

The environmental challenges, demands and subsidies from farmers point of view

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Our goal is sustainable farming

- The three dimensions of sustainability

1. **Environmental**

2. Social

3. Economic

- We live from renewable resources

➤ *Our goal is to maintain the resources - the livelihoods dependent of them and the welfare - and to pass them on to the next generations*

- Our goal is to secure food supply by all three dimensions of sustainability



Environmental challenge

- How to produce food without impact on the environment ?
 - There is no way:
 - Cultivation affects nature and utilizes natural resources



- Key question:
 - **How to produce food with minimal effects on the environment?**

Farming modifies natural balance of soil-plant ecosystem towards field ecosystem

- We till and seed the soil
- We have traffic on soil
- We harvest the fields



- Soil will be depleted
 - If we do not return the nutrients taken up by the yield
 - **Importance of right rate, place, time and nutrients of fertilization**
 - **Importance to control losses from the field (leakage, emissions)**
 - If we do not return the organic material which is harvested:
 - **Importance of plant residues, crop rotation, manure**

Environmental demand



- **To produce more with less**
- Soil is a natural resource - Treat it well
 - **Make the most use of your field - Make it grow**
- Resource-efficiency means good yields of high quality
 - = Good soil growth conditions to maximize the growth potential
 - Good soil structure and **sufficient drainage**
 - Fertile soils with balanced fertilization
 - Efficient and safe recycling **of nutrients**

Best fertilization practises

Plant available nutrients with no harmful substances

Putting best practises into work

- Farmers need site **specific tools** to control nutrient losses and make most use of nutrients and cultivated soils:
- E.g. plant cover, catch crops, buffer zones,
- To atchieve the best use of nutrients we need to maintain good soil structure by drainage and liming
 - **drainage is our key to nutrient use efficacy**

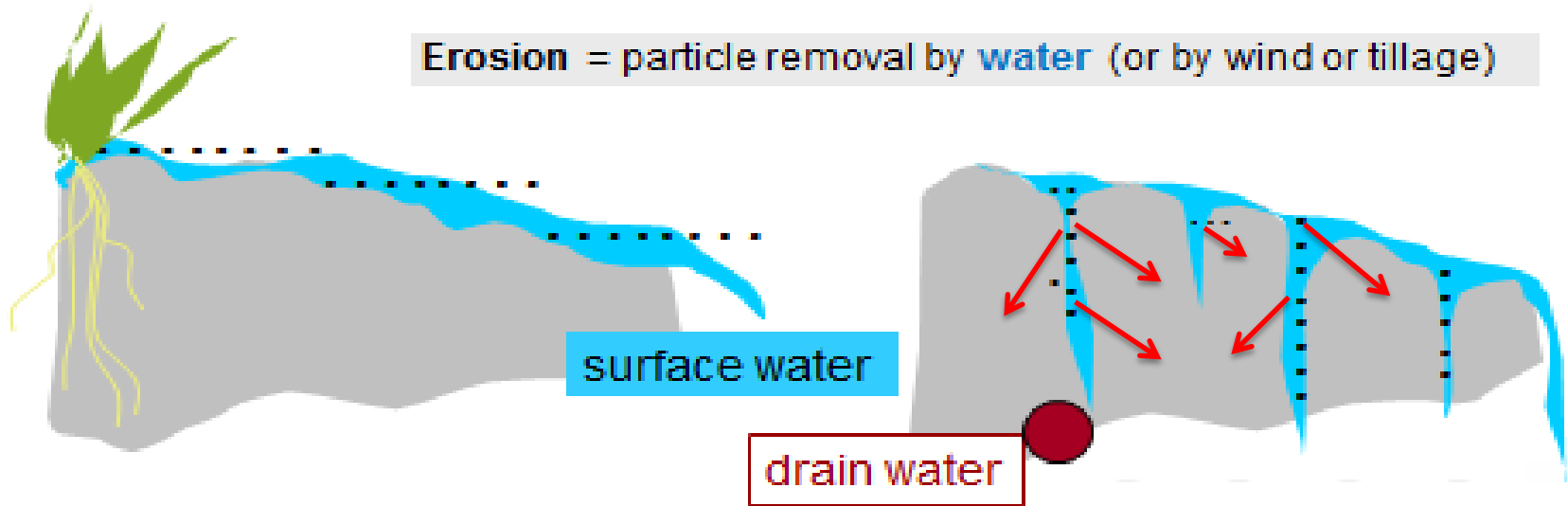


Figures: Field drainage association

Control of nutrient runoff from fields

IMPORTANCE OF DRAINAGE AND SOIL STRUCTURE

Erosion = particle removal by **water** (or by wind or tillage)

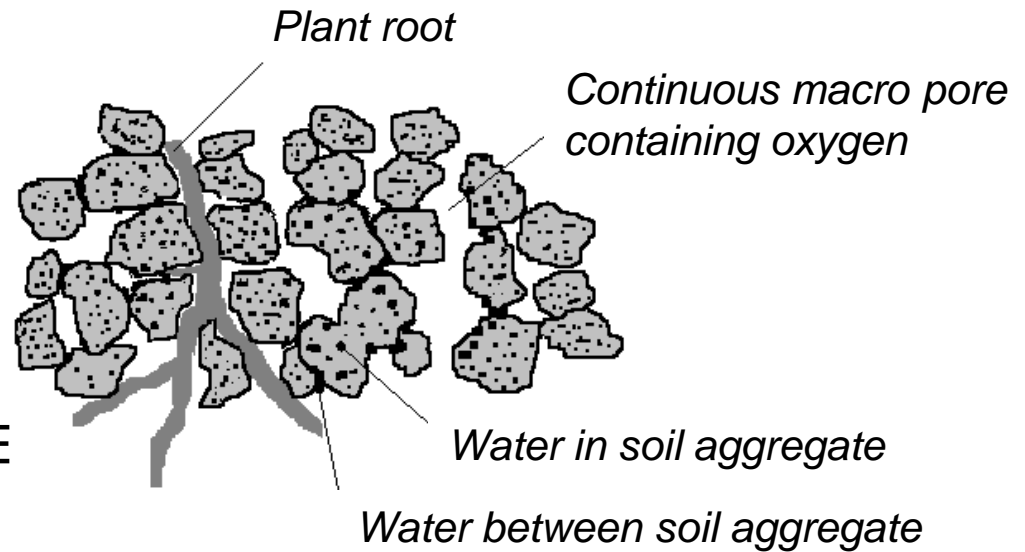


Infiltration to soil micropores from macropores: Safe from leaching

Nutrient use efficiency

NEEDS DRAINAGE

To control runoff
To maintain **soil aeration**
i.e OXYGEN supply
FOR NUTRIENT UPTAKE
BY PLANTS



To maintain **porous structure**
TO MOVE NUTRIENTS SAFELY
TO MICROPORES
AND PLANT ROOTS



Drainage as the key factor of water management in the BSR

- Without a sufficient drainage we have
 - Runoff
 - Erosion and nutrient leakage
 - Lack of oxygen
 - Poor growth and NOx emissions
 - Wet soils vulnerable to soil compaction
 - Poor water infiltration



Environmental subsidies

Needed until we get the appropriate price from our goods
economical agriculture have afford for agri-environmental tools

Should allow and promote

1.The best use of soil and growth

- Growth-potential base fertilization

2.Environmental investments

- E.g. drainage and crop rotation
- Manure treatments and storage capacity
- Erosion control – buffer zones, reduced tillage...



Many thanks

For more information
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