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&  
Sustainable Agriculture**

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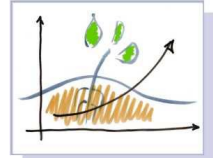
Leben  
im  
Boden  
zusammen

Dr. Andrea Beste

# Berlin Workshop Talks on the Future of Food "Sustainable and fair land use in the EU" 14.1.2022



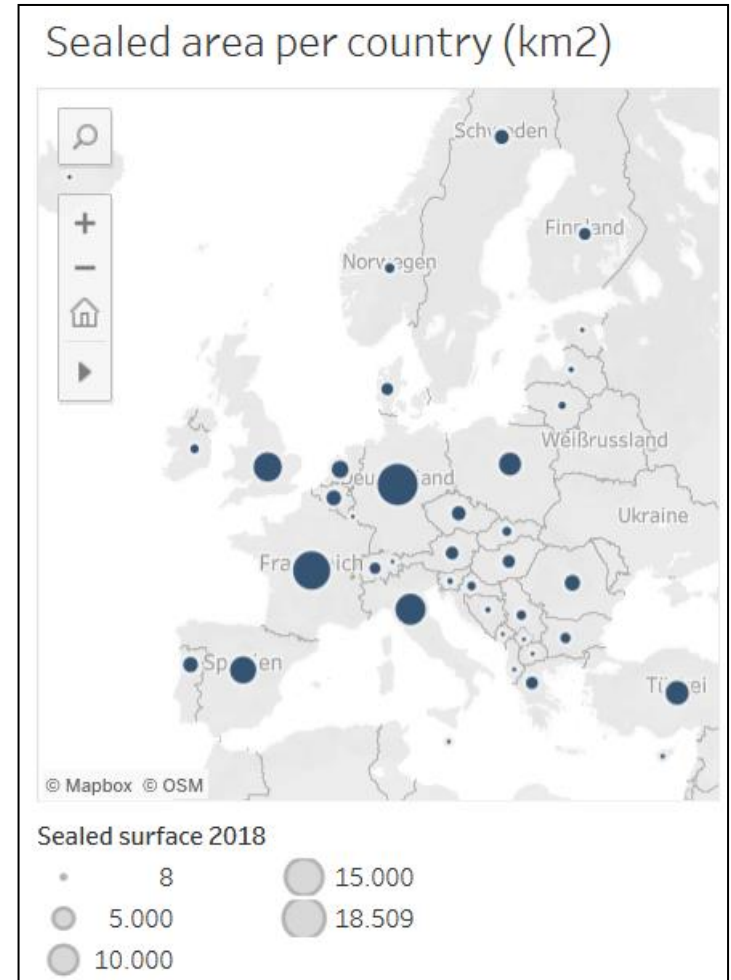
# Soil sealing



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**Soil sealing (the permanent covering of soil by buildings and infrastructure) leads to the loss of more than 1000 square kilometres of productive land in the EU every year (<https://cordis.europa.eu> 2018).**

**This land is no longer available for food production available.**



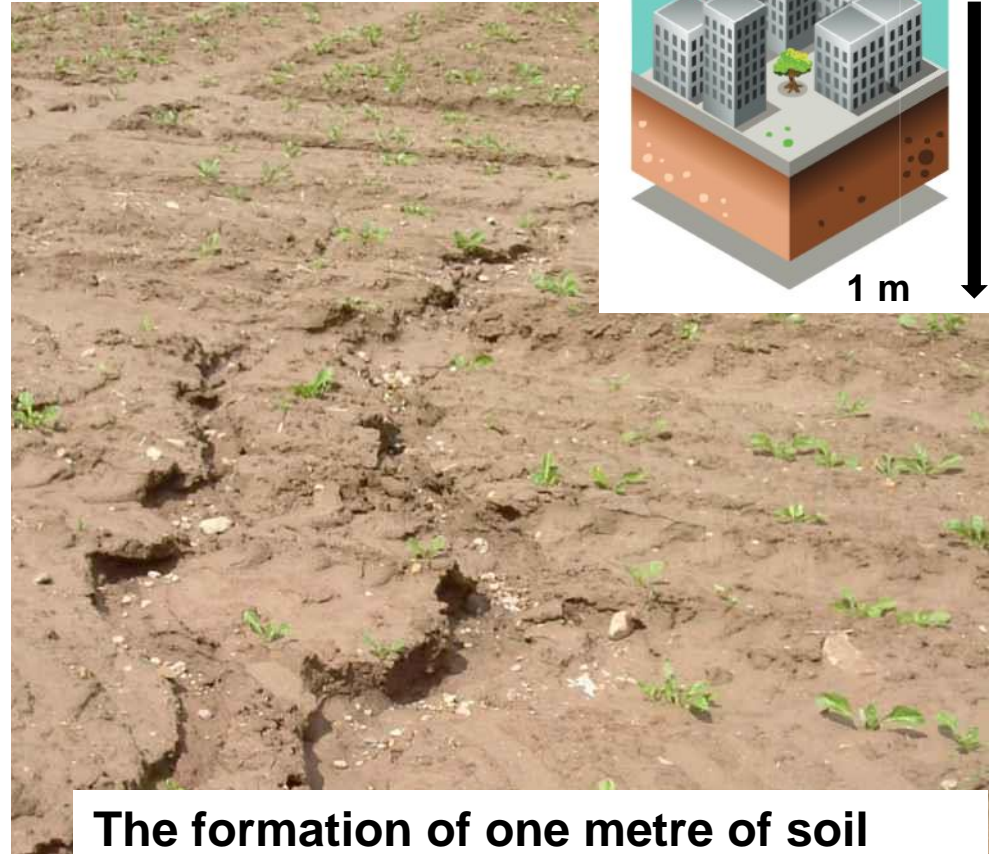
# Eroision

**About 970 million tonnes of fertile soil are lost to water erosion in the EU every year** (Panagos et al. 2015)

**– enough earth to lower the entire city of Berlin one metre.**

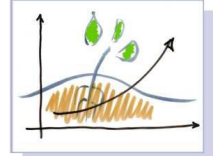
**The JRC estimates that soil loss is still expected to increase by 13 -22.5 % by 2050** (Panagos et al. 2021).

Area of Berlin...



**The formation of one metre of soil takes between 20,000 and 200,000 years depending on the parent rock and influencing factors.**

# Soil pollution



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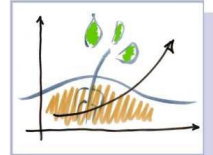
**83% of agricultural soils are polluted with pesticide residues.**

**65-75% of agricultural soils show nutrient inputs at levels that threaten soils and water bodies through eutrophication and affect biodiversity.**

(EU Commission 2021)



# Loss of soil quality



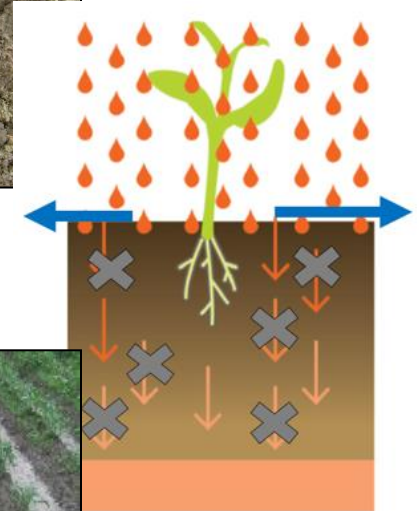
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**Arable soils lose 0.5 % carbon per year.**

**23 % of the areas show severe subsoil compaction and significantly more areas show creeping crumb compaction.**

**This increases susceptibility to erosion, reduces water storage capacity and crop security, and increases the risk of flooding.**

(EU Commission 2021; Beste 2021, Montanarella 2018)



## Causes ...

The European SOILSERVICE project, which involved 11 European university and research institutes, already studied the effects of different intensities of agricultural use on soil ecosystem services 10 years ago.



(2008 – 2011)

Results show (among others):

Intensive agriculture with tight crop rotations, intensive fertilisation and a high use of pesticides, as well as the absence of organic matter, lead to a deterioration of soil biodiversity, humus loss, compaction and erosion.

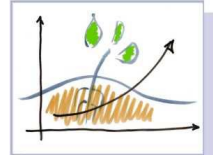
The costs associated with soil degradation amount to over €50 billion per year in the EU!

(EU Commission 2021)

# Conclusion

There is an urgent need for action

- in the implementation of a European soil protection strategy,
- the establishment of effective measures against sealing,
- updating and concretising "good farming practice" in soil management, which is the basis for receiving direct payments under the Common Agricultural Policy (CAP),
- in advising and implementing known sustainable soil protection measures on farms,
- in the monetary recognition by society of sustainable agriculture that provides ecosystem services,
- in the consideration of soil structure improvement measures in flood protection.



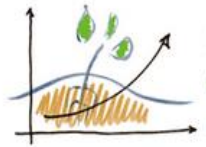
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# More about soil and sustainable agriculture:

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Agropolicy, food-policy, agricultural soil management, regenerative agriculture, soil fertility, qualitative analysis of soil structure

Analysis, consultance and training for politicians and farming practice