AgriVet Tourism

AgriVETourism

Enhancing Sustainable Agritourism through Vocational Education and Training for Rural Development

Project Reference: 2024-2-BG01-KA210-VET-000267044

ПЕТРИЧ

Ινστιτούτο Προώθησης και Πιστοποίησης Προϊόντων Αγροδιατροφής

M.A.R.eA

Co-funded by the European Union

AgriVet Tourism

Welcome to Module 4

The “Agri” in Agritourism

Sustainable farming and Operations

ПЕТРИЧ

Ινστιτούτο Προώθησης και Πιστοποίησης Προϊόντων Αγροδιατροφής

M.A.R.eA

Co-funded by the European Union

AgriVet Tourism

Learning Objectives

By the end of this module you will be able to:

- Identify simple sustainable farming practices for agritourism
- Apply basic soil and compost improvement techniques
- Learn the principles of composting
- Evaluate small-scale renewable energy options
- Design one practical sustainability improvement for your farm
- Reduce waste and water use in farm operations

AgriVet Tourism

Core Content Units

The Units will cover basic principles of regenerative agriculture, circularity in Agritourism, Water saving practices, and composting

Skill gaps addressed: reliance on informal knowledge; limited waste/water management; low awareness of renewable energy

Learner Output: Sustainability Self-Check for the learner's farm; Waste & Water Reduction Action List; One realistic energy improvement idea

AgriVet Tourism

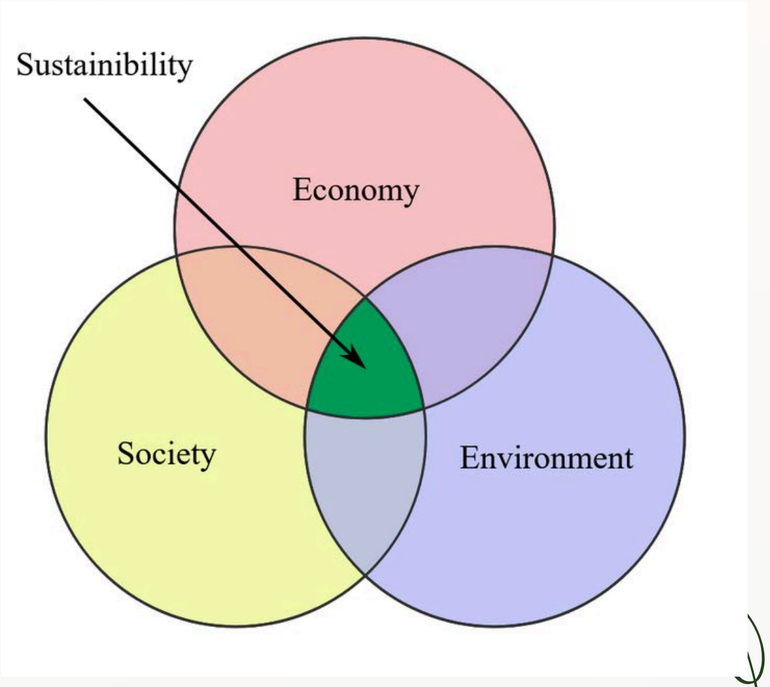
Unit 1: Basic Sustainable Farming Principles

Simple practices to improve soil, reduce costs, and strengthen the authenticity of your agritourism.

What is sustainable farming?

AgriVet Tourism

Sustainable agriculture is an agricultural model focused on the long-term conservation of natural resources and the promotion of environmentally-friendly practices.



Sustainable farming systems characteristics

- Resource conserving
- Socially supportive
- Economically competitive

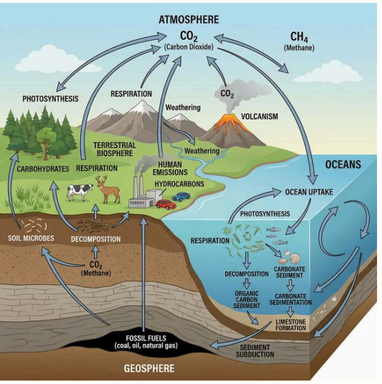
Benefits of sustainable farming

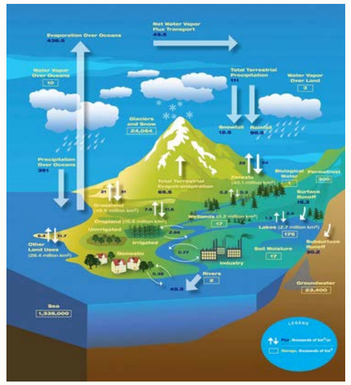
- promotes biodiversity
- promotes soil health
- improves agro ecosystems resilience
- promotes fair working conditions
- fosters access to healthy food for local communities

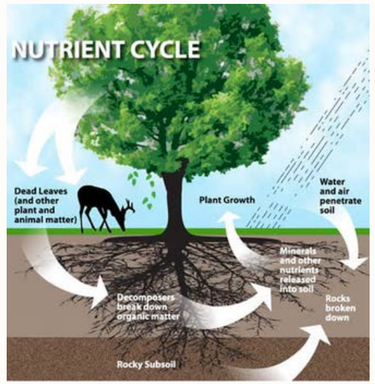
How to make agroecosystems sustainable?

AgriVet Tourism

Respecting cycles





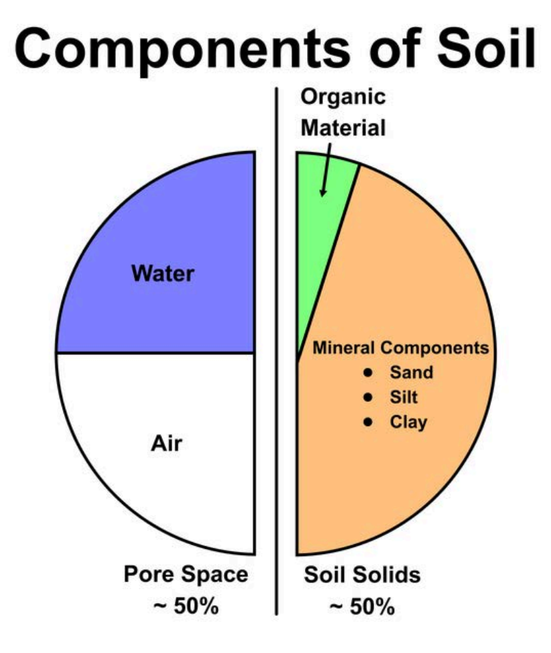


The greater the structural and functional similarity of an agroecosystem to the natural ecosystems in its biogeographic region, the greater the likelihood that the agroecosystem will be sustainable

Promote Biodiversity

Soil fertiliy

soil is the natural medium for the growth of plants. It is a mixture of organic matter, minerals, gases, water, and organisms



AgriVet Tourism

Type of fertility

- PHYSICAL = ability to allow the free circulation of air and water and root growth

Depends on: type and level of particle aggregation, which influence POROSITY

- CHEMICAL = ability to provide the mineral elements necessary for plants

Depends on: pH, number of negative charges (CEC), presence of mineral elements

- BIOLOGICAL = ability to host beneficial microorganisms

Depends on: presence of organic carbon, porosity. Influences CHEMICAL and PHYSICAL properties

Soil fertiliy

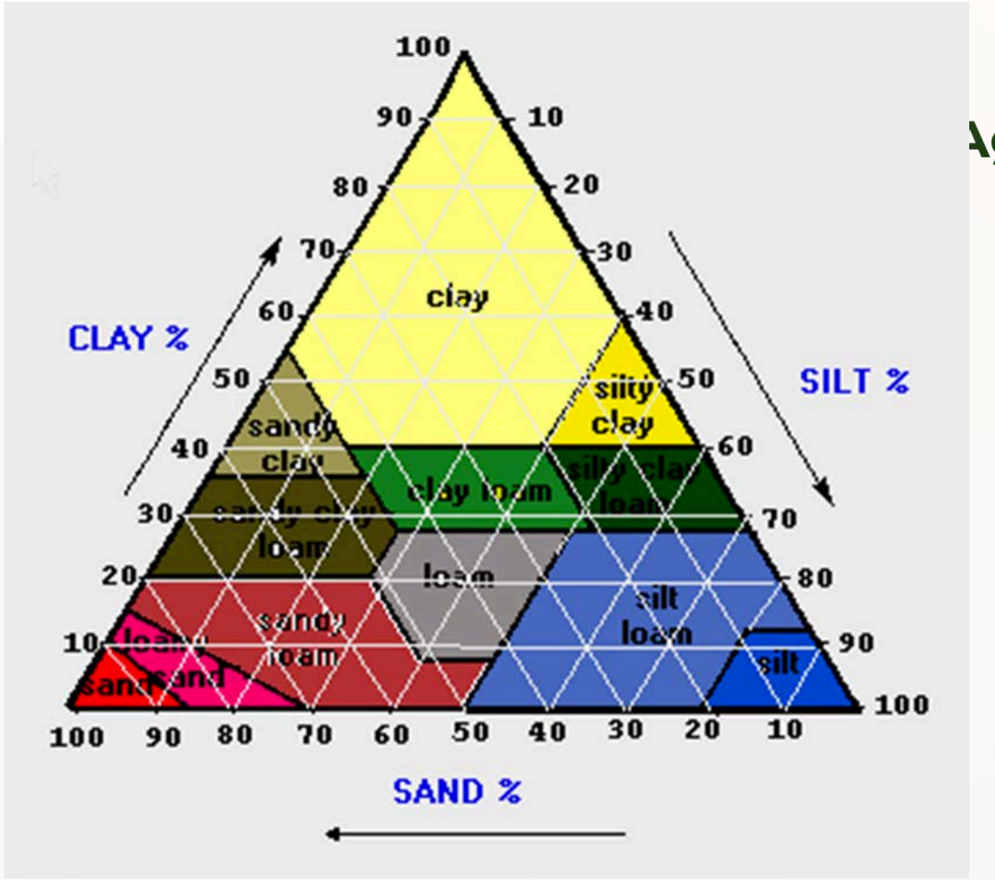
Soil particles have an important effect on soil fertility

Sand = Big fraction 2mm - 0.02 mm
Silt= medium fraction 0.02 mm - 0.002 mm
Clay = smallest fraction < 0.002 mm

Sandy soil

Silty soil

Clay soil



AgriVet Tourism

Soil fertiliy

Soil Organic matter is a small yet fundamental part of soil structure and fertility

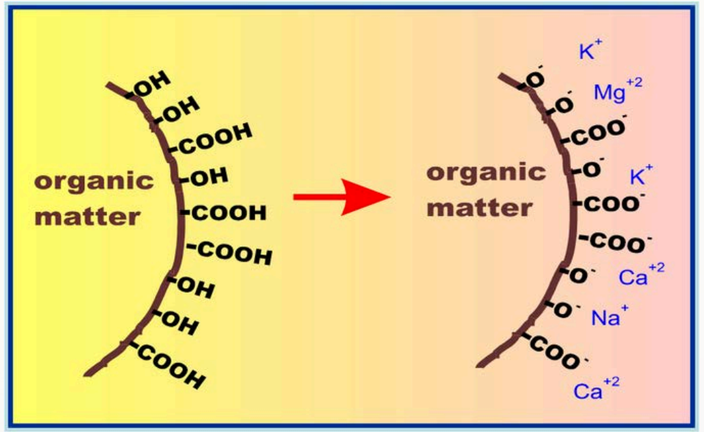
AgriVet Tourism

Non-Humic Fraction

Feature	Description
Properties	Hydrophilic (water-loving), soluble, and easily degradable.
Soil Structure	Provides a quick but **short-term improvement** in soil stability.
Plant Nutrition	The primary source of **ready-to-use nutrients** through mineralization.
Microbiology	Acts as the main **energy source** for soil microbes.

Humic Fraction

Feature	Description
Properties	Highly stable and resistant (composed of humic acids, fulvic acids, and humins).
Persistence	**Resistant to microbial degradation**; stays in the soil for decades.
Nutrient Retention	High **CEC (Cation Exchange Capacity)**; acts like a magnet to hold nutrients.
Soil Aggregation	Forms strong bonds with clay to create a **sturdy, crumbly soil structure**.



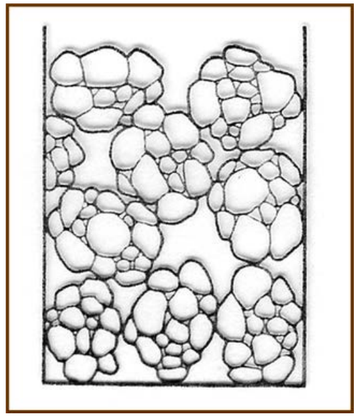
Organic matter content in Agricultural soils: 1-3%

Soil fertiliy

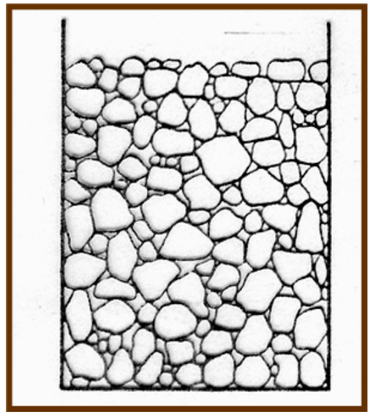
Mineral and organic components influence the physical and chemical characteristics of the soil.

The presence of colloids (clays and SO) allows the formation of micro and macro aggregates

Aggregates improve the balance of the water fraction of the soil, balancing macro and micropores

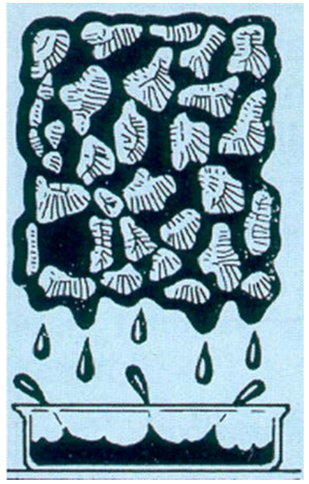


Structured soil

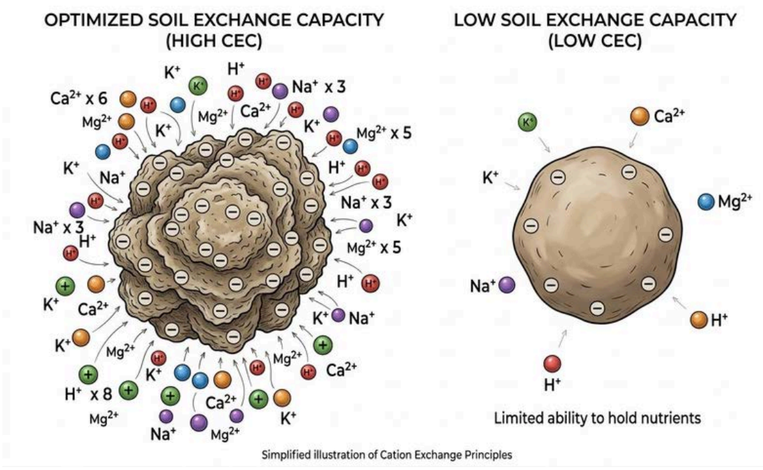


Unstructured soil

improve the balance of the water fraction of the soil, balancing macro and micropores



soil's ability to retain nutrients in the soil



Simplified illustration of Cation Exchange Principles

Soil Fertility loss

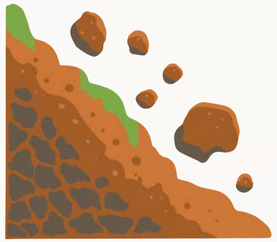
AgriVet Tourism

Nutrient Depletion

When we harvest the biomass produced in the form of leaves, fruits, roots, or tubers, we remove elements from the soil.
Over time, the continuous removal of these elements depletes the soil, reducing its fertility.

Soil Organic Matter loss

Degradation of organic matter which can release nutrients useful to plants but if not restored causes loss of soil structure and loss of fertility



Soil Erosion

Soil tillage, heavy rainfall, and lack of soil cover increase the amount of soil that is removed, resulting in increased erosion which in the long term leads to losses in fertility.

Cover crops

AgriVet Tourism

ADVANTAGES

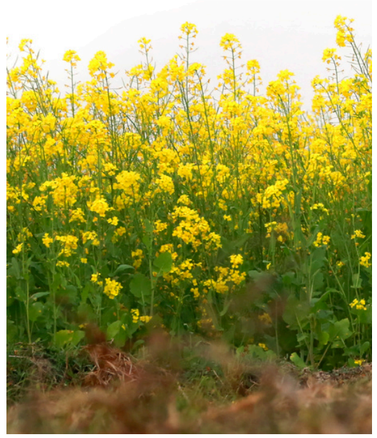
- Protection of the soil from erosion
- Addition of organic matter to the soil
- Addition of nutrients to the soil (only in certain cases)
- Fight weeds

Type of cover crops

- Legumes – provide a nutritional effect (add nutrients).
- Grasses – high carbon content for humification.
- Brassicaceae – contain glucosinolates, effective against soil-borne pathogens and some insects (biofumigation).

How to conclude a cover crop

- Mechanical
- Winter freezing
- Chemical treatment



Pay attention to the C/N ratio of cover crops when they are terminated and incorporated into the soil.

The C/N ratio influences the speed at which organic matter decomposes.

- High C/N (>30): decomposes more slowly, can temporarily immobilize nitrogen in the soil, and promotes humification.
- Low C/N (10-20): releases nitrogen quickly and has a fertilizing effect.

Crop rotation

AgriVet Tourism

Crop rotation is the planned sequence of different crops grown on the same field over successive seasons or years to improve soil health, nutrient use efficiency, and crop productivity.

Main objectives:

- Improve soil fertility
- Break pest and disease cycles
- Improve nutrient use efficiency
- Enhance soil structure
- Reduce the need for fertilizers and pesticides

Types of crops

Exhausting Crops

Examples: wheat, barley, oats, rice, flax.

Improving Crops

Examples include grass pastures and legume pastures.

Renewal Crops

Examples: sugar beet, potato, maize, tomato, sunflower, chickpea, and bean.

Key strategy

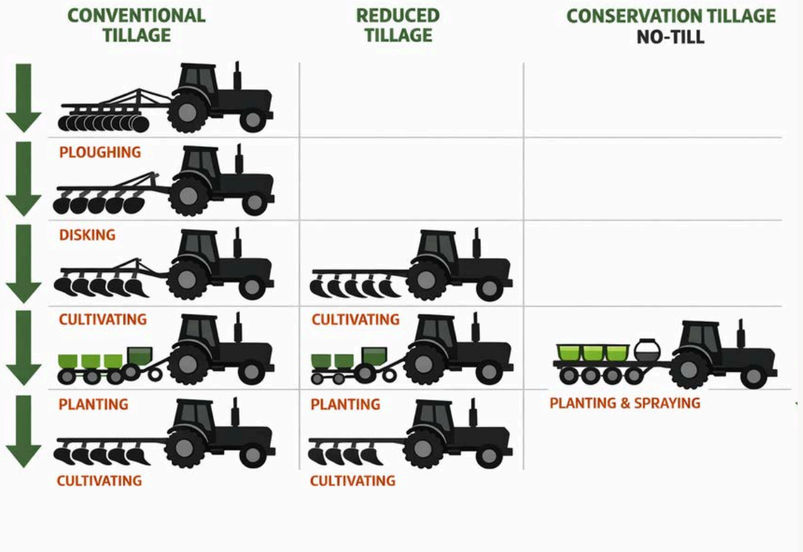
After an Exhausting crop, flollows an improving crop or a renewal crop

Minimum tillage and no tillage

AgriVet Tourism

Minimum tillage and no tillage are agricultural techniques that reduces soil disturbance by limiting mechanical operations.

Tillage System	Advantages	Disadvantages
Traditional Tillage	Fast increase in soil macroporosity; rapid water infiltration in the tilled layer; good surface water control	Formation of plough pan; risk of subsurface water stagnation; higher soil moisture loss by evaporation
Minimum Tillage	Good soil cover with crop residues; reduced soil erosion; better moisture conservation	Possible formation of a compact subsurface layer; slower water infiltration
No Tillage	Maximum soil cover with residues; strong erosion control; maximum soil moisture conservation	Low macroporosity formation; slow water infiltration; higher resistance to root penetration



Integrated crop-livestock systems

AgriVet Tourism

Farming system which combines crop production with livestock rearing

Animals serve numerous functions in mixed farming besides providing products such as meat, milk, eggs, wool and hides.
animals contribute to weed and pest control, foster biodiversity, and create diverse habitats within agricultural landscapes.
Animals provide added value in agritourism

Role of livestock in farming system

- Source of food
- Renewable natural resource
- Cushion against ncome shocks
- Transport
- Ecosystem services
- touristic function

in these systems crops and livestock synergise with each other

Case Study: Cascina Oschiena

AgriVet Tourism

Overview

Historic rice-growing company (since the 16th century) in Piedmont (North Italy)

116 ha (rice + oasis + woodland)

Included in the Natura 2000 area (Special Protection Zone)

Integrated management (certification “Friend of the Earth”)

Use of solar pannels for reducing energy consumption

Landscape protection: restoration of two spring areas (expanded and reforested), and plantation of trees and hedges along irrigation canals.

Creation of an Oasis by providing 25 ha to recostitution of natural habitats for the repopulation of autoctonous species

Use of authentic, Historic and Certified Varieties

Agricultural practices

Winter

- minimum tillage (subsoiling, harrowing)
- legumes crops sowing for green manuring

Spring

- minimum tillage (subsoiling, harrowing) + Ploughing + rolling (in poliannual rotation)
- Broadcast rice seeding in flooded fields

Autumn

- Harvesting

Agritourism experience

Agriexperience
Cultural tour about traditional rice cultivation, farm tour, and oasis visit and enviornmental and landscape knowledge transfer.

Cascina Oschiena. Rice production and sale, Crova, Vercelli

In Cascina Oschiena we cultivate rice in the name of tradition and sustainability, keeping the properties of the…

cascinaoschiena.it /

Practical Exercise

Objective:

- Identify the crops to use on your farm, when to sow/transplant, and their needs (how much water does it require? Does it need fertilizer?) - Identify at least one main crop. Identify what adds value to the product (Certifications, product transformation).

Output:

- Written text or schemes

Estimated time:

- 20 minutes

Useful resources

https://rlfcentral.com/wp-content/uploads/pdfs/RLF_AgTech_Nutrient_Removal_14052025.pdf

AgriVet Tourism

Unit 2: Waste, Water & Circular Economy Practices

Simple practices to reduce waste in Agritourisms, increasing circularity.

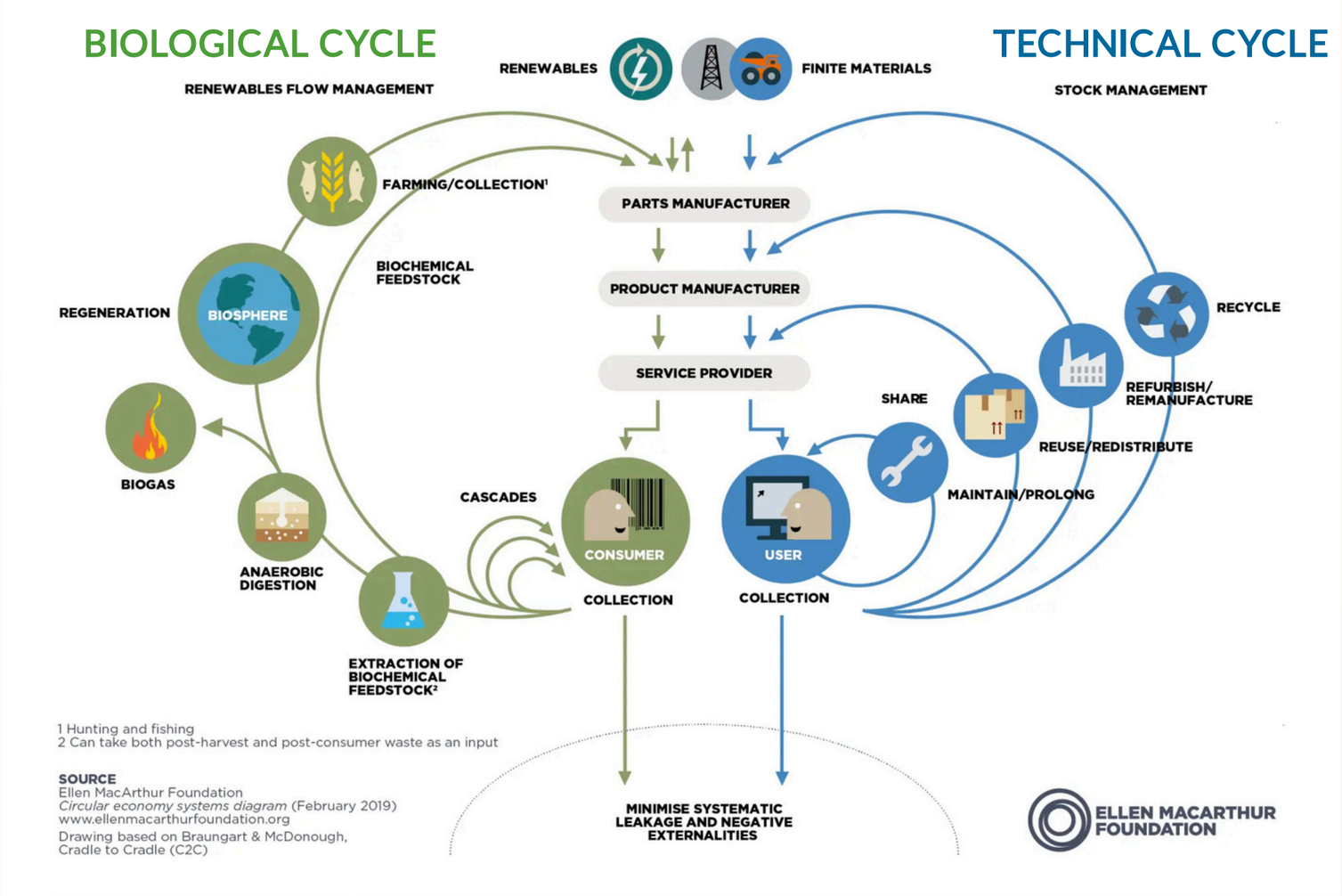
Reuse of by products

AgriVet Tourism

BUTTERFLY MODEL

Biomass, crops

minerals, metals



Extract as much value as possible

Return to the biosphere

Keep the value of the materials as long as possible

Do not reutrn to the biosphere

Main by products in agritourism

AgriVet Tourism

- Plant waste (prunings, leaves, damaged vegetables)
- Food processing residues
- Animal manure and waste
- Agritourism food waste
- Straw and crop residues

Alternative use of organic by products

AgriVet Tourism

Organic waste

- Composting
- Mulching
- Green Manure
- Essential oils extraction

Composting

A mixture that consists largely of decayed organic matter and is used for fertilizing and conditioning land

Key Benefits:

- Agronomic: Improves soil health and structure, reduces erosion, increases water-holding capacity, and boosts crop yields.
- Environmental: Diverts organic waste (food, yard trimmings, paper) from landfills.
- Climate Impact: Prevents anaerobic breakdown in landfills, significantly cutting methane greenhouse gas emissions.

AgriVet Tourism

Composting

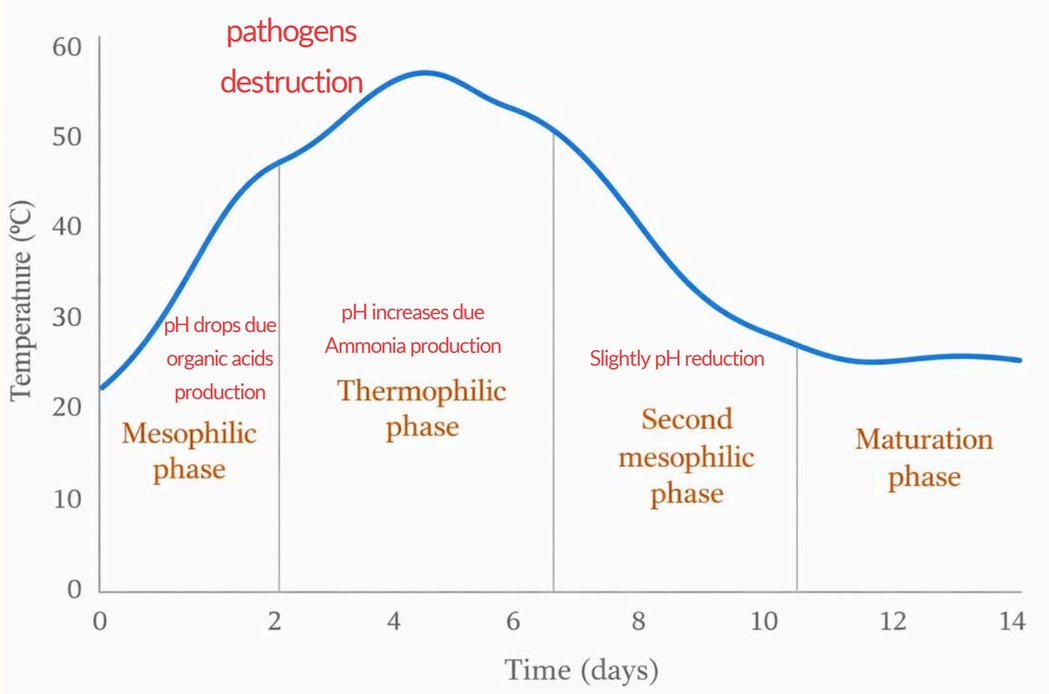
AgriVet Tourism

Controlled biological decomposition of organic materials. The compost is the organic matter that has been decomposed and recycled as a fertilizer and soil amendment

Biochemical process

Three main phases

- Mesophilic
- Termophilic
- Maturation



Organic matter Molecules breakdown

S. No.	Parameters	Quantity
1.	Organic matter	70 %
2.	pH	7.5
3.	Organic carbon	33.11%
4.	Nitrogen	1.82 %
5.	Phosphorus	1.29 %
6.	Potassium	1.25 %
7.	Fe (ppm)	1019
8.	Mn (ppm)	111
9.	Cu (ppm)	180
10.	Zn (ppm)	280

in-depth Composting

AgriVet Tourism

Main parameters for composting

Formulation of Compost

ideal Carbon-to-Nitrogen (C:N) ratio is between 25:1 and 30:1

"Browns" (Carbon-Rich)	"Greens" (Nitrogen-Rich)
Traits: Dry materials	**Traits:** Fresh, moist materials
Dry leaves (60:1)	Grass clippings (15:1)
Straw (80:1)	Food/vegetable scraps (15:1)
Wood chips (400:1)	Cow manure (20:1)

Optimal pile composition: mix the components of your compost in order to have a 30:1 ratio

Formulation of Compost

Moisture content

Moisture Level	Process Status	Effects & Additional Notes
Below 30%	Virtually stopped	The decomposition process completely halts.
35% to 40%	Greatly reduced	The rate at which materials break down slows significantly.
55% to 60%	Recommended upper limit / Starting range	Ideal starting point. Since microbial heat causes evaporation (a drying process), starting in this upper range compensates for
Too much moisture	Anaerobic conditions	The most common cause of odor complaints. The exact upper limit depends on the materials' particle size and structural characteristics

Fist test: take out a handful of material and open hand. . If water drips, turn and/or add drying material (sawdust or straw). If the material is loose in hand, add water and/or fresh material (vegetables waste or lawn trimming).

in-depth Composting

AgriVet Tourism

Procedure for making compost

- Shred materials (wood and pruning waste).
- Prepare the base with straw or branches.
- Mix evenly dry materials (leaves, wood chips) and green materials (grass, kitchen waste).
- Add water: keep the pile moist, not wet. (around 50% moisture)
- Add optional nutrients (manure, organic fertilizers).
- Cover the pile with natural materials (avoid plastic).
- Check temperature and turn when it drops.
- Turn 1–2 times at 15–20 day intervals.
- Wait 9–12 months for mature compost.

Practical Tips

- Consider where you put your compost (ground; use of nets/ composters; presence of trees around the pile)
- Avoid waterlogged areas.
- Place in a shady area to prevent it from drying out.
- Compost needs air and drainage.
- Touch it, If it's still warm, it's not ready.
- Check the compost in the third month. If the pieces are large, it's not ready to use.
- The compost should be dark and crumbly, like soil. It should also smell like soil.

Main composting problems

- **Not heating up** - Add greens or larger volumes of browns and greens
- **Too dry** - Not enough water - Add greens or water
- **Too wet** - Add browns or decrease greens
- **Foul odors** - Not enough air or too wet - Add more browns
- **Flies and other pests** - Add more browns and no food showing

https://www.fao.org/4/x3996e/x3996e30.htm

https://openknowledge.fao.org/server/api/core/bitstreams/0658b4e0-53e3-4ed7-89d0-ff351bec1dff/content

Mulching and Green Manure

AgriVet Tourism

Green Manure

Agricultural practice where specific crops are grown and then incorporated into the soil before flowering to improve soil fertility and organic matter.

Benefits

- Increases soil fertility
- Improves soil structure
- Adds natural nitrogen to the soil
- Reduces the need for chemical fertilizers

Examples of green manure crops

- Fava beans
- Clover
- Vetch
- Mustard

Mulching

Mulching is the practice of covering the soil around plants with organic or synthetic materials to protect and improve soil conditions.

Common materials

- Straw
- Dry leaves
- Wood chips
- Biodegradable mulch films

Benefits

- Reduces weed growth
- Maintains soil moisture
- Protects soil from erosion
- Improves soil fertility over time

Essential oils extraction

AgriVet Tourism

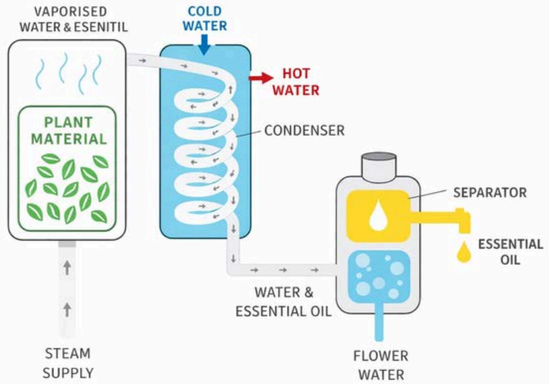
Raw materials used

- Leaves, peels, flowers, prunings
- Processing residues
- By-products not intended for sale

Methods

Steam distillation (the most commonly used)

- Simple and reliable method Suitable for leaves, flowers, and aromatic peels
- Requires a distiller (even a small laboratory one)
- It is the most common method for obtaining pure essential oils



Alcohol extraction

- Simple artisanal method
- Food-grade ethanol is used
- Produces an aromatic extract (used in perfumery)

Enflurage

- Use of odourless fats solid at room temperature (such as lard)
- Flowers are put on the fat for 1-3 days.
- Flowers are replaced with fresh ones until fat reaches the expected odour
- Flowers are replaced with fresh ones until fat reaches the expected odour
- The “enflurage pomade” is collected and stored

Rational Irrigation

Supply water to crops in a controlled and efficient way, according to the real water needs of the plant and the characteristics of the soil.

AgriVet Tourism

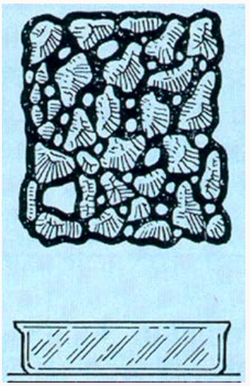
Amount of available water

first step: determine the available water in the soil
Field Capacity (FC) - Permanent Wilting Point (PWP) = **Available Water (AW)**

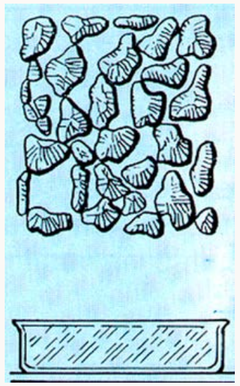
Second step: evaluate the volume explored by roots
Available water * volume explored by roots roots length (in meters) * 1 ha= **Useful Water Reserve (UR)**

Third step: amount of UR absorbed by plants without incurring in stress
UR * fraction of allowable depletion = **Readily Available Water (RAW)**

Maximum capacity



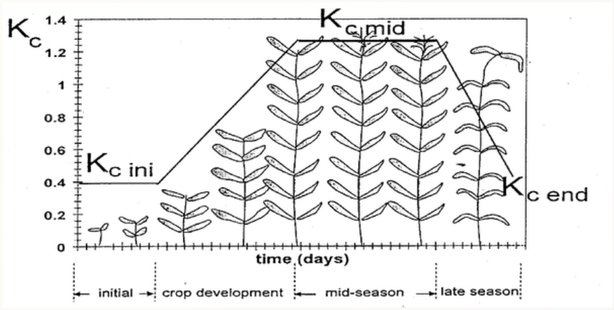
Field capacity



Permanent wilting point

Amount of water consumed

ETM = ETP * kc



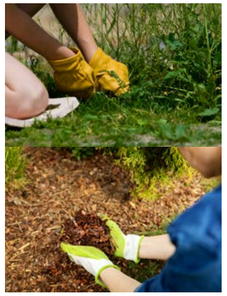
When cumulative ETM along the days is equal to RAW, it is the moment to irrigate

Water waste reduction

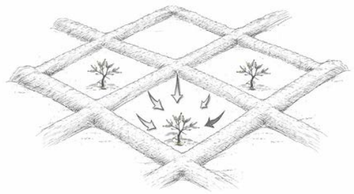
AgriVet Tourism

Water collection
Collect water from rooftops through containers

Reducing water losses
remove weeds, which compete with the plants' moisture intake.



Micro-catchment Systems
suitable for sloped soils (1-20% slope). It consists in tilling soil for letting the water accumulate in specific areas. The runoff water is guided into an application area where it accumulates in holes, pits, basins and bunds.



Conservation tillage

- No-tillage: Sowing and fertilizer application on crop residues and chemical weeds control.
- Strip tillage system : Tilling just the strip of land where the crop will be sown

Drip Irrigation
Irrigation system that delivers water slowly and directly to plant roots, either on or below the soil surface. It reduces water loss by minimizing evaporation.

Deficit irrigation

AgriVet Tourism

Partial root drying

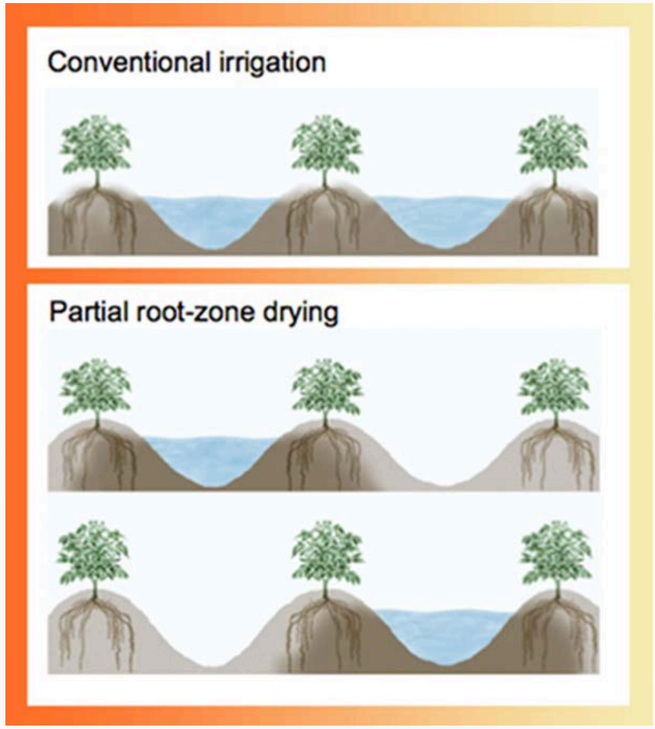
Water deficit is imposed on the crop by alternating water volumes to only part of the root system, so as to create a wet zone, contrasted with a dry zone.

Regulated deficit irrigation

Water deficit is imposed on the crop during the phenological phases that are minimally affected by the induced stress.

Pay attention!

Deficient irrigation cannot be practiced on some crops such as potatoes; biomass crops suffer significant losses since we are interested in production throughout the season



Case Study

AgriVet Tourism

Overview

~300 hectares organic farming (heirloom grains and legumes; small production of olives; orchard)
Self-made stone milled flour used for making bread, cakes and pasta.
cold pressed extra virgin olive oil production in the local stone olive mill
Homemade jams
Cut flowers production
Rooms and wedding location
Kitchen, restaurant service and cooking class
Focus on sustainability
Photovoltaic system that covers electricity needs for both farm & agriturismo

Waste reduction strategies

- Plastic-Free Courtesy Kit Soap (olive oil, natural colorants, essential oils)

- Careful separation of kitchen and household waste

Organic waste → chickens & compost for the garden
Untreated paper → burned in wood-fired oven
Recycling of plastic, aluminium and glass waste

- Wastewater is phytodepurated and then used in the garden for irrigating plants.

Practical Exercise

AgriVet Tourism

Objective:

- Identify the main waste produced within your agritourism or the residues produced by the crops that you identified in the previous exercise
- Evaluate possibilities for extracting value from it

Output:

- Written text or schemes

Estimated time:

- 20 minutes

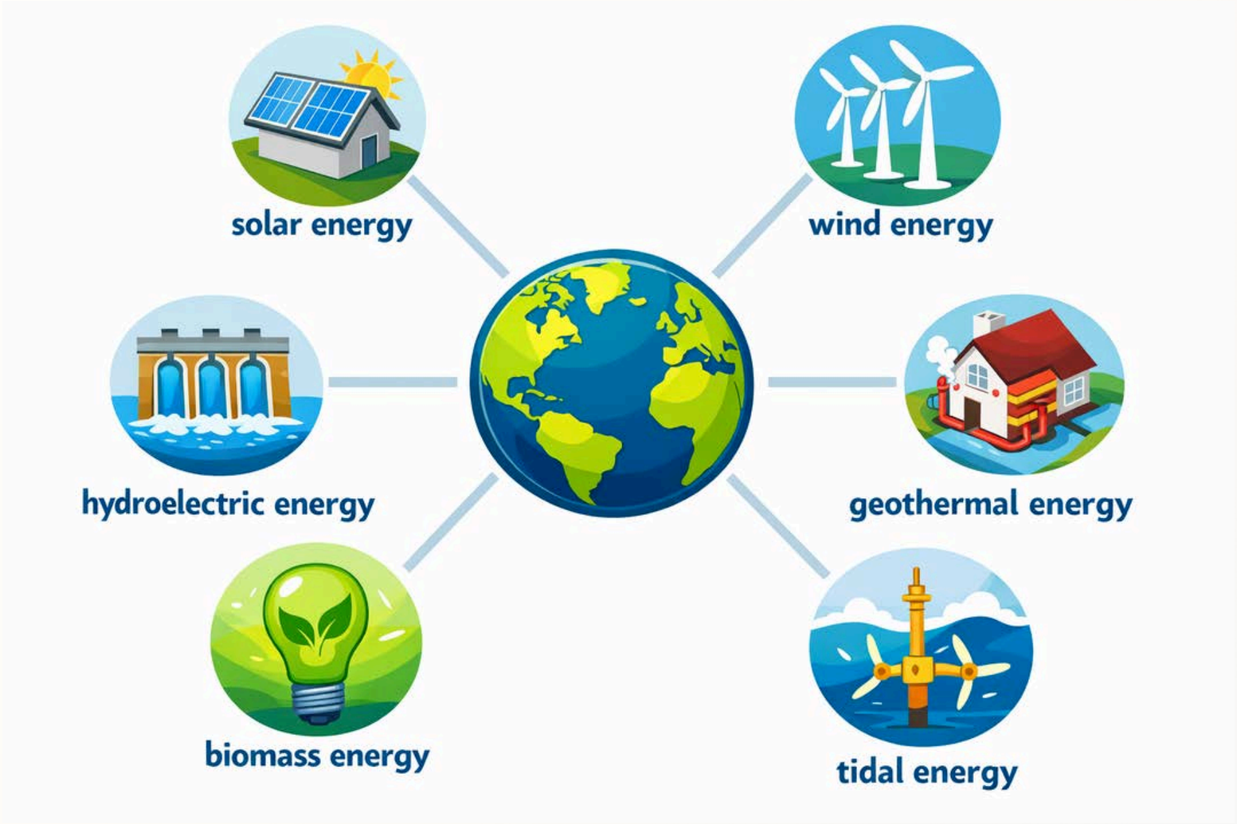
AgriVet Tourism

Unit 3: Energy Efficiency and Renewable Options

Simple practices to reduce waste in Agritourisms, increasing circularity.

Energy Challenges and Opportunities in Agritourism and Farms

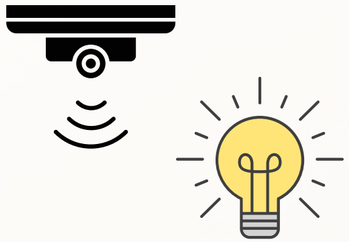
Renewable energy refers to energy derived from natural resources virtually inexhaustible



Energy saving opportunities in agritourisms

Solar Thermal for Water Heating

Solar Thermal directly heats water, combined with well insulated water collector it can keep the water warm for long periods of time, reducing the need to use Gas or electricity to warm water.
It can be prior and complementary to other sistems.
It can bee corredated with temperature sensors taht set the maximum water temperature in relationship to the outside temperature, to be more and more efficient.



Led Lightining and Automatic Shutdown

Leds have been a real revolution in the lightining sector. They are extremely efficient, and combined with sensors for authomatic shutdown reduce the enery waste at the minimum.

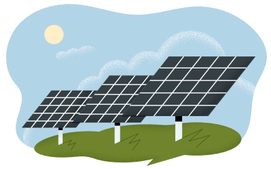
Natural Tree Shadow

A lot of energy that we use during summer to cool spaces could be avoided thanks to natural tree shadow. Trees infact, not only shields us from the burning summer sun, but they also trasform that energy to evapotraspirate, this naturally reduce the heating power of sun, and our energy consumption.

Thermal Insulation of the building

The major share of energy waste comes from energy dispertion: the real challenge is to trap the generated heat and to screen the indoor environments from outside temperature variation oeaks. This can be obtained by appropriate wall stratification and by sealing gaps around doors and windows.

Energy self-production and consumption opportuniuties in agritourisms



Photovoltaic

It’s simple: when there’s sun energy is produced! It need a minimum of surface and the correct exposition to be efficient.
It is now the most common, cheap and proved technology for electricity production

Micro-eolic

Very efficient when there’s wind!
The well working conditions are more difficult to find than the ones of photovoltaic, which makes te technology less common, and a bit more expensive. But there are new generations of turbines in vertical axes that are ideal for self production and consumption in small scale plants. Agritoursim are usually perfect for this technologies

Biomass

Biomass anaerobic digestion is also a possibility: biomass decomposition generates methane that can be burned to produce heat and electricity. It is considered a net zero emission technology because the crops capture CO2 during their growth. It is an interesting technology but only works well with consistent amount of organic material that should only come from crop waste. The technology could work in consortium with other farmers. The soil nutrient cycles should also be taken into account when deciding what to do with waste organic material.

Micro-hydroelectric

It is rare, but not impossible that agritourisms present water courses, old watermills, little reservoirs. Since always water is the main energy source for human activity, depending on the height difference, the channel morphology, the discharge values, appropriate solutions can be implemented.

Small scale renewable energy

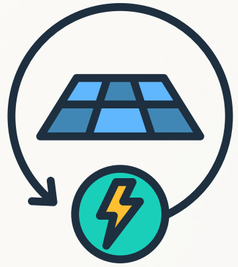
Photovoltaic or solar thermal systems designed to produce energy for individual homes, businesses, or local communities. These systems are generally less than 5 MW and can be connected to the electricity grid or operated off-grid with batteries.

AgriVet Tourism

Applications in Agriculture

- Solar-powered irrigation pumps
- Energy supply for barns, livestock facilities, and greenhouses
- Power for agricultural equipment
- Refrigeration systems for preserving agricultural products
- Lighting for warehouses and rural structures
- Solar mini-grids for farms in remote areas

Useful Types in the Agricultural Sector



- Rooftop photovoltaic systems on agricultural buildings
- Ground-mounted systems on farm land
- Off-grid systems for areas without access to the electricity grid
- Systems with batteries to ensure power at night or during outages

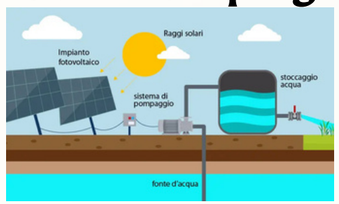
Benefits for Agricultural Businesses

- Reduction in energy costs
- Greater independence from the electricity grid
- Reduced environmental impact
- Increased sustainability and farm value

Energy stock challenges

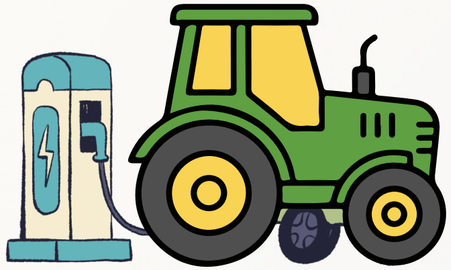
Renewables energies offer numerous advantages, yet they also present significant challenges. A primary limitation is intermittency: production often does not align with demand, necessitating complex energy production design and robust storage solutions.
While batteries are the most common option, they rely heavily on rare earth materials and lithium, the extraction of which carries a substantial environmental footprint.
Alternative energy storage methods are therefore essential. One effective strategy is "demand shifting"—consuming energy specifically when production peaks. For instance, water pumping—an exceptionally energy-intensive process—can be scheduled during periods of surplus generation. This typically occurs during midday intervals on sunny days for solar installations, or during high-wind conditions for wind turbines.

Solar Pumping



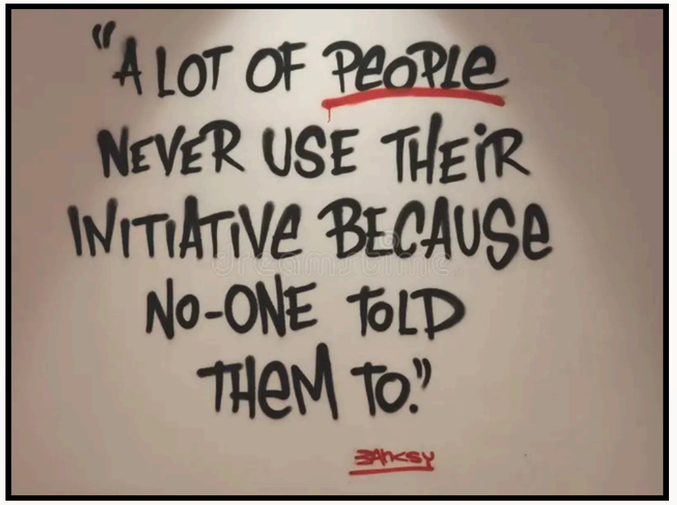
Incredibly easy and cost-effective strategy. It allows you to pump water when you produce more energy than needed, storing it for irrigation later. By doing this, you essentially use the water tank as a battery.

Electric vehicles batteries



Instead of buying a battery to stock the renewable energy, buy an electric agricultural vehicle and use its battery! This could allow you to reduce your emission, stop contributing to climate change, and save a lot of money usually spent in diesel.

Do you have any other idea?



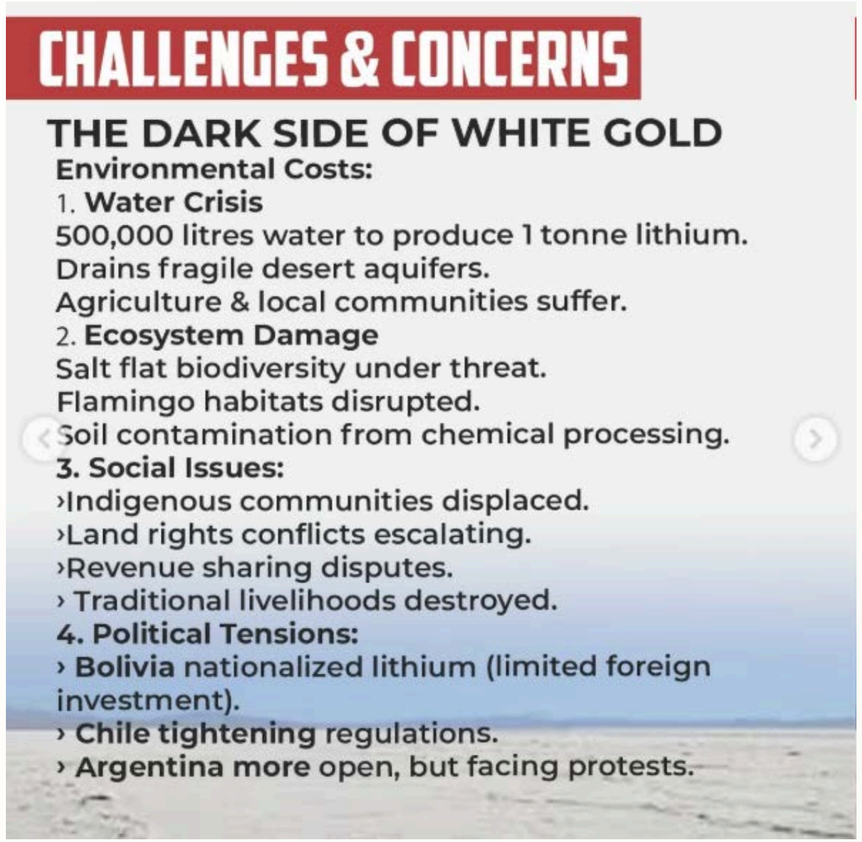
No one knows your farm better than you.

You know its specificity, potential and limitations.

If you know some other example, share it with the others, someone who needs it could be listening.

Have you ever heard about Energy Communities?

Batteries: the lithium nightmare



https://www.instagram.com/p/DUr0hj5ikev/?img_index=4

Salar de Atacama, Cile

Energy saving opportunities on agritourisms

AgriVet Tourism

Maximizing efficiency in a rural hospitality setting isn't just about cutting costs —it's about enhancing your brand's "green" appeal to eco-conscious travelers

Immediate Lighting Wins

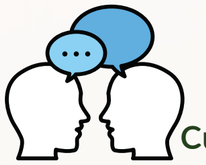
Small changes in lighting often yield the fastest Return on Investment (ROI).

- **LED Transition**: Replacei ncandescent and halogen bulbs. LEDs use up to 80% less energy
- **Occupancy Sensors**: Install sensors in hallways, public restrooms, and storage areas to ensure lights are active only when needed.
- **"Switching Off" Culture**: Simple signage and habit-forming practices for staff and guests to turn off lights in unoccupied rooms.

Heating & Climate Optimization

Heating is the largest energy expense for agritourisms, especially in historic buildings

- **Smart Controls & Compensators:** These adjust the boiler temperature based on the outside air, preventing energy waste during mild days.
- **Greenhouse Management:** If your farm utilizes greenhouses, use thermal screens at night to retain heat and reduce demand on heating systems.
- **Zoned Heating**: Ensure guest rooms, kitchens, and common areas are controlled independently to avoid heating empty spaces.



Cultural & Strategic Management

Technology only works if the people using it are on board.

- **Employee Awareness:** Train staff on energy-saving protocols (e.g., closing shutters at dusk, reporting leaks). An informed team is your best defense against waste.
- **Guest Engagement:** Gently encourage guests to participate in your sustainability journey through subtle room prompts.

1. Evaluate: Audit your current energy bills and usage patterns.
2. Identify: Pinpoint the "low-hanging fruit" (like LEDs) vs. long-term investments.
3. Prioritize: Rank actions based on cost-effectiveness and ease of implementation.
4. Implement: Seek specialist help for technical upgrades (like boiler compensators) and execute the plan.
5. Manage: Treat energy efficiency as a continuous process, not a one-time task.

Funding programs for renewable energy

AgriVet Tourism

The recovery fund: Next Generation EU (NGEU)

REPowerEU is the European Commission's plan to make Europe independent of Russian fossil fuels following the invasion of Ukraine. Objectives:

- Saving energy;
- Diversifying supplies;
- Rapidly replacing fossil fuels by accelerating Europe's clean energy transition;
- Supporting Net Zero technologies.

General Framework

€20 billion in grants allocated across EU Member States

Funds are integrated into each country's National Recovery and Resilience Plans (NRRPs)

Common Agricultural policy

The CAP 2023–2027 supports

- reduction of greenhouse gas emissions
- efficient use of resources
- deployment of renewable energy in agriculture

CAP two main pillars

- European Agricultural Guarantee Fund (EAGF)
- European Agricultural Fund for rural Development (EAFRD)

Member States have included in their national plans activities for renewable energy production.

- Main installation on agricultural-related buildings
- Germania, Italia, Paesi Bassi e Slovenia mentioned in their plans Agri-PV

Practical Exercise

Objective:

- Identify the main sources of energy consumption in an agritourisms (e.g. facilities heating, irrigation, storage).
- Propose at least 2 actions to reduce energy waste.

Output:

- Written text or schemes

Estimated time:

- 20 minutes

Self Assessment questions

AgriVet Tourism

- Which sustainable farming practice could I realistically introduce this season?
- What are the main types of waste produced on my farm or agritourism (organic waste, crop residues, food waste, packaging)?
- Could I start composting using materials already available on my farm? What would I need to begin?
- Which circular economy practice could I realistically implement in the next 1–3 months?
- Which simple energy-saving action could I implement immediately (LED lighting, insulation, switching-off practices)?