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Fostering On-line Operative Development for Agriculture Literacy and Learning FOOD4ALL

PR4 Food Innovation Hub
Grape juice



The following slides contain authentic text and visual material in reference to the PR4 Food Innovation Hub of the FOOD4ALL project.

The innovative element of this material is in its integrated Lesson Plan which guides the teacher through the slides, starting with introductory (prep activity) and ending with a DIY (Do It Yourself) follow-up activity which encourages the students to brainstorm innovative ways of food consumption.

The material is designed to be used as an extra-curricula activity, or regular activity. The target are students 10-14 years old.

Prep activity

Direct your students to one of the following topics (you can divide them into groups and assign this as a homework project):

- 1) What is macun? (see ref. https://mk.wikipedia.org/wiki/%D0%93%D1%80%D0%BE%D0%B7%D0%B4%D0%BE%D0%B2_%D0%BC%D0%B0%D1%9F%D1%83%D0%BD)
- 2) What does the work on a vineyard look like in seasons?
- 3) What are the benefits of grapes?

Funny fact: Did you know?

Grapes are used to make synthetic leather.



Let's dive into our farm today!

“Topovaca” Winery is a large-scale business founded in 2003 which produces wine and spirit, but also grape juice.

There are 50 employees in “Topovaca” all devoted to the highest quality in the production and applying innovative technologies.

“Topovaca” is also oriented towards buying and maintaining vineyards in the region of Stip.



What is a grape juice?

The grape juice consists of glycoses and fructose and is the first product obtained from the grape production.



How it's made?

Grape juice is obtained by crushing the grapes or grinding them with a grinder, a special tool for that purpose. In order to obtain quality grape juice, quality black grapes are needed. After the grapes are harvested (in September or October), the grinding begins on the same day. After grinding, the stalks with the ground grains fall into barrels, which is best to be made of wood. The grape juice stays in the barrels for a maximum of three days if we want to keep its sweetness. After the third day, violent fermentation begins. The boiling of the mixture under the influence of heat and oxygen gradually turns into alcohol. Therefore, in order to preserve the sweetness of the natural grape juice, it is best to use it on the second day. It is placed in a container where it boils for 20 minutes, while another machine simultaneously removes the foam that forms on the surface. Then it is packed in hot bottles. Grape juice is only used for two days.



Sustainable practices

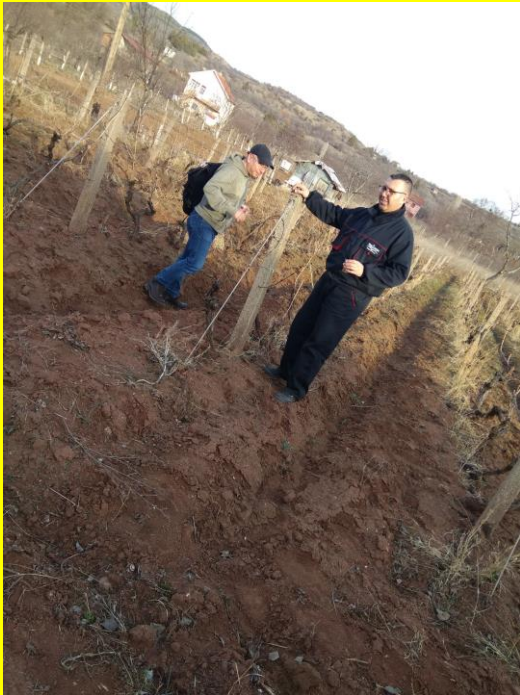
“Topovaca” applies the following sustainable practices:

- 1) At “Topovaca” we use energy-efficient equipment.
- 2) “Topovaca” minimizes water usage.
- 3) At “Topovaca” we practice natural fermentation processes over artificial ones.



Career opportunities

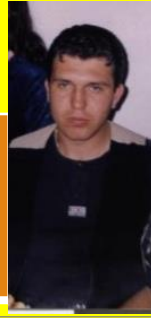
“Topovaca” selects the following career opportunities:



Vineyard manager
Grape-juice maker
Director of viticulture
Grape picker
Enologist
Cellar master
Operations management.



**Interview with the manager:
Igor Arsov, manager of “Topovaca”**



Hi Igor, tell us some facts about your business? When was it founded, why did you chose that branch, how large it is?

Hello! “Topovaca” is a large scale business established in 2003. It started as a hobby, but soon it turned out into business.

What do you produce? Where do you sell your products?

We produce spirit, wine and grape juice as a short-term side product. The spirit and wine are sold both locally and regionally, while the grape juice is sold only locally because of its structure.

What challenges do you face in the management of your business?

We buy the grapes. The type of grapes is very important to us. We have changed many suppliers through the years, to reach the point of solid cooperation with a grape supplier. We are very much concerned about the nature and we monitor the pesticides and the fertilizers used at the vineyard. Another challenge that we all face here is the very small number of workers. Believe me, almost each year I arrange for the workers at my distillery to also collect the grapes. I work on the field then, too.

Thank you very much, it was a pleasure talking to you!

Follow up: DIY

As a follow-up activity of this lesson, explore the ways of grape consumption with your students.

Can you make a grape-juice at home?

Our idea for a nutritious refreshing drink (you need to have a juice-maker for this drink):

Step 1: Take a bunch of grapes

Step 2: Rinse the grapes under water

Step 3: Put it in the juice-maker

Step 4: Add some mint leaves and enjoy your drink!

Now, brainstorm some more ways on how to consume grapes!

Thank You!

