

Gerosios praktikos žinių pasikeitimas siekiant išlaikyti sveiką dirvožemį Europoje (Best4Soil)

1. Keywords: Soil conservation, Soil improvement, Soil health, Compost, Green manure, Anaerobic disinfection, Crop rotation, (Bio)solarization

2. Area: Organic Farming, Agro-environmental protection

3. Subarea: Soil conservation, improvement, or its health restoration in Europe

4. Theme: Exchange of good practice knowledge to maintain healthy soils in Europe (Best4Soil)

5. Year: 2021

6. Summary: To ensure a healthy future, we must maintain an unexhausted and healthy main natural resource, the soil. The Best4soil project, which is creating a knowledge exchange network across Europe, bringing together growers (farmers), advisers and researchers, contributes to this goal.

7. More detailed version of the summary: Long-term intensive agriculture has a negative impact on soil health. With increasing restrictions on the use of synthetic pesticides, there is an urgent need to find alternative methods to control and minimize soil-borne diseases. Newly developed best practices and proper crop rotations allow soil health to be maintained, improved, or restored in Europe. By optimizing crop rotations and changing cultivation techniques, soil-borne diseases can reach economically insignificant thresholds or even disappear altogether. Choosing an appropriate crop rotation is a complex process and requires a good understanding of local conditions and other requirements. The Best4soil databases (<https://www.best4soil.eu/database>) and recommended measures can help individual growers to have appropriate crop rotations and healthy soils. The best practices for creating and maintaining healthy soil are as follows: 1. Compost – Continuous composting increases the content of soil organic matter, diversity, and abundance of microorganisms. Different types of compost can reduce the spread of soil-borne diseases and improve soil health. 2. Green manures and catch crops can help control some soil-borne diseases in field and horticultural crops. Their direct effectiveness is low compared to those such as chemical soil disinfection or heat treatment; therefore, these measures must be used preventively. 3. Anaerobic disinfection (ADD) is an alternative to chemical soil treatment. ADD reduces a variety of soil-borne diseases, pests, and weeds. The method requires the incorporation of easily degradable organic matter into soil, after which the soil is immediately covered with a polyethylene film to prevent oxygen ingress and formation of an anaerobic environment. For certain organisms, anaerobic conditions are lethal. During solarization, soil temperature rises, microflora, chemical and physical properties of the soil change. Compost and green manure / catch crops improve soil health, increase yields and soil organic matter, reduce pathogen populations, or prevent their occurrence. Other techniques, such as anaerobic disinfection and (bio)solarization, can also be used to control and eradicate outbreaks of pathogens and nematodes while maintaining healthy soil. Any farmer can immediately start implementing appropriate crop rotations and innovative strategies. All information is translated into 22 EU languages, freely accessible and comprehensible to ensure a smooth transfer of knowledge from research to practice.

8. Technology readiness level: -

9. Effect: Agro-environmental protection, Economical

10. Argumentation: It is estimated that there are 19% of eroded agricultural land area in Lithuania now, of which as much as 61% are moderately eroded soils. Soil is the most important tool for a farmer. The healthier the soil, the better the yield. That means less loss, less cost, and less expenses.

11. Project description: -

12. Project: Best4Soil

13. Education institution : -

14. Contacts: Antanas Ronis +37061243139 antanas.ronis@lammc.lt

15. URL: <https://www.best4soil.eu/>

16. Images:

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17. YouTube: <https://www.youtube.com/watch?v=Dt3VHeFLSPM>

18. Documents: [1. COMPOST_PRACTICAL INFORMATION.pdf](#)
[2. GREEN MANURES AND COVER CROPS_PRACTICAL INFORMATION.pdf](#)
[3. ANAEROBIC SOIL DISINFECTON \(ASD\).pdf](#)
[4.\(BIO\)SOLARIZATION_PRACTICAL INFORMATION.pdf](#)
[5. CROP ROTATION_PRACTICAL INFORMATION.pdf](#)