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

PR4 Food Innovation Hub
Honey



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) Why are bees important for the eco-system?
- 2) What products to bees produce?
- 3) What are the benefits of honey upon human health?

Funny fact: Did you know?

One bee produces 1 to 12 spoons of honey in her life.



Honey bee, source Zivotinsko Carstvo No. 38,2014

Let's dive into our farm today!

“Eagle Stone” is a Macedonian bee-keeping large-scale business established in 1993.

The business operates with more than 1000 bee-hives set on the slopes of the Malesevski Mountains.

The following staff profiles constitute "Eagle Stone": bee-keepers, vet technicians, drivers, plant workers, distributors, marketing managers, executive manager.



What is honey?

Honey is a sweet and viscous substance made by several species of bees, the best-known of which are honey bees. Honey is made and stored to nourish bee colonies. Bees produce honey by gathering and then refining the sugary secretions of plants

Honey is rich in nutrients and antioxidants, has antibacterial properties, and can play a role in diabetes management as part of a balanced diet.



How it's made?

The bee-keeping farm is busy throughout the year, even during the winter months when bees are safe in the bee-hives and protected from the cold.

In the beginning of spring, with the blooming of trees and flowers, the bees go out of the bee-hives to collect the nectar. The honey is stored into the bee frames which are regularly controlled by the bee-keepers. The first honey “harvest” is in June when the bee frames are emptied from the bee-hives and the honey is extracted. The second honey “harvest” is in late July, after which the bees are prepared for the winter.



Sustainable practices

The following sustainable bee-keeping practices are applied at “Eagle Stone”:

- 1) “Eagle Stone” beekeepers avoid using pesticides
- 2) “Eagle Stone” bee-keepers respect the natural processes of the hive and leave sufficient honey for bees during winter,
- 3) “Eagle Stone” promotes biodiversity and focuses on supporting local ecosystems.



Career opportunities

Bee-keeping is fun! Among the pond of careers, we select the following:

Bee-keeper

Vet technician

Bee-hive IT developer

Bee ambassador

Bee consultant.

**Interview with the manager:
Marijana Dimitrova, manager of “Eagle
Stone”**



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

Hi, it's a pleasure talking to you. “Eagle Stone” was founded in 1993 and it is a large scale bee-keeping business. My father was very enthusiastic and loved bees that is how he founded it, and I succeeded in the management when he retired.

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

Initially “Eagle Stone” produced only honey. 100% natural honey. Later on it introduced other bee-keeping products as propoli, wax, royal jelly etc. Since 1995 we only work on export. We export our entire production to the USA.

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

The bee-keeping depends on the environment and climate. There are limits up to which we can control that. Luckily for us, our bee-hives are on a top mountain location where the summer dry can't affect them that much.

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 honey consumption with your students.

Honey goes well on pancakes, right?

Can you think of some other new way of consuming honey?

Our example for a nutritious morning drink:

Step 1: Take half-a-cup warm water (around 30 degrees)

Step 2: Put 1 spoon of honey inside the water and mix it until the honey melts

Step 3: Put 1 spoon of natural cocoa inside.

Step 4: Add some milk.

Your morning drink is ready!

Now, brainstorm some more ways on how to consume your honey!



Thank You!



Aside from the photo of the honey bee, the entire visual material is authentic taken from “Eagle Stone” farm.