

Erdihan Tunc: Comparison of soil erosion in Germany (Rhineland-Palatinate) and Turkey (Middle Anatolia) and possibilities of sustainable land-use

Soil loss by water-erosion is world-wide one of the main risks in soil protection. However, the reasons for soil erosion and its degree differ within the different regions of the world.

The main focus of the PhD-Theses was to investigate the main factors for soil erosion in two regions differing in parent material, climate, soil type, and land use, namely Rhineland-Palatinate (Germany) and Turkey (Middle Anatolia).

The results can be summarized as followed:

1. The salt content and the electric conductivity of the soils in Middle Anatolia were higher compared with the soils in Rhineland-Palatinate. This resulted in a reduced aggregate stability, a reduced water infiltration rate, and consequently in a compaction of the soil surface.
2. The amounts of soil organic matter were lower in the soils of Middle Anatolia compared to the German soils.
3. According to the universal soil loss equation (USLE) the K-factor was higher in the soils of Middle Anatolia compared to the German soils.
4. Just as the K-factor the R-factor was higher in the soils of Middle Anatolia compared to the German soils.