



Consiglio Nazionale delle Ricerche  
Istituto per la BioEconomia

# GLOBAL SYMPOSIUM ON SALT-AFFECTED SOILS

20 - 22  
October, 2021  
Virtual meeting

Salt-affected soils at  
the farm scale:  
successful experiences  
and innovation needs

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<https://ec.europa.eu/eip/agriculture/en/focus-groups/soil-salinisation>

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- Agroforestry: woody vegetation
- Animal husbandry
- Bee health and beekeeping
- Benchmarking farm performance
- Carbon storage in arable farming
- Circular horticulture
- Dairy production systems

## Soil salinisation

How to maintain agricultural productivity by preventing, reducing or adapting to soil salinity?

The **final report of this Focus Group** has been published.

Get all the information at a glance in the **Soil salinisation factsheet**.

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# Irrigation scheduling

## Problem:

- Fulfilling crop water requirements,
- Promoting salt leaching from the root zone
- Controlling the ground water level
- Dealing with limited water availability

## Goal:

- Salts stored in upper soil layers, but beyond the root's zone of active uptake

## Innovative solutions:

- Developing and using simulation models and Decision Support Systems to define adequate volumes of water and irrigation frequency



# Chemical amendments

## Problem:

- Sodicity

## Goal:

- To substitute Na on the CEC and then leach it

## Innovative solutions:

- Testing of mined-gypsum, coalgypsum, lactogypsum, in comparison with sulfuric acid



# Phytoremediation

## Problem:

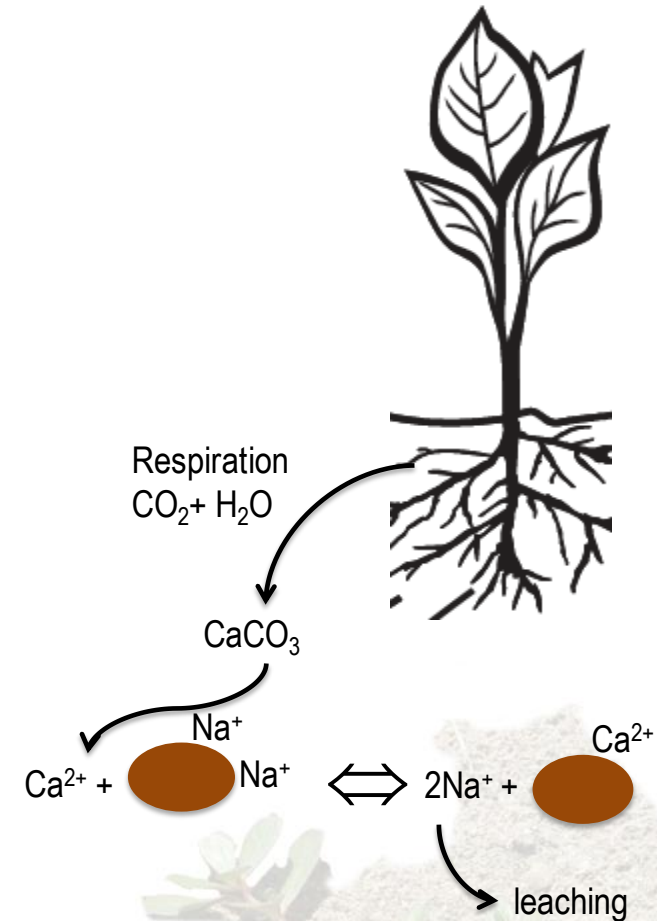
- Salinity and sodicity

## Goal:

- To remove Na in depth

## Innovative solutions:

- Testing phytoremediation for low to medium sodicity
- Cheaper and more sustainable than chemical remediation
- Improving carbon sequestration in soil.



# Plant selection and crop rotation

## Problem:

- Pressure increase on crops

## Goal:

- Adapted varieties and crop systems

## Innovative solutions:

- Genetic development
- Grafting
- Cover crops
- Improved rotations, according to sensitivity to drought



# Microbial management

## Problem:

- Reclamation and increase of crops yield

## Goal:

- To promote and enhance salt tolerance in plants

## Innovative solutions:

- Selection and use of bioinoculants for plants and soils



# Land-use change

## Problem:

- Unfeasible agronomic solutions

## Goal:

- Implementing soil ecosystem services beyond food production

## Innovative solutions:

- Land-use planning through conversion to recreation and ecotourism, cultural heritage, or natural protection areas.





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*Thank you for your attention!*