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# Project Result 5: Digital Course in Circular Agriculture

“SKILLS”

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“Strengthening Key Competences in Agriculture  
for Value Chain Knowledge”



VYTAUTO DIDŽIOJO  
UNIVERSITETAS



Erasmus+



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# Digital Course: Introduction to Circular Agriculture

## Chapter 3.2

### Exploration of the Interplay Between CA and Sustainable Food Systems

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# Introduction to Circular Agriculture

- **Definition:** Circular agriculture is key to sustainable food systems.
- **Focus Areas:** Closing nutrient loops, minimizing waste, optimizing resource use.
- **Core Principles:** Contribute significantly to sustainability.

# Waste Minimization

- Objective:** Reduce food waste at all stages.
- Methods**
  - Efficient Harvesting:** Precision agriculture for optimal crop harvest.
  - Food Preservation:** Canning, freezing, and drying to extend shelf life.
  - Food Redistribution:** Surplus food redirected to those in need.

# Resource Efficiency

- **Objective:** Optimize use of water, energy, and land.
- **Strategies:**
  - **Precision Farming:** Efficient application of resources.
  - **Intercropping:** Maximizes space and resource use, leading to higher yields.
  - **Agroforestry:** Integrates trees/shrubs, enhancing biodiversity and resource use.

# Renewable Energy Use

- **Importance:** Reduce reliance on non-renewable energy sources.
- **Approaches:**
  - **Solar Panels & Wind Turbines:** Harness renewable energy.
  - **Bioenergy Production:** Utilize agricultural residues for biogas/biofuels.
  - **Energy-Efficient Practices:** Reduce overall energy consumption.

# Soil Health

- Objective:** Maintain soil health and promote biodiversity.
- Techniques:**
- Crop Rotation:** Breaks pest cycles, enhances soil fertility.
- Polyculture:** Cultivation of diverse crops to foster ecosystem resilience.

# Water Conservation

- **Focus:** Efficient and sustainable water use.
- **Methods:**
  - **Drip Irrigation Systems:** Minimize water waste.
  - **Rainwater Harvesting:** Collect and store rainwater for irrigation.
  - **Drought-Resistant Crops:** Cultivate crops requiring less water.



# Circular Supply Chain

- **Role:** Enhance sustainability throughout production and distribution.
- **Practices:**
  - **Local Sourcing:** Reduces transportation emissions.
  - **Reusable Packaging:** Reduces waste, promotes recycling.
  - **Utilizing Byproducts:** Crop residues used for animal feed or bioenergy.

# Conclusions



## •Impact of Circular Agriculture:

- Promotes resource efficiency, reduces waste, enhances biodiversity, and improves soil health.
- Supports sustainable, resilient, and productive agricultural systems.
- Benefits both local communities and global sustainability goals.

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## “Strengthening Key Competences in Agriculture for Value Chain Knowledge”

Programme: Erasmus+

Key Action: Cooperation among organisations and institutions

Action Type: Cooperation partnerships in higher education (HED)

Call: 2021 – Round: 1

Grant Agreement No.: 2021-1-EL01-KA220-HED-000023289

Project Duration: 28/02/2022 – 27/08/2024 (30 Months)

Total Budget: 138.158,00€



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Financed by the European Union. The European commission support for the production of this publication does not constitute an endorsement for the contents which reflects the views only of the authors and the commission cannot be held responsible for any use which may be made of the information contained therein.