Co-funded by the European Union

ProLand

Summer School
<<Food Production and Environmental Impact on Agricultural Land>>

Date: September 22-26, 2025

Place: Slovak University of Agriculture in Nitra, Faculty of European Studies and Regional Development, Tr. A. Hlinku 2, 949 76 Nitra, Slovakia

TASK: CREATE A DECISION TREES

See: information about decision trees in LiLAC: Our Approach

Group number 4

INTERACTIONS BETWEEN THE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES (SOIL AND WATER) FOR FOOD PRODUCTION.

CREATE ONE COMMON TREE

1. Resource Assessment

Is water availability and soil quality sufficient for production and the ecosystem?

YES → proceed to preventive measures (point 4).

NO → proceed to point 2.

2. Problem Diagnosis

Is the problem primarily related to:

a) Excessive water consumption/drought → point 3a

b) Excess water/flooding → point 3b

c) Pollution in water and soil → point 3c

d) Soil degradation (erosion, humus loss, acidification) → point 3d

3. Selection of Corrective Actions

3a. Drought/water deficit

Implementation of drip irrigation systems.

Small retention (ponds, ditches, water holes).

Cultivation of drought-resistant varieties.

3b. Excess water/flooding

Improvement systems and drainage. Restoration of floodplains and wetlands.

Increasing soil permeability (e.g., through humus).

3c. Pollution

Reducing the use of agrochemicals

Buffer zones along watercourses.

Bioremediation and phytoremediation.

3d. Soil degradation

Crop rotation and the cultivation of nitrogen-fixing plants.

Lime application in cases of acidification.

Simplifying mechanical tillage and applying mulch.

4. Protection and prevention

4a. Integrated water and soil management at the landscape scale.

4b. Regular monitoring of soil and water quality.

4c. Educating farmers and local communities.

4d. Implementing regenerative agriculture and agroecological practices.

Conclusions:

Sources: