

IMPLEMENTATION OF THE LECTURE

Brewery wastes - Strategies for sustainability

Author: Luana Harizaj

E-mail: luanaharizaj@gmail.com

Institution: Agricultural University of Tirana

The course will be divided in three parts:

- In the lectures students will be presented mainly with the management systems traditionally used in the sector for the organic waste disposal (solid and liquid waste) but also with the importance of sustainable packaging, followed by innovative studies and applications of alternative sustainable uses of the brewery wastes.
- Brewing industry stakeholders will present the waste management system they apply in their own companies so that students will also have the possibility to interact with the stakeholders asking about practical industrial applications of the strategies. Students and stakeholders can exchange experiences and propose new ideas.
- Students and business stakeholders will have the chance to discuss innovative perspectives of brewery waste uses. Stakeholders may benefit from the information deciding to apply new sustainable strategies in their own companies. At the end of the day students are invited inside the brewing factory facilities.

Suggestions for implementing the lecture:

On the first day the course leader introduces the topic to the students, mainly covering the contents of the background text, which the students should also read in their own time. The presentation should be 45 to 60 minutes long. After concluding each sub-topic, a discussion is recommended in order to summarize the covered content and the applied methods, to establish how the technical and content levels relate to one another, and to determine what level students are at. At the end of each companies' presentation, a direct discussion with students has to be included in order to provide them explanations for any doubts they might have.

On the second day brewing industries' stakeholders will present the waste management system they apply in their own companies providing an interesting presentation including videos showing their own waste management systems. At least three different major brewing companies have to be present during the lectures. The presentations should last one hour and thirty minutes each with a break in between of fifteen minutes.

The third day is dedicated to the implementation of the knowledge acquired during the previous lectures. Students will be assigned a specific brewing company as a case study. After discussing innovative practices with the stakeholders in the lecture hall (in the first part of the day), they will be divided into small groups and shown the real brewing factory facilities of the stakeholders that have participated in the lectures (in the second part of the day). They will investigate the possibility of changes or innovative practices towards a sustainable management of production with live participation in the daily brewing production.

At the end, their presentation can be used as a means for student assessment.