Litter type (needle, leaf or mixed) and cover:			
Soil texture and depth (cm):			
Humus type and depth (cm):			
Drainage:			
Position on the slope:			
Orientation and inclination (%) of the slope:			
Comments:			

Plan and location of the trail (mark the road access, cardinal points, entry point of trail)

Recording Site Data
Commercial-value Wild Mushrooms
Evaluation of harvest potential

General Information

Project title:
Date:
Evaluators:
Sector, municipality:
Number, length and width of the trail:
Photo numbers:
GPS coordinates:
Temperature (°C) and date of last precipitation:

Yield and trail count (within 2 m wide band)

Mushroom Species	Number of Specimens	Location along the trail

Observation of mushrooms outside the trail (> 2 m)

Mushroom Species	Number of Specimens	Approximate Position along Trail