



# Barley malting as the raw material for beer brewing

(Resource ID: 322)

## Nexhdet Shala

nshala10(at)hotmail.com

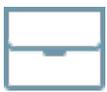
This teaching resource is allocated to following University:

**UPHZ - University of Peja "Haxhi Zeka"**

Institution:

**UHZ**

<http://www.sustainicum.at/en/modules/view/322.Barley-malting-as-the-raw-material-for-beer-brewing>



**Group work**



**11 to 30  
students**



**Up to 3 lecture  
units**



**Internet  
connection  
necessary**



**English, Shqip**

The purpose of this project to know the barley malting process. Yeast is mostly used as the raw material for beer and whiskey brewing and also as food for stock breeding. Cereal malting aims to gain enzymes as crucial ingredients in the beer industry. The students will be collaborators during the barley malting process and in this way they will see the problems this process faces through what happens to the waste at the end of the process and what process efficiency looks like.

Students of Agrobusiness faculty will take the necessary information from the field experts on how to plant barley and how to cultivate it (information is described below), and if it is the right time of the year, the students will be involved in planting or cultivating the barley.

Despite the climate and land conditions, the spring barley planting should be done as soon as it can be. The average seed amount is brought to 150 kg/ha, or it corresponds to nearly 330 seeds per m<sup>2</sup> that ensures 500 – 700 spikelet per m<sup>2</sup>. The planting distance should be 13-20 cm (or in average 15-18 cm). The depth should reach 2-3 cm. The barley seeds main parts are: the germ or the embryo, the endosperm) and the covers : cotyledon, germ cover and seed cover).

The barley seed may bloom under the lowest humidity rate that is generally necessary. The seed should normally contain 12 % of humidity. The humidity rate in barley should be low so as to hold all the vital activities in the seed and the irreversible harm by losing all its production values. The planting of the barley seed starts when the seed itself accepts the humidity quantity, called vegetative humidity. The vital activities of barley become more obvious when the barley seed mounts nearly 30 %, and after this it comes out equally. Through the planting guide with low temperatures in intervals of 12-16°C, the planting is more successful when the temperatures are higher.

Due to the high humidity level, the green malt can be easily harmed, therefore it needs to be dried up to the point at which it is deemed to be safe. In addition to this, they should pay special attention to the full transformation of the seed regarding the chemical-biological nature that has actually started during the blooming, together with some components that need to be fixed. Following the removal of the smell and the taste of green malt, it gains the characteristic aroma of the seed and the special colour. The removal of the rootlets is of crucial importance because they are hygroscopic and they absorb the environment humidity. The objectives mentioned above are accomplished only through a careful draining process.

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## Teaching Tools & Methods



Excursion

## Integration of Social Stakeholders

University Haxhi Zeka from Peja, more precisely the Agro-Business Faculty has a memorandum with the Factory A.S. "Birra Peja" from Peja and in

compliance with this, the students may visit the factory from time to time. Such study visits enable the students to get to know the work environment better and make connections between theory and practice. Likewise, the factory staff have the opportunity to discuss with the students the topics and terms from the region and beyond, in relation to the products which they offer.

Such practice periods make the factory owners and the university professors happy, without forgetting the benefits to the students.

## Strength

The active participation of students in the practice period makes the theoretical materials easier to understand

The practice, will influence the operators as well, to understand the real importance of the various production phases

The worker's discipline increases, particularly in maintaining neatly the evidences and work diaries

Students have the opportunity to predict any production or to propose production innovations

The students' ideas and innovations may profit the factory itself.

## Weakness

· every producer has his own secrets, and therefore trust is needed between the students and the welcoming host enterprise.

· Not to leak information outside of the enterprise i.e. the various recipes of that factory or any shortcoming of the process. Everything must be discussed within the factory with the responsible factory and university staff.

## Learning Outcomes

Student will learn on:

the importance of planting the barley and how to fertilize it in such a way to protect the soil

the importance of the barley malting process in beer production;

the importance of waste accumulation from the barley malting process for the factory and the environment;

the importance of cleanliness during the barley malting process.

## Relevance for Sustainability

The importance of food products for the human body and the environment

we live in;

Respecting the ISO and HACCAP standards, students will see what happens to the waste from the barley malting process

## Related Teaching Resources

No specific previous knowledge / related resources required

## Preparation Efforts

Medium

## Preparation Efforts Description

Preparation for the theoretical part of the barley malting process - 2h.  
Organisation of the travel to the beer factory - 30 min.

## Access

Free

## Assessment

Seminar work

## Credit/Certification Description

None

## Sources and Links

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