Module 3: Environmental Education in Gastronomy

Unit 1: Introduction to Environmental Sustainability in Gastronomy

Objective:

Introduce gastronomes professionals and VET learners to the use of environmental sustainability towards food provision, with a focus on modern gastronomy.

Content:

1. General Overview of the Situation on Modern Food Systems:

- Introduction to the current 'footprint' of global food systems' operations, including deforestation, pollution, and loss of biodiversity.
- Discussion on the unsustainable consumption of natural resources and what this means in relation to how we will be able to eat food in the future.
- Introduce what the carbon footprint of the food system is and how it contributes to climate change.

2. Significance of the Sustainability of the Food System to Restaurants:

- How restaurants shape both food production and consumption.
- Why the restaurants enjoy economic and social advantages that flow from their reputation for being pro-environment.
- How sustainability might be integrated into the restaurant business model, and into the creation/sourcing of dishes, and waste management.

Unit 2: Ecological Footprints of Traditional vs. Insect-Based Foods

Objective:

To compare the ecological footprints created by traditional animal-based proteins to those created by insects. Weigh the pros of insect-based foods in relation to reducing ecological impacts.

Content:

1. Ecological Footprint - COMPARE:

- Specific comparison of the resource inputs that go into producing traditional proteins, such as beef, pork, and chicken, and insect proteins.
- Energy efficiency, feed conversion ratios between insects and traditional livestock.
- The environment of industrial production scale and factory farming for both traditional foods and insects.

2. Land Use, Water Consumption, and Greenhouse Gas Emissions

- Analyzing the land use and deforestation accountabilities when adopting insects over conventional livestock farming.
- What are the issues between the water footprints of insects and conventional protein sources, with a particular emphasis on water conservation?

- Exploring the differences between greenhouse gases emitted - methane, CO2 - by the conventional system and insects. What is the potential for reduction?

Unit 3: Regulations on Insect Consumption and Environmental Impact in Europe

Objective:

To explore the regulatory framework governing insect consumption in Europe, focusing on its environmental implications and the role of policy in promoting sustainable food systems.

Content:

1. EU Novel Foods Regulation and Its Role in Sustainability:

- Overview of the EU Novel Foods Regulation, which governs the approval of insects for human consumption, ensuring food safety, and environmental sustainability.
- Discussion on how the regulation supports the integration of insect-based foods into the European market, promoting lower carbon footprints and reduced resource use compared to traditional proteins.

2. Environmental Standards in Insect Farming Policies:

- Examination of European standards related to sustainable insect farming, including resource efficiency, waste management, and eco-certifications.
- How these policies encourage environmentally responsible practices in insect farming, aligning with Europe's broader climate and sustainability goals.

Unit 4: Sustainable Sourcing and Ethical Considerations for Insect-Based Foods

Objective:

Guidelines that one can follow to sustainably source insects, and what to consider on ethical requirements that play in producing and consuming insect-based foods.

Content:

1. Guidelines on Sustainable Sourcing:

- Ways to develop sustainable supply chains for insect-based foods—from farm to table.
- Certifications and standards that would help ensure practices in insect farming are sustainable.
- Mechanisms for developing a sustainable supply chain for insect-based foods: from farm to table
- Discussion on certifications and standards raising the bar of sustainability in insect farming practices

2. Food Safety, Regulations

Overview of food safety legislation and standards pertaining to insect farming and insect processing. Challenges regarding the food safety of insect-based products: allergens, contaminants. Strategies toward increasing consumer acceptance through education, transparency, and assurance of quality in relation to insect-based foods.

3. Ethical Issues in Insect Farming:

- Ethical Issue: Insect farming and insect harvesting - animal welfare and ecological impact.

Unit 5: Insect Farming and Biodiversity Conservation

Objective:

Explore how insect farming can contribute to environmental sustainability and biodiversity conservation. Educate gastronomic professionals and VET learners on the environmental advantages of insect farming compared to traditional agriculture, and how it supports ecosystem health.

Content:

1. Role of Insect Farming in Reducing Deforestation and Habitat Loss:
   - Explanation of how large-scale insect farming can reduce the need for land expansion, mitigating deforestation and habitat destruction.
   - Analysis of how shifting to insect protein can help protect forests, wetlands, and other ecosystems that are critical for biodiversity.
   - Case studies of successful insect farms and their efforts to reduce habitat encroachment.

2. Consumer Education and Biodiversity Awareness
   - Strategies for raising consumer awareness about the role of insect consumption in supporting biodiversity.
   - Approaches to highlight the environmental and ecological benefits of insect-based foods in menus and marketing.
   - Encouraging restaurants and food producers to educate consumers on how their choices can support biodiversity conservation.