

عنوان مقاله:

Impact of land use change on soil erodibility

محل انتشار:

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خلاصه مقاله:

Vulnerability of soil separates to detachment by water is described as soil erodibility by Universal Soil Loss Equation which can be affected by land use change. In this study it was attempted to quantify the changes of Universal Soil Loss Equation K-factor and its soil driving factors in three land uses including rangeland, rainfed farming, and orchards in Babolrood watershed, northern Iran. Soil composite samples were obtained from two layers in three land uses, and the related soil physico-chemical properties were measured. The rainfed farming land use showed the highest clay contents, but the highest amounts of soil organic matter and sand particles were found in orchard land use. The high intensity of tillage led to the significant decrease of soil aggregate stability and permeability in the rainfed farming land use. The Universal Soil Loss Equation K-factor was negatively correlated with soil permeability ($r=-0.77^{**}$). In rangeland, the K-factor (0.045 Mg h/MJ/mm) was significantly higher and the particle size distribution had a great impact on the K-factor. The orchard land use, converted from the rangeland, did not show any increase of soils erodibility and can potentially be introduced as a good alternative land use in sloping areas. However, more detailed studies on environmental, social and economic aspects of this land use are needed.

کلمات کلیدی:

(Erodibility; Land use change; Rangelands; Soil loss; Universal Soil Loss Equation (USLE

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