The REGINA Guidebook

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INTRODUCTION

The REGINA GUIDEBOOK, implemented in the framework of the Erasmus+ project "Regenerative Agriculture: An innovative approach towards mitigation of climate change – REGINA", aims at promoting learning in the field of Regenerative Agriculture in Higher Education, Secondary Education and Adult Education, by introducing and disseminating the project results, providing guidance for the effective use of the free and open learning resources developed, sharing examples of implementing the REGINA course on Regenerative Agriculture in the different learning tiers, and offering instructions for sing the REGINA e- learning platform both as an independent earner and in group-learning contexts.

The GUIDEBOOK addresses:
• Educators, trainers, advisors and stakeholders in agriculture and sustainable rural development
• Students of higher education and secondary education in related fields
• Farmers

The GUIDEBOOK offers:
• A summary of the findings of the Research on Regenerative Agriculture conducted in the project partner countries (Hungary, Greece, Italy, Ireland, Slovenia).
• A summary of the REGINA Learning Methodology, including an outline of the themes and topics approached, learning objectives and approaches adopted, and learning methods suitable for different learning tiers.
• An outline of the REGINA Learning Modules including the sub-topics available per Module.
• Examples of implementing the REGINA course in Higher Education, Secondary Education and Adult Education.
• Step-by-step instructions on using the REGINA e-learning platform, including specific guidance for individual learners.

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RESEARCH ON REGENERATIVE AGRICULTURE – SUMMARY OF FINDINGS

The research conducted in the project partner countries (Hungary, Greece, Italy, Ireland and Slovenia) includes an overview of the agricultural sector as well as the current uptake and prospects of Regenerative Agriculture (RA) and other sustainable farming methods, findings from stakeholder interviews and online farmers surveys, and good practice case studies in Regenerative Agriculture identified and documented. In specific, the research conducted in each partner country included:

- Desk study on the basic characteristics of the agricultural sector in each country and current levels of RA uptake
- Interviews with key stakeholders – farmers' associations, networks, educational institutions, NGOs, central government bodies, regional and local authorities, agricultural consortia etc. In total 30 stakeholders were interviewed.
- Online farmers' survey to map the uptake of RA and identify the farmers' needs in terms of knowledge, skills and attitudes. In total 553 farmers participated in the online survey.
- Identification of RA case studies in each country as examples of farms making the transition to RA. In total 30 case studies were identified and documented.

The key findings are presented below. For a detailed analysis of the research findings, as well as access to the RA good practice examples documented, please refer to the National Reports per country, the Synthesis Report, and the Library of Good Practices of Regenerative Agriculture, available on the REGINA website: **www.regina–ra.eu**

Land Use and Economic The overview of the Agricultural Sector in the partner countries reveals differentiations regarding:
 Value:
- Countries vary in the distribution of utilized agricultural area (UAA), with differing amounts of arable land, grassland, and permanent crops.
- The Gross Value Added (GVA) from agriculture is significant in some countries, especially Greece and Hungary, where agriculture plays a larger role in the economy.
- Farm sizes differ widely, from very small in Greece and Hungary to larger in Ireland.

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Output and Farm Structure:

- The composition of output (crops vs. animals) differs by country, with Ireland being notably animal-focused.
- Gender distribution among farmers also varies, with more women in Greece and Italy, and fewer in Hungary, Slovenia, and Ireland.

Employment and Ageing Population:

- The agricultural sector remains a major employer in Greece, though it employs fewer people in other partner countries. The EU average is surpassed in some regions.
- There is a common issue of an ageing population of farmers in all countries.

The following alternative/sustainable farming methods are identified:

- Organic Farming is the most widely adopted alternative farming method, with Italy leading in organic farming within the EU. Slovenia and Greece are closer to the EU average, while Hungary and Ireland lag behind.
- Conservation Agriculture focuses on soil conservation through practices like crop rotation and minimal soil disturbance, is more common in Italy and Slovenia and is supported by some policies.
- Regenerative Agriculture (RA) is a newer concept gaining traction, aimed at restoring soil health, sequestering CO2, and reversing biodiversity loss. Unlike organic farming, RA does not have a strict certification process, which is seen as both an advantage and disadvantage. Interest in RA is rising, especially among researchers, NGOs, and individual farmers. However, multinational companies have been accused of misusing the term for marketing purposes ("greenwashing").

The stakeholder interviews conducted reveal the following findings:

Challenges and Perceptions of RA:

- Stakeholders (farmers, NGOs, networks) have mixed views on the feasibility of RA. Confusion exists around the various terms associated with sustainable farming (e.g., organic farming, conservation agriculture, biodynamic farming).
- RA uptake is low, typically driven by environmentally conscious farmers with experience in organic or conservation farming.
- Key barriers to RA adoption include:
    - Farmers' focus on production under economic pressure.
    - An ageing farmer population.
    - Gaps in education and expertise on RA.
- High costs of transition and uncertainty about yields, particularly concerning food security in countries like Hungary.

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Benefits of RA:
- Stakeholders recognize the long-term economic and environmental benefits of RA, including reduced costs, enhanced biodiversity, and improved soil health.
- Social benefits, such as improving farmers' health, reducing rural depopulation, and contributing to climate change mitigation, are also noted.

Prerequisites for RA Transition:
- Effective education and training for both farmers and consultants (e.g., agronomists) are crucial for wider RA adoption. There is a need for direct funding and subsidies to help farmers through the transition period.
- Stakeholder organizations have expressed willingness to support RA education and training efforts.

The main findings of the online farmers survey conducted in the project partner countries are:
- Familiarity with RA: Farmers are generally aware of climate change and alternative farming methods but are less familiar with RA.
- Perception of RA: Farmers in Slovenia and Ireland are more sceptical about RA's potential to increase income.
- Awareness of RA Benefits: Awareness varies, and doubts remain about specific benefits such as reduced labor, better crop quality, and increased stability.
- Main Barriers: Lack of know-how and financial support are the primary obstacles to RA adoption.

The identification and documentation of good practice case studies on Regenerative Agriculture in all project countries, available in the Library of Good Practices, **highlight the following findings**:
- Case studies across the partner countries highlight farmers who have already transitioned to RA, farmers often riven by a desire for sustainability and curiosity. These Initiated their own learning and reported significant environmental and economic benefits.
- Main challenges include the lack of support from experts, inadequate financial aid during the transition, and difficulties marketing RA products.
- Despite obstacles, the farmers are optimistic about RA's future and emphasize the need for ongoing training and development.

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Overall conclusions – recommendations:

The research findings strongly highlight the need for providing education of experts/consultants (e.g. agronomists, rural development consultants, etc.) on RA so they can guide farmers in the transition to RA taking into account their specific context in terms of climatic conditions, production type, farm structure, etc. The training of the farmers themselves is also key in order to dissolve misconceptions and points of uncertainty on the results and benefits of RA, provide credible evidence, collect empirical knowledge as learning material, and promote a wider uptake of RA. RA, as a knowledge–intensive model, requires a change in the producers' profile and mindset so that, instead of permanently relying on pesticides, herbicides, chemical fertilisers and other products to support their production, they are in a position to support their production themselves using alternative methods and through knowledge, experimentation and monitoring. This change in attitudes and mindsets is also necessary to instil in the farmers a culture of initiative, encouraging them to explore, try out and monitor the results of alternative methods.

The farmers' training should incorporate alternative methods such as educational visits to farms applying RA practices in the region or in the country and abroad, so that training is more effective both in terms of knowledge retention and development of positive attitudes and mentality. Incorporating "field schools",

i.e. learning activities held exclusively through field visits in farms that have made the transition or are currently in the process, to share good examples, problems and possible solutions, and encouraging learning by doing, would be most effective with the target group of farmers who are not used to sitting in front of a screen or in a classroom. In addition, instead of bringing the farmer to the information, it is more effective to bring the information to the farmer: approaching farmers in places where they gather (e.g. the local coffee shop) would be much more effective than providing information on the internet.

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Finally, the creation and maintenance of RA networks in each country is also an important step in promoting a wider take up of RA. Through these networks the farmers can share their experiences, successes and failures with other farmers and experts, and enter a cycle of continuous training and development.

Moreover, these networks can also contribute to the marketing and promotion of RA products directly to the consumers, without the need to introduce a certification system like in organic farming.Overall, the findings highlight a need for structural support, education, and financial backing to encourage a wider transition to Regenerative Agriculture. The benefits of RA are recognized, but significant challenges remain in terms of economic viability, knowledge dissemination, and market access. The creation of supportive networks and practical training programs will be essential to the future of sustainable farming practices in the partner countries. The research findings have been integrated to the development of the REGINA Learning Methodology and Learning Modules.

 REGINA research and access the National Reports of Findings as well as the Synthesis Report here

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SUMMARY OF THE REGINA LEARNING METHODOLOGY

Outline of Themes/Topics

REGINA focuses on a variety of themes and topics related to sustainable agriculture and environmental stewardship. Key topics include:

Historical Context and Definition of Regenerative Agriculture:

- This topic explores the historical evolution of agricultural practices and the emergence of regenerative agriculture as a response to ecological and sustainability challenges.
- It defines regenerative agriculture, emphasizing its principles of soil health improvement, biodiversity enhancement, and ecosystem resilience.
- Students learn about pioneers in regenerative agriculture and the key milestones in its development.

Holistic Approaches to Agriculture:

- Holistic approaches in agriculture integrate ecological, economic, and social dimensions to achieve sustainable outcomes.
- Topics cover the interconnectedness of farming systems with natural ecosystems, emphasizing practices that minimize environmental impact while maximizing productivity and resilience.
- As an outcome, students explore systems thinking and the holistic management of landscapes, considering the long-term health and productivity of agricultural systems.

Integrated Technologies for Soil Management and Smart Farming:

- This topic introduces modern technologies such as precision agriculture, remote sensing, IoT (Internet of Things), and data analytics applied to soil management and farming practices.
- Students learn how these technologies optimize resource use, enhance soil health, and improve crop productivity while reducing environmental impact.
- Case studies highlight successful applications of smart farming technologies in different agricultural contexts.

Reduction of Greenhouse Gas Emissions:

- This theme focuses on strategies and technologies aimed at mitigating greenhouse gas (GHG) emissions from agricultural activities.
- Topics include carbon sequestration in soils, methane reduction from

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livestock, and sustainable energy use in farming operations.
- Students analyze the environmental benefits and economic feasibility of various GHG reduction methods in agriculture.

Integrated Pest Management:
- Integrated Pest Management (IPM) integrates biological, cultural, physical, and chemical methods to manage pests effectively while minimizing risks to human health and the environment.
- Students learn about pest life cycles, monitoring techniques, and sustainable pest control strategies.
- Case studies demonstrate successful IPM programs and their impact on crop protection and environmental sustainability.

Biodiversity Enhancement:
- This topic explores the importance of biodiversity in agricultural ecosystems and methods to enhance and conserve biodiversity.
- Students study agroecological practices that promote habitat diversity, pollinator conservation, and ecosystem services.
- Discussions include the benefits of biodiversity for resilience to pests and diseases, soil fertility, and overall ecosystem health.

Rural Development Aspects:
- Rural development aspects address socio-economic dimensions of agriculture, focusing on improving livelihoods, food security, and community resilience.
- Topics include rural infrastructure development, access to markets, value chain development, and agricultural policy frameworks.
- Students examine case studies of successful rural development initiatives and their impact on local communities and economies.

Grassland Management:
- Grassland management covers sustainable practices for grazing lands and natural grasslands, including rotational grazing, pasture management, and restoration techniques.
- Students learn about the ecological benefits of well-managed grasslands, such as carbon sequestration, water filtration, and wildlife habitat preservation.
- Case studies highlight innovative approaches to balancing livestock production with environmental conservation in grassland ecosystems.

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In summary, REGINA's curriculum on sustainable agriculture and environmental stewardship covers a wide range of topics crucial for addressing current and future challenges in agriculture. These topics not only focus on enhancing agricultural productivity but also emphasize sustainability, biodiversity conservation, and community resilience in rural landscapes.

Summary of Learning Objectives and Learning Approaches
The learning objectives of REGINA encompass:

Understanding the Principles and Practices of Regenerative Agriculture:

- Students will gain a comprehensive understanding of regenerative agriculture principles, focusing on enhancing soil health, promoting biodiversity, and improving ecosystem resilience.
- Objectives include understanding regenerative farming techniques such as cover cropping, crop rotation, and agroforestry, which contribute to sustainable land use practices.

Appreciating the Importance of Sustainability in Agriculture:

- Learning objectives emphasize the significance of sustainable agriculture in addressing global challenges such as food security, climate change, and environmental degradation.
- Students will explore the economic, environmental, and social dimensions of sustainability, recognizing the role of agriculture in achieving sustainable development goals.

Developing Skills in Integrated Pest Management and Soil Health:

- Objectives focus on equipping students with practical skills in integrated pest management (IPM) to effectively manage pests while minimizing environmental impact.
- Students will learn strategies for soil health

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- improvement, including organic farming methods, nutrient management, and soil conservation practices.

Promoting Awareness of Environmental Conservation and Greenhouse Gas Reduction:
- Learning objectives aim to raise awareness about environmental conservation practices in agriculture, such as habitat preservation, water management, and waste reduction.
- Students will explore strategies for reducing greenhouse gas emissions in agriculture through carbon sequestration, renewable energy adoption, and sustainable farming practices.

Learning Approaches:

Frontal Teaching Supplemented with Discussions and Case Studies:
- REGINA employs frontal teaching to provide structured presentations of theoretical concepts and foundational knowledge in sustainable agriculture.
- Discussions and case studies are used to deepen understanding through real-world examples, encouraging students to analyse and apply learned principles in practical contexts.

Use of Interactive and Experiential Learning Methods:
- Interactive methods such as group discussions, role-playing exercises, and simulations are utilized to actively engage students in the learning process.
- Experiential learning, including field trips to farms and natural ecosystems, allows students to observe sustainable practices firsthand and interact with experts in the field.

Encouragement of Critical Thinking, Problem-Solving, and Collaborative Learning:
- REGINA fosters critical thinking by posing challenging questions, facilitating open-ended discussions, and encouraging students to evaluate different perspectives on agricultural sustainability.

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- Problem-solving activities, such as case studies and project-based learning, promote collaborative problem-solving skills among students, preparing them for real-world challenges.

Integration of Innovative Practices and Technological Advancements in Agriculture:
- The curriculum integrates cutting-edge agricultural practices and management, and waste reduction.
- Students will explore strategies for reducing greenhouse gas emissions in agriculture through carbon sequestration, renewable energy adoption, and sustainable farming practices.

In conclusion, REGINA's learning objectives and approaches are designed to equip students with a comprehensive understanding of regenerative agriculture principles, sustainability practices, and practical skills in pest management and soil health. Through interactive, experiential, and innovative learning methods, REGINA aims to inspire students to become future professionals, even leaders in sustainable agriculture and environmental stewardship.

Learning Objectives of the REGINA Course at Different Learning Tiers:

1. **Higher Education:**
- Higher education aims to deepen students' knowledge and skills in integrated pest management (IPM) and soil health practices, equipping them with advanced techniques for sustainable agriculture.
- Students will explore the economic, environmental, and social dimensions of sustainability in agriculture, preparing them for careers in agricultural sciences and related fields and enabling them to carry out critical analysis acquired in research projects, seminars, and debates on innovative agricultural practices and technologies.

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- Problem-solving activities and collaborative learning enhance students' ability to apply theoretical knowledge to practical challenges in agricultural sustainability.

2. **Secondary Education:**
   - Students in secondary education will develop a foundational understanding of regenerative agriculture principles, focusing on practices that enhance soil health, biodiversity, and ecosystem resilience.
   - Emphasis will be placed on introducing sustainable agricultural concepts and their relevance to global challenges such as food security and environmental sustainability.
   - Interactive and experiential learning methods, including field trips and practical demonstrations, provide hands-on experience and reinforce theoretical knowledge.

3. **Adult Education:**
   - Adult education aims to encourage the attainment of critical thinking and problem-solving skills through discussions on environmental conservation and sustainable farming practices.
   - Integration of innovative agricultural practices and technological advancements, such as precision farming and IoT applications, empowers adult learners to adapt and implement sustainable solutions in their professional careers.
   - The curriculum emphasizes practical applications of sustainability principles and encourages lifelong learning through interactive discussions, case studies, and field experiences.

In conclusion, REGINA's educational framework supports a continuum of learning objectives and approaches across secondary education, higher education, and adult education. It aims to cultivate a holistic understanding of regenerative agriculture and sustainability practices while preparing learners at different stages of their educational journey to address current and future challenges in agriculture and environmental stewardship.

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Learning Methods Suitable for Different Learning Tiers

REGINA employs multiple class formats as shown in the table below:

	Higher Education	Secondary Education	Adult Education
Lectures	▮▮▮	▮▮▮	▮
Seminars/Practicum	▮▮▮	▮▮▮	▮▮▮
Field trips	▮▮▮	▮▮▮	▮▮▮
Guided discussions	▮▮▮	▮	▮▮
Problem-based learning	▮▮▮	▮▮▮	▮▮▮
Project-based learning	▮▮▮	▮	-

Higher Education (Undergraduate Level):
- In-Depth Lectures: Detailed lectures delve into theoretical frameworks and advanced principles of regenerative agriculture, preparing undergraduate students for deeper analysis and application.
- Case Studies: Analysis of case studies challenges students to apply theoretical knowledge to complex scenarios, fostering critical thinking and problem-solving skills.
- Laboratory Experiments: Hands-on experiments in laboratory settings allow undergraduate students to explore and test regenerative agricultural techniques under controlled conditions.
- Workshops and Seminars: Participation in workshops and seminars exposes students to cutting-edge research and technological advancements in sustainable agriculture.
- Field Trips: Visiting local farms or natural habitats provide hands-on experience and practical insights into sustainable agricultural practices.

Secondary Education:
- Simplified Presentations: Lessons are presented in a clear and straightforward manner suitable for secondary school students, avoiding overly technical language and focusing on foundational concepts of regenerative agriculture.
- Practical Examples: Real-life examples and case studies relevant to students' daily lives are used to illustrate concepts of regenerative agriculture and their applications.

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- Interactive Activities: Group discussions and structured classroom activities encourage active participation and facilitate the exchange of ideas among secondary school students.
- Field Trips: Visits to local farms or natural habitats provide hands-on experience and practical insights into sustainable agricultural practices.

Adult Education (Professional Development and Farmers Training):
- Research Projects: Professionals in related fields (e.g. agronomists) engage in independent research projects that contribute to advancing knowledge and innovation in regenerative agriculture.
- Seminars/Workshops: Specialized seminars, fora and workshops provide platforms for an introduction to RA and discussing current issues and emerging trends in sustainable agriculture, encouraging knowledge and experience sharing among the participants.
- Internships and Practical Training: Practical training opportunities and internships allow adult learners to gain practical experience and apply theoretical concepts in real-world settings.
- Professional Development Courses: Continuing education courses focus on enhancing skills and competences of practising agronomists.
- Study visits: Study visits on farms that implement regenerative practices provide to agronomists and farmers opportunities for learning in real-world settings and sharing knowledge and experience.

Evaluation/Assessment Methods for Different Educational Levels:

Higher Education (Undergraduate Level):
- Written Assignments: Essays, reports, and literature reviews evaluate undergraduate students' ability to critically analyse and synthesize information related to regenerative agriculture.
- Examinations: Written exams assess knowledge retention and understanding of theoretical concepts and practical applications.
- Presentations: Oral presentations allow students to demonstrate communication skills and present findings from research or case studies.

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Secondary Education:

- Quizzes and Short-Answer Tests: Assessments are designed to evaluate basic knowledge and understanding of fundamental concepts in regenerative agriculture.
- Classroom Participation: Observation of student engagement during activities, discussions, and field trips assesses comprehension and interest levels.

Adult Education (Professional Development–addressing mostly farmers):

- Interactive sessions, preferably in small groups of 3-4 participants to clarify issues presented by the lecturer and connect issues to personal experiences of participants (i.e. farming experiences)
- Case study presentations by participants, based on personal (farming) experiences to support or question issues of regenerative agriculture presented in the course.
- Short questionnaire at the end of the course to allow participants to evaluate the clarity of the issues raised and the benefits attained by attending the course.

In summary, REGINA adopts tailored learning methods and assessment strategies across secondary education, higher education, and adult education to cater to the diverse educational needs and levels of learners. By integrating practical experiences, theoretical knowledge, and innovative approaches, REGINA aims to foster comprehensive understanding and application of regenerative agriculture principles among students and professionals alike.

You can read more about the REGINA methodology here.

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SUMMARY OF THE REGINA LEARNING MODULES

An overview of the 4 REGINA Learning Modules is presented below in terms of their corresponding aims and objectives, the topics they cover, suggested activities for implementing the module and the expected outcomes.

Module 1 – Regenerative Agriculture orientation

Overview: This module offers an in-depth understanding of the principles and practices of Regenerative Agriculture (RA), emphasizing its transformative potential for modern farming and ranching. Beginning with the historical and ecological foundations of RA, the module highlights the valuable insights from traditional and indigenous agricultural practices. Participants will explore the economic, social, and environmental benefits of RA, such as enhanced soil fertility, reduced water usage, improved biodiversity, and increased climate resilience. Additionally, the module addresses the challenges faced in implementing RA practices and provides practical solutions to overcome them. Through a combination of theoretical knowledge and practical applications, this module aims to inspire and empower future farmers and ranchers. By the end of the module, participants will be equipped to advocate for and implement RA practices, contributing to a more sustainable and equitable food system for future generations.

Objectives: The goals of this module are designed to provide a comprehensive understanding of regenerative agriculture, distinguishing its principles and practices from those of conventional farming. Participants will delve into the numerous benefits of regenerative agriculture, including enhanced soil

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health, increased biodiversity, and a reduced environmental footprint. Additionally, the module will highlight the economic and social advantages for farmers and their communities, offering a well-rounded perspective on the subject. Students will explore various successful regenerative agriculture projects and learn how to implement similar initiatives within their own local contexts. This involves gaining in-depth knowledge of the science behind regenerative agriculture, such as soil biology, carbon sequestration, and nutrient cycling. The module also emphasizes the significance of regenerative agriculture in addressing broader environmental and social issues, such as climate change and food security. Participants will have the opportunity to engage with experts and other key stakeholders in the field, fostering a network of knowledge and collaboration. By the end of the module, students will have developed a thorough understanding of the pivotal role regenerative agriculture plays in creating a sustainable and equitable food system. This holistic approach will equip them with the insights and skills necessary to contribute meaningfully to the advancement of regenerative agricultural practices in their respective regions.

Topics: The module covers the following topics: Historical Context, Definition of Regenerative Agriculture, and The Holistic Approach.

- **Historical Context** – This topic explores the origins and evolution of regenerative agriculture, highlighting the historical, cultural, and social influences that have shaped its development. It delves into the traditional farming practices of indigenous peoples and small-scale farmers, examining their significant contributions to modern regenerative agriculture movements such as organic farming and permaculture. By understanding these foundational practices, students will gain insights into the continuity and transformation of agricultural methods that prioritize sustainability and ecological balance.

- **Definition of Regenerative Agriculture** – This topic provides a comprehensive understanding of regenerative agriculture (RA), elucidating its principles, practices, benefits, and historical and cultural contexts. It explores the fundamental aspects of RA, including soil health, biodiversity, and ecosystem functionality. Students will learn about the various definitions and approaches to RA that exist across different regions, recognizing the diversity and adaptability of these practices. The topic aims to equip

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students with a robust framework to understand how regenerative agriculture contributes to sustainable and resilient food systems.

- **The Holistic Approach** - The topic emphasizes a holistic approach to regenerative agriculture, focusing on the interconnectedness of soil health, biodiversity, and ecological resilience. Topics covered include soil microbiology, plant diversity, and animal integration, all of which are essential components of a thriving ecosystem. Additionally, the course addresses the social and economic dimensions of regenerative agriculture, such as community building, market development, and policy advocacy. By integrating these aspects, students will appreciate the multifaceted nature of sustainable food systems and the importance of a comprehensive approach to agricultural practices.

Activities: The teacher will use PowerPoint and/or video presentations to introduce the principles, definition, social and economic aspects of RA to the students and outline the potential ecological impacts. The students will use the basic knowledge acquired to create a knowledge map. During group work, they will create their questions they want to ask from the practitioners actually working in RA, thus extending their knowledge map with the elements of practical applicability. As a result of the group work, a questionnaire or a set of questions will be created, which can also form the basis for an interview. The questionnaire will then be filled in by the farmers or decision-makers visited during the field visits. As an extra activity, interviews may be carried out on the basis of the set of questions they have come up with.

The answers given to the questions will be used to complete their knowledge map. The knowledge maps are presented and discussed by the groups. The teacher uses the means of a guided discussion/debate to point out any essential elements missed out and the students may incorporate these elements into their work. The result will be a knowledge map in the form of a poster, which summarises the students' knowledge and provides a good basis for understanding the topics covered in detail in the subsequent modules.

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Outcomes: By the end of this module, students will have a comprehensive understanding of the material covered and will be able to distinguish between conventional approaches and regenerative approaches. They will learn the fundamental principles of Regenerative Agriculture (RA) and be equipped to identify both the potential benefits and the limitations of this approach. This knowledge will enable them to critically assess and apply RA principles in various contexts, contributing to sustainable agricultural practices and innovation in the field.

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Module 2 – Agronomic Aspects of Regenerative Agriculture

Overview: The module delves deeply into the agronomic practices and techniques essential for implementing regenerative agriculture on farms. This holistic approach not only revitalizes soil health but also promotes biodiversity and enhances ecosystem services, leading to increased productivity and profitability. The module provides participants with a thorough understanding of these practices, demonstrating their effectiveness in improving soil health, fostering biodiversity, and boosting both farm productivity and profitability. By the end of this module, participants will be well-equipped with the knowledge and skills necessary to apply these regenerative techniques effectively, ensuring sustainable and resilient agricultural systems.

Objectives: The course aims to equip participants with a thorough understanding of the key principles and practices essential for successful regenerative agriculture. A central focus is on building a robust foundation in soil health, recognizing that healthy soil is fundamental to the sustainability and productivity of agricultural systems. Participants will delve into crop selection and management techniques tailored for regenerative agriculture systems, ensuring they can make informed decisions to enhance biodiversity and resilience in their fields. Natural pest control methods are another critical area of study, enabling learners to manage pests effectively without relying on harmful chemicals. This focus, combined with sustainable weed control methods, underscores the course's commitment to promoting eco-friendly agricultural practices. Additionally, the course will explore the integration of advanced technologies such as precision agriculture and data analytics. By evaluating these technologies, participants will learn how to optimize crop management, improve yields, and enhance the overall efficiency of their agricultural operations. The curriculum will also cover the principles of

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agroecology, emphasizing the interconnectedness of ecological systems and agricultural practices.

This holistic approach will help participants understand how to create self-sustaining agricultural ecosystems that support long-term productivity and environmental health. Participants will engage in hands-on activities and fieldwork, providing practical experience and reinforcing theoretical knowledge. They will also have opportunities to learn from experts in the field through guest lectures and case studies, offering diverse perspectives and real-world insights into regenerative agriculture. By the end of the course, participants will be well-prepared to implement regenerative agriculture practices that not only boost productivity but also contribute to environmental sustainability and resilience. They will be equipped with the skills and knowledge necessary to transform conventional farming systems into regenerative ones, promoting a healthier planet for future generations.

Topics: The topics in regenerative agriculture are designed to provide a thorough understanding of sustainable farming practices and their practical applications.

Soil Health – The topic offers an in-depth exploration of the fundamental principles governing soil health.

It focuses on essential aspects such as soil structure, nutrient cycling, and microbial activity. Students will gain the skills to assess soil health and implement best practices like cover cropping, reduced tillage, and crop rotation, all aimed at enhancing soil vitality and resilience.

Soil Management – Through this topic the students will learn about effective soil stewardship, with a focus on various strategies to maintain and improve soil conditions. This topic emphasizes the importance of sustainable practices in preserving soil integrity over time

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- Fertilization and Biofertilizers – The topic complements this by examining organic and biological methods for enriching soil fertility. It aims to reduce reliance on synthetic fertilizers through the use of natural alternatives, thereby promoting more sustainable and eco-friendly farming practices.
- Crop Selection and Cropping Systems – The topic provides insights into selecting and managing crops within regenerative agricultural systems. The topic highlights the advantages of practices such as using cover crops, intercropping, and integrating livestock into cropping systems. These methods not only increase crop diversity but also support ecological balance and resilience.
- Integrated Pest Management – The topic focuses on employing natural pest control methods, such as utilizing beneficial insects and crop rotation, to manage pest populations without resorting to synthetic pesticides. This approach aims to promote ecological balance and reduce environmental impact.
- Integrated Weed Management – The topic covers a range of strategies for controlling weeds, including cultural, mechanical, and chemical methods. The topic emphasizes a holistic approach that fosters soil health and biodiversity while managing weed populations effectively.
- Integrated Technology – The topic introduces students to technological advancements that can enhance various aspects of regenerative agriculture. Topics include precision agriculture, data analytics, drones, and robotics. The course highlights both the potential benefits and limitations of these technologies in improving soil health, biodiversity, and crop productivity.

Activities: The teacher will introduce the module's topics to the students through lectures, utilizing PowerPoint and/or video presentations. Given that RA has already been defined in the first module, the discussion method—serving as a complementary approach to traditional teaching—can also be employed. The instructor will use guided, thought-provoking questions to prompt students to form their own opinions. This method can be used to introduce new elements not yet covered in the lectures, or to review and deepen understanding of previously discussed content. As with other modules, involving students in the learning process through group work is recommended to achieve a more comprehensive understanding of the topics. It is advisable to form as many groups as there are major topics covered in the theoretical sessions and to base project tasks around these topics.

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Alternatively, focusing in detail on a select number of topics later is also a viable option. The choice between these methods will depend on the number of students and the teacher's preferences. Student groups will be assigned a problem (e.g., poor water management due to structural soil degradation) that has been discussed during the lectures. They will be tasked with finding and developing solutions for this issue, applying the RA guidelines in their proposals. When presenting their projects, students should aim for a style that is both engaging and informative while remaining polished. At the end of each presentation, groups will solicit questions from their peers to receive feedback on their understanding of the presentation content. Throughout the project, continuous consultation between the student groups and the instructor will be provided, during which students will also present their progress.

Outcomes: Upon completing the module, students will be able to effectively evaluate the key factors influencing soil fertility, applying appropriate weight to each element. They will have a solid understanding of conservation tillage principles and a comprehensive grasp of the soil–plant system. Students will be capable of assessing how various crops and their cultivation techniques impact both the soil and the broader environment. They will be familiar with the concept of integrated systems and able to manage crop production holistically. Additionally, students will possess the necessary knowledge of different crop protection methods and be able to distinguish between intensive, extensive, and integrated systems.

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Module 3 – Sustainability concepts of Regenerative Agriculture

Overview: Module 3 delves into the principles and practices of regenerative agriculture, emphasizing sustainability from multiple dimensions. This module explores a range of topics crucial for fostering a resilient agricultural system, including techniques for enhancing soil health, boosting biodiversity, and improving ecosystem resilience. It also addresses the important aspects of carbon sequestration and water conservation, essential for long-term environmental sustainability. In addition to the environmental focus, the course covers the social and economic dimensions of sustainable agriculture. Students will gain insight into how

regenerative practices can positively impact communities and economies, as well as how these practices can be adapted to various contexts and scales.

The course provides hands-on, practical strategies for implementing regenerative approaches, such as cover cropping, crop rotations, intercropping, and agroforestry. Through a combination of theoretical knowledge and

practical application, students will acquire a thorough understanding of regenerative agriculture. By the end of the module, students will be well-equipped with the expertise needed to pursue careers in sustainable agriculture and related fields. The course aims to foster a

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deep comprehension of regenerative agriculture, preparing students to contribute effectively to the advancement of sustainable agricultural practices and their broader implications.

Objectives: This module offers an in-depth exploration of the principles and practices of regenerative agriculture, emphasizing its intricate relationship with sustainability goals. Participants will develop a thorough understanding of regenerative agriculture, contrasting it with conventional methods and identifying the key factors necessary for establishing sustainable systems. These systems are designed not only to sustain productivity but also to enhance soil health, promote biodiversity, and improve ecosystem services for future generations. The module also addresses the challenges and opportunities associated with advancing sustainable agriculture from policy and economic perspectives. Participants will critically assess the effectiveness of various sustainability practices across different agricultural contexts, equipping them with the skills needed to apply these practices both personally and professionally. The role of community development in promoting sustainable agriculture is highlighted, emphasizing the importance of local support and benefits for achieving long-term sustainability goals. Through discussions and critiques of sustainability concepts, participants will be prepared to address complex agricultural issues using innovative approaches. Ultimately, this module empowers participants to advocate for and implement regenerative agriculture practices effectively, fostering resilient food systems and advancing environmental stewardship.

Topics: The topics in this Module are designed to provide a thorough understanding of sustainability aspects of Regenerative Agriculture.

- Sustainable Water Management – The topic underscores the crucial role of effective water management in regenerative agriculture. It explores a range of techniques including rainwater harvesting, contour farming, and efficient irrigation practices. These strategies aim to maximize water usage, prevent soil erosion, and enhance soil water retention, thereby securing a reliable and sustainable water supply for agricultural purposes.
- Biodiversity Enhancement – The topic is equally important, focusing on the significance of diverse ecosystems within regenerative agriculture. It examines methods such as intercropping and agroforestry, which foster biodiversity. A rich variety of plant and animal life not only boosts soil health and pest management but also enhances the resilience and productivity of

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agricultural systems.

- Reduction of GHG Emissions – The topic delves into how regenerative agriculture can play a role in climate change mitigation. It highlights practices such as no-till farming, cover cropping, and agroforestry, which are instrumental in reducing greenhouse gas emissions and sequestering carbon in the soil. These techniques contribute to creating a more sustainable and climate-resilient agricultural system.
- Rural Development Aspects – The topic focuses on the economic viability of regenerative agriculture. This course investigates potential avenues for increased profitability, market demand, and the benefits of certification and labeling programs. By highlighting the economic advantages, it illustrates how regenerative agriculture can bolster rural communities and contribute to broader economic growth.
- The Role of Genetics in Regenerative Agriculture – The topic examines how advancements in genetics and breeding programs can further the objectives of regenerative agriculture. This includes developing crop varieties that are more resilient to environmental stresses, offer higher nutritional value, or are better suited to sustainable farming practices. Through genetic innovation, this course aims to support and enhance the goals of regenerative agriculture.

Activities: The teacher will introduce the module topics to the students through a series of lectures, utilizing PowerPoint presentations and/or video content. To enhance student engagement in the learning process, the teacher may assign a literature research task related to the module topics. Forming small groups for this research task can be particularly beneficial. It is advisable to assign each group a broad topic, such as "soil water management," and then have them break it down into smaller, more manageable subtopics.

Initially, the students will present their proposed division of the topic to the teacher. If necessary, the teacher will provide guidance to refine and improve the division. The next step involves sourcing relevant literature. Students should discuss their selected sources with the teacher to ensure that only pertinent literature is included. Following this, students will process the remaining sources, with writing an essay being the most straightforward method for synthesizing the information gathered. This approach not only helps students understand the material in-depth but also fosters critical thinking and collaborative skills.

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Outcomes: By completing this module, students will gain comprehensive knowledge in soil water management, including the various activities that influence it. They will acquire the skills needed to design effective tillage systems and crop structures that enhance soil water management and contribute to optimal water use. Additionally, students will develop an understanding of the impact of greenhouse gases (GHGs) on climate change and the role that agricultural production plays in GHG emissions.

They will explore how different agricultural practices affect the environment and will be equipped to identify strategies for mitigating these impacts. Furthermore, students will gain insights into the relationship between rural development and agriculture, with a particular emphasis on Regenerative Agriculture. They will learn how sustainable agricultural practices can drive rural development while improving soil health and fostering environmental sustainability. Overall, this module will prepare students to make informed decisions and implement practices that promote both effective water management and environmental stewardship in agriculture.

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Module 4 – Insights on specific crops and livestock

Overview: With the increasing demand for sustainable and organic food, there is a heightened need for agricultural professionals to grasp the principles of Regenerative Agriculture (RA). The module "Insights on Specific Crops & Livestock in Regenerative Agriculture" offers a comprehensive exploration of how RA practices can be applied to various crops and livestock. It delves into the unique characteristics of different crops and animals, and their integration into RA systems, emphasizing the advantages of sustainable agriculture. This module not only covers theoretical aspects but also provides practical guidance through the experiences of seasoned farmers. Students will gain valuable insights into effective crop rotation strategies, intercropping techniques, and the overall implementation of RA practices. By blending theoretical knowledge with real-world applications, the module aims to deepen students' understanding and enhance their ability to implement RA practices effectively.

Objectives: Module 4 is dedicated to providing students with an in-depth understanding of the principles and benefits of regenerative practices for both crops and livestock. This module is designed to equip students with comprehensive knowledge about various types of crops and livestock, highlighting their distinctive characteristics and exploring how they can be effectively integrated into a regenerative farming system. A key focus of Module 4 is on teaching a range of regenerative practices in crop production. Students will learn about techniques such as cover cropping, crop rotations, reduced tillage, and organic fertilization. Emphasis will be placed on how these methods can be tailored to specific crops to enhance yield and sustainability, ultimately contributing

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to more resilient and productive farming systems.The module also underscores the critical importance of soil health in regenerative agriculture. Students will gain insights into soil testing, soil amendments, and strategic crop selection aimed at improving soil vitality.

This foundational knowledge is crucial for ensuring the long-term success and sustainability of agricultural practices. In addition to theoretical knowledge, Module 4 provides practical guidance on designing and implementing a regenerative agriculture system that incorporates livestock as an essential component. Students will develop the skills necessary to create integrated systems that balance crop and livestock needs while promoting environmental health.

Critical thinking and problem-solving are central to this module, encouraging students to analyze and address challenges related to specific crops and livestock within regenerative systems. This approach fosters a deeper understanding of how to overcome obstacles and optimize the benefits of regenerative practices. Ultimately, Module 4 aims to instill an appreciation for sustainable agriculture practices and their potential benefits for the environment, local communities, and the economy. By the end of this module, students will be well-equipped with the insights and skills required to make meaningful contributions to the field of regenerative agriculture, advancing both their own knowledge and the broader goal of sustainable farming.

Topics: The module covers the following topics:

- Cereal Cultivation – This topic explores regenerative approaches to cereal production, emphasizing the enhancement of soil health while maintaining high cereal yields. It delves into practices such as reduced tillage, crop rotation, and innovative cultivation techniques, with specific examples tailored to various cereal crops. Students will gain insights into how these methods contribute to sustainable production and long-term soil fertility.
- Industrial Crops – The focus here is on the technical aspects of cultivating industrial crops within regenerative agriculture (RA) frameworks. Students will study the role of these crops in rural development and their biological and botanical characteristics. The topic aligns interventions with crop phenology to maximize efficiency and minimize inputs, ensuring a balance between productivity and sustainability.

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- Horticultural Crops – This topic emphasizes the advantages of RA for horticultural crops, highlighting improvements in soil health, nutrient availability, and ecosystem resilience. A comparative analysis of conventional and RA systems will be conducted for various horticultural crops, including an evaluation of the water footprint of vegetable production. Students will learn how RA can lead to more sustainable and efficient horticultural practices.
- Grassland Management – With a focus on biodiversity, this topic investigates the application of RA in grassland management. It includes techniques for mapping grassland areas, optimizing tillage practices, and identifying ideal sowing periods. Additionally, students will explore strategies for pest and disease control, all aimed at enhancing the health and productivity of grasslands through regenerative practices.
- Agroforestry – Students will explore the benefits and design principles of agroforestry systems, including the interactions between trees and crops and the management of soil health. The topic provides practical skills in agroforestry, covering aspects such as plant and tree propagation, livestock integration, and market analysis. By understanding these elements, students will be equipped to design and implement effective agroforestry systems.
- Livestock Management – This topic addresses regenerative livestock management techniques to reduce farm input requirements and enhance sustainability. Topics include rotational grazing, the integration of livestock into cropping systems, and the use of livestock to improve soil health. Case studies will supplement theoretical learning, connecting practical experiences with regenerative principles to ensure a comprehensive understanding of livestock management in a regenerative context.

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Activities: The teacher will introduce the module's topics to students through a series of lectures, utilizing PowerPoint and/or video presentations. Given the extensive scope of this module, there will be a greater emphasis on direct instruction compared to previous modules. To ensure active student engagement, it is crucial to incorporate opportunities for hands-on involvement. An effective method for achieving this is through individual tasks. Each student will be randomly assigned a specific plant species to research and develop a regenerative cultivation technology for that species. Alternatively, students may design an intrazonal forest community or a pasture tailored to an animal species. This approach not only fosters individual learning but also allows students to apply their knowledge creatively and practically.

Outcomes: Upon completion of this module, students will have gained the ability to seamlessly integrate the Regenerative Agriculture (RA) approach into the cultivation technology for key cereal, industrial, and horticultural crops. They will be proficient in applying the guidelines and knowledge presented throughout the course, enabling them to implement a regenerative approach to farming effectively.

Students will also acquire a solid understanding of grassland management principles and will be equipped to plan and execute strategies for the successful regeneration of grasslands. Additionally, they will have a foundational grasp of regenerative livestock production practices, allowing them to incorporate these principles into their broader farming strategies. This comprehensive knowledge will empower students to contribute to more sustainable and resilient agricultural systems.

You can read more about the REGINA Learning Modules here.

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EXAMPLES OF IMPLEMENTING THE REGINA COURSE

The examples presented below were drawn from the pilot implementation of the REGINA course by the project partners in Hungary, Italy, Slovenia and Greece, and refer to the course's implementation in different educational levels and settings:

- Higher Education
  - Széchenyi István University of Győr – Hungary
  - University of Florence – Italy
- Secondary Education
  - Veres Péter Agricultural and Food Industry Technical School and Vocational Training School – Hungary
  - Secondary Forestry, wood technology and Nursing school Postojna – Slovenia
- Adult Education
  - Euracademy Association – Greece

The examples serve to provide guidance in implementing the REGINA course in different educational levels and settings and provoke discussion on ways to integrate the REGINA learning resources to different national contexts in Europe.

Higher Education
Széchenyi István University, Hungary

Overview: The REGINA course was piloted at Széchenyi István University, Hungary, during the Spring semester of the 2023–24 academic year within the Albert Kázmér Faculty, Mosonmagyaróvár, Hungary. This pilot test spanned two educational levels—undergraduate and postgraduate—across two specific courses: BSc in Agricultural Engineering and MSc in Agronomy. These programmes represent key areas of study in the agricultural sciences, providing an excellent platform for evaluating the effectiveness and relevance of the REGINA course materials.

The courses selected for this test were Crop Production II at the undergraduate level and Principles of Plant Production at the postgraduate level. These courses were chosen due to their alignment with the core themes of the REGINA curriculum, which emphasizes sustainable agricultural practices, soil

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conservation, and biodiversity. A total of 27 students participated in the pilot test. Each student engaged comprehensively with the course materials available on the REGINA platform, which included modules covering various aspects of RA. The students diligently completed all exercises and tests provided on the platform, demonstrating a thorough exploration of the theoretical and practical dimensions of regenerative agricultural practices.

Lessons learned: The pilot test incorporated a variety of teaching methods, which provided a thorough assessment of the REGINA materials. The overall structure of the courses was designed to integrate traditional lecture-based teaching with more modern, interactive pedagogical approaches.

1. Frontal Teaching (Lectures):

During certain segments of the curriculum, the knowledge was imparted through frontal teaching methods, where the instructor presented the materials in a lecture format. This traditional approach was most commonly used for delivering theoretical content, ensuring that students gained a solid foundational understanding of the topics. Approximately 60% of the course content was delivered in this manner, which included modules covering soil health, crop rotation techniques, and water conservation strategies.

Lecture statistics:
- Number of lectures conducted: 15
- Average class size: 30 BSc students, 10 MSc students
- Duration of lectures: 90 minutes (2 lessons)

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2. Group Work and Practical Problem-Solving:

A significant part of the testing process involved group work, where students collaborated on solving real-world agricultural challenges. These problems were posed by the instructor, and students were required to consult scientific literature, develop solutions, and present their findings. This method encouraged critical thinking, teamwork, and the practical application of the concepts covered in the lectures. For instance, students explored topics such as optimising water usage during drought conditions and enhancing organic matter in depleted soils. Their results were presented in poster format, fostering creativity and communication skills.

Group work statistics:
- Number of group projects: 5
- Group size: 4-5 students per group
- Duration of group work sessions: 3 lessons (3x45 min) per project
- Percentage of students actively contributing: 95%

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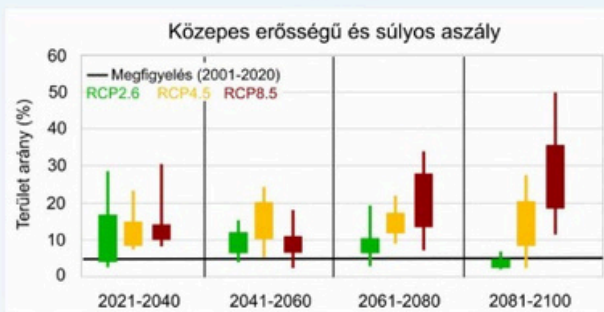
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ASZÁLY

Az aszály olyan időszak, amikor a szokásosnál jelentősen alacsonyabb csapadékmennyiség érkezik egy területre hosszabb időszakon át, ami komoly vízhiányhoz és szárazsághoz vezet.

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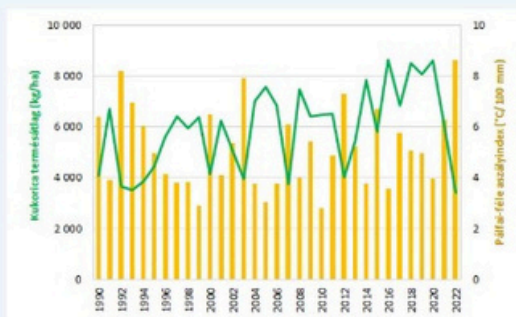
ASZÁLY MAGYARORSZÁGON
A KÖVETKEZŐ 80 ÉVBEN
BECSLÉS

Az aszály következményei:

1. Vízhiány: Csökkenő vízkészletek, alacsony vízszintű folyók és tavak.

2. Mezőgazdasági termelés csökkenése: Kisebb terméshozamok, növénykár, gazdasági veszteségek.

3. Élelmiszerellátási problémák: Megemelkedett élelmiszerárak, élelmiszerhiány.

4. Környezeti károk: Erdőtüzek, talajerózió, természeti élőhelyek károsodása.

5. Gazdasági hatások: Csökkent mezőgazdasági termelés, növekvő munkanélküliség, gazdasági instabilitás.

FELHÍVÁS

Ahhoz, hogy felvegyük a harcot az aszály ellen, mindenki szerepet játszhat a megoldásban. Az egyéni és közösségi lépések, mint például a víztakarékosság gyakorlása, a fenntartható öntözési módszerek alkalmazása, a víztárolás és az esővízgyűjtés támogatása mind hozzájárulhatnak a szárazság enyhítéséhez. Támogassuk az innovatív megoldásokat és a környezetbarát vízgazdálkodást, és tegyünk közösen azért, hogy megóvjuk vízkészleteinket és védelmezzük környezetünket a jövő generációi számára.

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3. Self-paced learning via the REGINA Platform:

One of the most innovative aspects of the course was the use of the REGINA platform, hosted on the Moodle system. This online resource allowed students to progress at their own pace through additional learning materials, including interactive modules, case studies, and video lectures. The flexibility of this system was particularly appreciated by students, as it allowed them to deepen their knowledge on specific areas of interest, such as soil moisture conservation, organic content enhancement, and biodiversity promotion.

Platform usage statistics:
- Number of students registered on the REGINA platform: 40
- Average time spent on the platform per student: 4 lessons (4x45 min)/week
- Completion rate of online modules: 85%

Student feedback and receptiveness: The pilot test yielded valuable insights from the students. Based on feedback collected through surveys and direct discussions, it was evident that most of the students found the course materials not only useful but also highly relevant to contemporary agricultural challenges. Over 80% of students reported that the content deepened their understanding of sustainable farming practices, particularly in areas such as soil health and biodiversity.

Several students highlighted specific modules as being particularly insightful. For example, the module on "Soil Moisture Conservation Techniques" received consistently high ratings, with many students noting its applicability to both academic and practical contexts. Another popular module was "Enhancing Organic Matter Content in Soils," which resonated strongly with students from farming backgrounds.

Impact on Students with Agricultural Backgrounds: Interestingly, students who were already involved in family-run farms exhibited a distinct enthusiasm for the REGINA platform. These students reported that the knowledge gained during the course had direct applicability to their work on the farm. Several mentioned that they intended to implement some of the soil conservation strategies learned during the course, such as mulching and crop rotation, in their own agricultural operations. This suggests that the REGINA project is not only valuable in an academic setting but also has the potential to make a tangible impact on real-world farming practices.

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Conclusion: In summary, the pilot test of the REGINA course at Széchenyi István University was a success. The combination of traditional lectures, group work, and self-paced learning provided a well-rounded educational experience that was both engaging and informative. The high level of student participation and the positive feedback indicate that the course materials were well-received and highly relevant to the students' future careers in agriculture.

Furthermore, the REGINA platform proved to be a valuable tool for facilitating independent learning and fostering a deeper understanding of sustainable agricultural practices. As the project continues to evolve, it is likely to play an increasingly important role in shaping the next generation of agricultural professionals.

Statistical Overview:
- Number of students participating in the pilot test: 40
- Percentage of students who rated the course as "Very Useful": 82%
- Average time spent on group projects: 9 lessons (9x45 min) per project
- Topics of highest interest: Soil moisture conservation (65% of students), Biodiversity promotion (55% of students)

This pilot test demonstrates the potential of the REGINA curriculum to significantly enhance both theoretical knowledge and practical skills in sustainable agriculture, preparing students for the environmental and economic challenges of modern farming.

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University of Florence

Overview: In Italy, the REGINA course on regenerative agriculture was tested in two different courses at the Department of Agriculture, Food, Environment and Forestry (DAGRI) of the University of Florence. In particular, one bachelor and one master course were selected for the pilot test. A total of 26 students participated in the testing of the REGINA course, divided as follows: 44% belonged to the bachelor course "Scienze Faunistiche" ("Wildlife Sciences"), while 56% belonged to the master course "Innovazione Sostenibile in Viticoltura ed Enologia" ("Sustainable innovation in Viticulture and Oenology").

At the beginning of the course, a questionnaire was prepared for the students in order to assess their initial awareness of the topic of regenerative agriculture, but also about their orientation towards sustainability. A total of 26 students participated, with 44% from the bachelor's course and 56% from the master's course. The participant pool consisted predominantly of full-time students (89%), with a majority being male (58%). Female participants comprised 42%, and part-time students made up 11% of the cohort. A preliminary questionnaire assessed students' initial awareness of regenerative agriculture and their orientation towards sustainability.

The findings indicated a strong environmental concern among participants, with 92% expressing varying degrees of worry about the environment. There was a notable ambivalence regarding the sustainability of traditional farming methods, with 46% neutral on the matter, while 31% considered traditional methods unsustainable. Regarding the sufficiency of traditional farming to meet food production demands, 31% disagreed, highlighting a lack of confidence in these methods. Similarly, the role of agriculture in climate change elicited varied responses, with 46% neutral and 31% disagreeing that agriculture accelerates climate change. Students demonstrated general satisfaction with the REGINA course content, with 50% expressing satisfaction.

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There was significant openness to new learning methods, with 85% rejecting the notion that they were uninterested in new ways of learning. Project-based evaluations were favoured by 31%, indicating a preference for practical and applied learning methods. The students displayed varying levels of knowledge regarding different agricultural practices. For organic agriculture, 54% had a basic understanding, while 35% had at least heard of it. Knowledge of conservation agriculture was more varied, with 38% having heard of it, 31% possessing basic understanding, and 19% unfamiliar with the term. Regenerative agriculture was less familiar, with 88% having never heard of it or only having heard of it once.

Conversely, sustainable farm management was better known, with 35% possessing good knowledge. Similarly, agroforestry was unfamiliar to many, with 62% having never heard the term. Fieldwork emerged as the most favoured learning method, with 50% viewing it as an excellent knowledge acquisition tool. Moodle was also well-received, with 42% considering it effective for gaining substantial knowledge. Self-learning through videos was positively regarded by 42% of participants. Before starting the course, participants expressed substantial interest in various topics related to regenerative agriculture. The impact of climate change on agriculture garnered absolute interest from 42%, while new and alternative farming practices captivated 46%. Soil health and plant biodiversity also drew significant interest, indicating a strong inclination towards environmental sustainability.

Lessons learned: Participants anticipated that the REGINA course would deepen their understanding of sustainability and innovation within agriculture. They expected practical insights into integrating regenerative agricultural practices with wildlife management and viticulture, aiming to create more resilient ecosystems and sustainable farming methods. The hands-on experiences, case studies, and expert guidance were particularly valued, with students looking forward to applying learned principles to real-world scenarios.

The application to the REGINA course was fueled by a profound interest in advancing sustainability and environmental stewardship, particularly for those engaged in wildlife management and viticulture. Students from wildlife sciences are especially motivated by the opportunity to explore how regenerative agricultural practices can be intricately linked to wildlife conservation efforts. They recognize that integrating regenerative agriculture with wildlife management can create more resilient ecosystems and promote biodiversity,

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aligning agricultural practices with ecological balance and sustainability. Furthermore, the REGINA course presents an exciting avenue to investigate the innovative synergy between regenerative agriculture and viticulture. This coupling of regenerative principles with grape growing, known as regenerative viticulture, offers a promising path to enhance both sustainability and productivity in the vineyard.

By examining how regenerative practices can be applied to viticulture, participants could contribute to the development of more sustainable farming methods that benefit the environment while maintaining high-quality agricultural outputs. The course's focus on these integrative approaches provides a valuable opportunity for participants to deepen their knowledge and expertise in both innovation and sustainability within agriculture. This comprehensive understanding can drive significant advancements in how agricultural and environmental practices intersect, ultimately supporting a more sustainable and regenerative future for both ecosystems and agricultural industries. The prospect of contributing to and learning from cutting-edge developments in these interconnected fields is a key motivator for pursuing the REGINA course. Students applying to the REGINA course had high expectations regarding the opportunities it will provide for deepening their understanding of sustainability and innovation within agriculture. They anticipated that the course will offer a comprehensive exploration of how regenerative agricultural practices can be effectively integrated with wildlife management, providing practical insights into how these practices can enhance ecosystem health and biodiversity. Students expect to gain valuable knowledge on creating harmonious systems where agricultural activities and wildlife conservation efforts are mutually supportive, thus fostering a more balanced and sustainable environment.

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Additionally, they look forward to exploring the innovative potential of regenerative viticulture, anticipating that the course will equip them with advanced techniques and strategies for applying regenerative principles to grape growing. They expect the course to provide hands-on experiences, case studies, and expert guidance on how to implement these practices in real-world scenarios, ultimately leading to the development of more sustainable and productive viticulture systems. Overall, students expect the REGINA course to be a transformative experience that not only enhances their technical skills and knowledge but also inspires them to become leaders in advancing sustainable agricultural practices. They are eager to engage with cutting-edge research, collaborate with experts, and apply what they learn to drive meaningful progress in both agriculture and environmental conservation.

Conclusion: The pilot test of the REGINA course at the University of Florence revealed a student body highly concerned with environmental issues and eager to explore innovative and sustainable agricultural practices. The course successfully engaged students across different levels of familiarity with regenerative agriculture, fostering a positive attitude towards new learning methods and practical applications. The high expectations and enthusiasm among participants indicate a promising future for the integration of regenerative agricultural practices in academic and professional spheres.

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Secondary Education
Veres Péter Agricultural and Food Industry Technical School and Vocational Training School

Overview: The aim of the secondary school pilot of REGINA courses in Hungary was to introduce sustainable/regenerative agricultural practices and environmental principles to secondary school students and to assess its effectiveness in education, within the framework of a comprehensive learning program. The planning and execution of the course emphasized the active involvement of students and practical applications, which helped them gain a deeper understanding of the knowledge.

The course was conducted between May and June 2024. The goal of the program was to present the most important aspects of sustainable agriculture and environmental protection through the content derived from the four specific Modules of university learning resources, which are also easily understandable for secondary school students. Additionally, at the end of the course, the effectiveness of the new materials and teaching methods was evaluated. The course aimed to specifically map how the new knowledge affects the students' understanding and perspectives, and how these can best be integrated into the secondary school curriculum.

The target group for testing consisted of 10th-grade students specializing in agriculture at the Veres Péter Agricultural and Food Industry Technical School and Vocational Training School. The course started with a total of 13 participants, but one student withdrew before the end of the school year, so only 12 students completed the course. The program aimed not only to provide theoretical knowledge but also to ensure that students actively participated in both the lessons and practical applications.

Lessons learned

During the pilot testing, the school followed these steps:

1. Preparation: During the course preparation, educators selected materials and corresponding PowerPoint presentations from the four main Modules of the university course, reworking them to create lesson plans, their own PowerPoints,

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and related classroom materials. The preparation focused on ensuring that students would gain broad knowledge of sustainable agriculture and environmental protection, presented at a level appropriate to their prior knowledge and age.

For the first Module, they created a summary material covering a 90-minute session on the history and holistic approach of regenerative agriculture. For the second session, they prepared a presentation on "Integrated Technologies for Soil Cultivation and Smart Farming Development." The third session focused on "Reducing GHG Emissions." For the fourth session, they prepared a presentation on "Integrated Pest Management." Each presentation included end-of-lesson quiz questions for students to complete for assessment and further evaluation.

Given that a 45-minute class period is insufficient to cover the information in the prepared PowerPoints, each topic was taught over two class periods. This time frame allowed for frontal lectures as well as group work, discussions, finding practical examples, and feedback, aiding in the retention of new knowledge.
During the last session, as an application of Module 5 (the horizontal Module), they visited an agricultural area where different cultivation methods were used side by side, allowing students to observe the differences between tillage and no-till farming.

2. Classroom activities: Classes were held once a week, with each session divided into two 45-minute blocks. During classes, students listened to lectures, often discussed the material in groups, searched for practical examples and solutions to various problems. In group work, students worked in smaller groups, gaining deeper insights into the topics and discussing the new information.

3. Feedback and evaluation: After each lecture, students completed tests to assess their acquired knowledge and understanding of the material. The quizzes considered the students' answers and performance to understand which areas

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needed further explanation.

4. Completion of questionnaires: At the beginning and end of the course, students also completed questionnaires to track changes in their opinions and the course's effectiveness. The questionnaires included questions about their environmental attitudes, learning methods, existing and acquired knowledge, interests, and satisfaction with the course.

The evaluation quizzes at the end of each Modules (knowledge and understanding the learning materials), showed a diverse result. Correct answers to the test varied between 62%–100%, implicating that some Modules were easier (especially lesson 4: Integrated Pest Management), while some more difficult to understand at the secondary school level (especially lesson 3: Reducing GHG emissions).

By analysing the results of the pre and post questionnaires (attitudes and interests), it was possible to track changes in students' opinions and knowledge. The results showed that the students' sensitivity towards the environment and the need for sustainability increased after the course. This indicates that the course successfully raised students' awareness and knowledge of environmental issues and the necessity of sustainable agricultural practices. Furthermore, the results also showed that students prefer traditional learning methods and are somewhat cautious about new learning methods. The appreciation of practical experience remained stable, indicating that students valued practical knowledge and appreciated efforts focused on practical experience transfer. Students' knowledge of organic and environmentally friendly farming, as well as regenerative agriculture, increased significantly. The understanding of biodiversity also improved substantially, indicating the course's effectiveness

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and relevance of the material.

Regarding the change in interests, the interest in the impact of climate change, soil health, and plant biodiversity increased significantly. Interest in agroforestry and fertilization showed a moderate increase. Overall, students showed high levels of satisfaction with the course organization and learning success. They rated the quality of materials and the logical sequence of the sessions positively, indicating that the course was well-planned and effective.

Conclusion: Based on the experiences from the secondary school pilot course, it can be concluded that the course successfully achieved its objectives. The students' knowledge and interest in sustainable agricultural practices and environmental protection increased significantly. The testing and questionnaire results indicate that students appreciated the course material and structure, and found the content relevant and comprehensible. The prepared materials and PowerPoints achieved their goals and can be used for future courses.

When planning future courses, it is important to consider the needs and interests of the students, as well as to optimize the duration and depth of the materials. Based on the experiences and feedback from this course, future programs should similarly be built on well-structured materials to effectively expand students' knowledge in the fields of agriculture and environmental protection.

Secondary Forestry, Wood Technology and Nursing school Postojna

Overview

The Secondary Forestry, Wood Technology and Nursing school Postojna offers educational programs in the fields of forestry. Therefore, the school decided to pilot test the developed content on the topic of Agroforestry as it relates directly to Forestry. The purpose of the pilot-testing was also to incorporate the new content into the curriculum.

An agreement was reached with the teacher responsible for teaching the subject "Man and Nature," to conduct the pilot-testing within this class because the developed content on Agroforestry aligns well with the subject curriculum, allocating two hours of this class to the pilot-testing. The school management was notified via email about this arrangement.

A total of 19 students (age 16) participated in the pilot-testing, which was conducted in Class 2b, Forestry Technician Program on March 27, 2024.

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The two teaching hours were dedicated to:
- A short presentation of REGINA project and web page
- Pilot-testing the developed content on the topic of Agroforestry with the students
- Completing 3 questionnaires as part of the assessment process of gained knowledge

The method of presenting the material was a pptx presentation translated into Slovenian.

The methodology involved a discussion with the students during the presentation of the new learning content, Agroforestry. During the presentation, the teacher engaged the students in discussing their opinions and experiences regarding:
- cases they have already seen in their environment,
- applying Agroforestry in their home environment and beyond (possibilities and issues),
- possibilities of further study of Agroforestry and its implementation.

Lessons learned: The presentation was interesting for the students, and they actively participated in the discussion. They expressed a desire to see all the examples listed in practice, in the field.

The prepared pptx presentation is sufficiently vivid and not too difficult for the secondary school students. The results of the correctly completed evaluation questionnaire showed that the students understood and assimilated the presented topic.

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The evaluation questionnaire contained 10 questions on the subject of Agroforestry and was translated into Slovenian. The students completed it at the end of the lesson.

In addition to the evaluation questionnaire, which was used to check the acquired knowledge, the students also completed a questionnaire on general knowledge of regenerative agriculture and climate change. This questionnaire was filled out twice, namely before the start of the activity and at the end. The answers showed that they acquired new knowledge and gained a new perspective on the environment in which they live.

Based on the students' responses to the presented topic and their answers in the completed questionnaires, the following students opinions were noted:

- "The topic is interesting."
- "Great, phenomenal, unique."
- "Interesting presentation, very informative."
- "Okay, standard presentation. Nothing special, but it was presented more interestingly."
- "Very excellent, could you present this topic again sometime."
- "I think it's important to talk about various changes in agriculture and forestry, and I think it's a great combination to be able to establish some common development."
- "The topic is treated excellently and interestingly."
- "It was interesting but meaningless."
- "It's super!"

It is important for the secondary school students to see new approaches live, in the field. Therefore, it is suggested that one teaching day be set aside for a field trip to observe examples of best practices directly on farms. During the field learning, the prepared PowerPoint presentation can be used either in printed form or sent electronically to students' emails before the activity.

Since the students expressed a keen interest in seeing Agroforestry in action, the school organized a professional excursion on

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September 5, 2024, to two farms that implement Agroforestry practices. The first visit was to the Štanta farm in the village of Buje. At their Ostrožno Brdo property, they have cleared overgrowth and begun arranging the land for a combination of hazelnut plantations and arable fields, located adjacent to the forest. The second stop was the Volk farm in the village of Suhorje, where Agroforestry has been in practice for over a decade. Here, students observed a blend of silvopastoral Agroforestry, alongside silvoarable and agrosilvopastoral Agroforestry systems.

Examples of homework assignments:
- Homework for students before the activity:
  - Search the Internet to find out what Agroforestry is.
- Homework for students after the activity:
  - Find examples of Agroforestry in your local environment. What is their role? Why are they important?
  - Can you introduce Agroforestry into your living environment? How and which planting method would you use?
- Questions for discussion during class or homework:
  - Do you think there is enough or too little Agroforestry practice in your area (village, town)?
  - How could we introduce more Agroforestry practice? As an individual and as a society.
  - What initiatives can we propose to the local municipality to encourage more attention to Agroforestry planting methods? (Discussion about initiatives, subsidies, gaining new knowledge, managing public spaces...)

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Conclusion: The pilot test of the Agroforestry content at the Secondary Forestry, Wood Technology and Nursing school Postojna has demonstrated the significant potential for integrating this topic into the secondary education curriculum. The enthusiastic engagement of the students during the pilot-test underscores the relevance and interest in sustainable agricultural practices among young learners. They not only grasped the concepts presented but also expressed a keen interest in seeing these practices implemented in real life. This highlights the need for educational frameworks that not only provide theoretical knowledge but also offer practical, real-world applications to help students connect more deeply with the leaarning material.

Adapting Agroforestry material for secondary education should involve a balanced approach that combines classroom learning with field experiences. The success of the pilot suggests that practical exposure complements theoretical learning effectively. Introducing students to real-world applications through field trips and practical demonstrations can significantly enhance their understanding and appreciation of sustainable practices. Therefore, it is crucial to design an educational model that incorporates these elements into the regular curriculum, which could also include partnerships with local farms and ecological organizations to enrich the students' learning experience and foster a deeper commitment to environmental stewardship.

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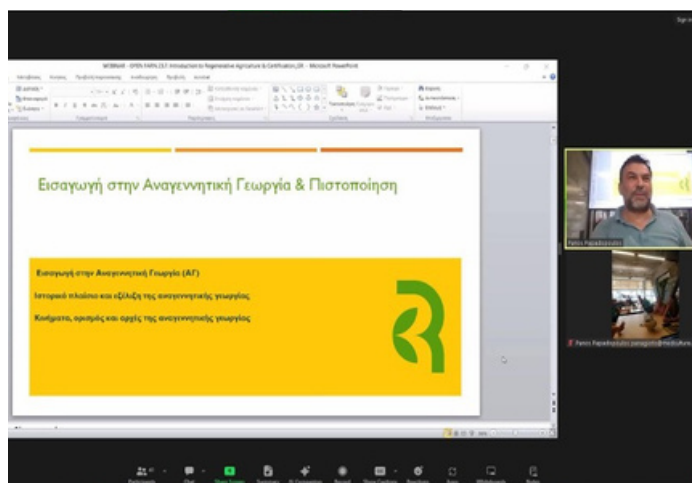REGINA 52

Adult Education
Euracademy Association

Overview:

The adapted REGINA Learning resources for Adult Education include 2 Modules (Lessons) complemented by a presentation of good practice examples on Regenerative Agriculture. The REGINA resources for adult education are freely available on the REGINA platform accessible through the project website – **www.regina-ra.eu** – and contain the following topics:

- Module 1 – Introduction to Regenerative Agriculture and Certification
    - Overview of Regenerative Agriculture principles
    - Historical context and evolution of regenerative agriculture
    - The Holistic Approach
    - Importance and benefits of Regenerative Agriculture
    - Key pillars of Regenerative Agriculture
    - Regenerative Agriculture Certification
- Module 2 – Implementing Regenerative Practices
    - Soil Health and Management
    - Biodiversity Conservation
    - Mechanical soil management
    - Soil fertilisation
    - Implementing Regenerative Practices
- Case studies and Best Practice Examples

The above learning resources were pilot-tested in Athens, Greece, on 23rd July 2024. The pilot-testing event was organised by Euracademy Association (**www.euracademy.org**) in collaboration with the Open Farm Network (**www.openfarm.gr**), took place at the Open Farm Agora space, and was designed as a hybrid event with the participation of both on-site and online participants in order to facilitate participation of interested individuals across Greece. The hybrid event was disseminated through an invitation to organisations and individuals in the respective networks of Euracademy Association and the Open Farm Network, and managed to gather 14 on-site participants (producers, trainers, agronomists, University students) and 43 online participants (mainly producers, agronomists, researchers, as well as University students and consumers) from all over Greece as well as Cyprus and Germany. The event language was Greek.

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The event included a welcome and a presentation of the REGINA project, and presentation/webinar sessions followed by questions and a discussion among the on-site and online participants.

Lessons learned: The target group for the REGINA adult education material developed addresses a wide range of backgrounds, including professionals (agronomists), students in related subjects, producers, as well as consumers interested in learning about regenerative agriculture.

Designing and implementing the learning sessions as a hybrid event offers great advantages, in terms of facilitating the participation of individuals (e.g. producers) from various locations. Depending on the range of the participants' backgrounds, the trainer(s) may need to popularise certain scientific terms in order to facilitate understanding.

The objective of the pilot-testing implemented was to introduce the concept of Regenerative Agriculture to a wide audience including a variety of backgrounds and expertise, raise awareness and stimulate the participants' interest for more information, and also go deeper on implementing regenerative practices with practical suggestions. The questions and engaging discussions that followed the presentations, with the active engagement of both on-site and online participants sharing their own experiences and discussing the benefits of RA and local limitations, points to the success of the event. The participants' comments were also recorded through an online survey circulated after the event, and were enthusiastic:

- Very interesting and rich in information. Can we have access to the presentations?
- Thank you so much, a very interesting session in the middle of summer!

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- Please keep me posted regarding your future activities.
- Congratulations, excellent information about Regenerative Agriculture. Thank you.

Many of the participants asked for the learning event to be repeated and/or continued with further activities.

The producers who participated showed particular interest in understanding the application of regenerative farming practices. They talked to us about the practices they currently employ and how they can evolve with proper guidance and knowledge. Some producers also showed interest in the certification possibilities and processes in RA.

In a follow-up session, it would be interesting to repeat the training on a model farm implementing such practices.

The training material offers a lot of information about the principles and practices of Regenerative Agriculture, but it is very important that the trainers who present it also have practical knowledge and can refer to real examples of good implementation of the proposed Regenerative Agriculture practices. The Library of good practice examples developed by the REGINA project, containing examples from different countries, is a valuable resource and should be employed by trainers accordingly.

Conclusion: The adapted REGINA learning resources for Adult Education address a wide range of learner profiles and serve to introduce Regenerative Agriculture, its main principles, and specific implementation practices, stimulating the learners' interest on the topic and offering important and condensed learning content. The content is also divided in topics, making it easy for the trainer to divide its delivery into multiple sessions and complement it with actual farm visits in local farms that employ regenerative practices. Experience sharing among the participants through a structured discussion is key in bringing forth new knowledge, in many cases location-specific and crop-specific, thus more relevant for the participants, and also in exploiting the expertise available among the participants. Finally, it is also important that the trainer has practical knowledge and is in a position to discuss practical examples in RA implementation available in the REGINA Library of good practice examples and the good practice presentation complementing the Modules.

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REGINA PLATFORM – Digital learning environment for RA courses

The REGINA Platform has been introduced as an online interactive platform to accommodate the extensive learning resources that have been created in the frame of the project. The REGINA Platform has been designed in a way to suit the learning needs of three tiers of education, namely:

- University/Higher education
- Secondary education
- Adult education (especially farmers and advisors)

REGINA Platform was designed at the Moodle LMS (Learning Management System), which is a popular, free, open-source, easy-to-develop learning support tool that is used worldwide. In addition to universities, many conferences, other educational institutions, secondary schools, and business enterprises are also interested in using MLMS. Moodle is well-suited for both face-to-face and distance learning, and MOOCs in MLMS (paid, certificate courses) are becoming increasingly common in Higher Education. The 24/7 availability of these courses offers maximum flexibility for learning and is well suited for adults, working learners, and also suited for full-time and distance learners in Higher Education.

The REGINA Platform accommodates learning resources for Regenerative Agriculture courses. The platform is a digital learning environment that is both suitable for regular education, as well as for self-learners. The site will guide teachers and educators by suggesting ways to use the learning materials, while at the same time, self-learners are free to select any topics or materials that they would like to get to know better. The content of the REGINA Platform is structured in a simple and clear way, containing 'modules' (referring to a bigger group of topics) and 'topics' (for a single learning topic). Most of the modules contain lessons, short videos, and tools for self-evaluation, as well as guidance for teachers and educators (lesson plans, case studies or different reports).

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Access to the REGINA Platform

All materials and learning resources produced in the REGINA project are freely available, including the REGINA Platform. To access these resources, you need to register on the Moodle page of Széchenyi István University. Begin by visiting **szelearning.sze.hu** and selecting the English menu. Click 'Log in' at the top right, and then create your EDUID by following the prompts for guest registration. Fill in your personal data, agree to the terms, and verify your email through the link sent to you. Once registered, you will receive your login details via email.

After logging into the Moodle platform, navigate to 'Site home' from the left-hand menu. Use the search field to find the "Regina Erasmus+ Platform" course. Click on the course, then select 'Enrol me in this course' from the wheel symbol menu at the top right. After enrolling, you can access all course materials, communicate with other participants, and use interactive elements. For detailed instructions, refer to the step-by-step manual available on the website. (**Part 1: How to get access to the REGINA Platform and course materials?**)

Using the REGINA Platform

Once you have completed the registration and enrolment process, returning to the REGINA platform is very easy. Simply click on the link below, enter your username and password, and log in to access the learning materials immediately.

REGINA Platform

First, decide which materials you would like to access. There are three main categories corresponding to different tiers of education: Higher Education, Secondary Schools, and Adult Education. To select the desired content, choose the appropriate type and click on it at the top of the page. In the followings, the functions and materials of the Higher Education Platform will be introduced shortly. However, the REGINA platform for Secondary Schools and Adult Education follows similar structures and functionalities, ensuring that learners at all levels have access to comprehensive and engaging educational resources.

The Higher Education platform offers extensive learning resources and materials that can be used in various ways. As the main source of learning, teachers act as facilitators, guiding students through the REGINA Modules and Topics.

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Students follow a logical order, while teachers assist, answer questions, and select project-based activities such as gamification elements, projects, or field trips. When used as a supplementary source of learning, teachers select specific Modules or Topics for further exploration, guiding students to address topics that align with their course content and activities. For individual learning, students take responsibility for their own progress, following the Modules and Topics at their own pace while still interacting with other users and utilizing self-evaluation questionnaires.

Regardless of the method, the learning resources remain consistent across contexts. The platform begins with a short introduction to the REGINA course, covering its main topics and the structure of Modules and Topics. If users encounter technical difficulties, they can use the 'Regina Platform Technical Forum' by posting a question, which is supervised by Széchenyi István University. The forum's content is visible to all participants, providing a valuable resource for resolving issues.

Module contents are displayed in a drop-down menu, and selecting a Module opens the menu to reveal the content. Each Module starts with a brief description of the content, topic, and course goals. You will find PowerPoint presentations that provide an overview of the lesson, which can be downloaded for note-taking or printing. Each Module includes a short video teaser, and some have full video lessons with English subtitles. Detailed explanatory texts, known as Lesson files, are available for self-learning. After engaging with the learning content, open questions for discussion and multiple-choice quizzes help reinforce and evaluate understanding.

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At the end of each Module, additional resources for educators are available, including detailed lesson plans for in-class activities. These plans offer fully guided 90-minute lessons with gamification activities, objectives, and methods. Additional materials, such as national reports on Regenerative Agriculture, success stories, and case studies, are also provided.

Individual learners can effectively use the REGINA platform as a self-directed learning tool, following the Modules and Topics at their own pace. The platform offers a structured approach, beginning with a brief introduction to each Module's content and goals.

If you would like to access the REGINA platform as an individual learner, follow these steps to effectively use the learning content:

1. Start with the Introduction:
   - Begin with the brief introduction provided for each Module to understand the content and goals.
2. Access PowerPoint Presentations:
   - View and download the PowerPoint presentations for an overview of the lessons.
   - Use the presentations for note-taking or printing to follow along and review later.
3. Watch Video Content:
   - Watch the short video teasers included in each Module.
   - Engage with full video lessons where available, all featuring English subtitles.
4. Read Lesson Files:
   - Study the detailed explanatory texts (Lesson files) to deepen understanding of each Topic.
5. Participate in Discussions:
   - Use open questions provided for each Topic to engage in discussions, either in-class or online.
6. Take Quizzes for Self-Evaluation:
   - Complete the multiple-choice quizzes at the end of each Topic to evaluate your understanding and receive automatic feedback.
7. Utilize Additional Resources:
   - Explore further materials for educators, including detailed lesson plans, national reports, success stories, and case studies for a comprehensive learning experience.

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In conclusion, the REGINA Platform stands as a comprehensive and versatile online learning environment tailored to the diverse educational needs of higher education, secondary schools, and adult learners, in the field of Regenerative Agriculture. Designed within the Moodle LMS framework, it offers robust, interactive, and flexible learning resources accessible anytime, anywhere. The platform's structure facilitates both guided and self-directed learning through well-organized modules and topics, enriched with multimedia content, self-evaluation tools, and extensive support materials for educators. For a deeper understanding of how to effectively utilize the platform's learning resources, users are encouraged to refer to the full **Learning Methodology** and consult the **User Manual** which details the functionalities and features of the platform, ensuring a comprehensive and seamless learning experience for all participants.

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