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# The spatial pattern of Soil loss tolerance and its impacts on land degradation in karst areas of South China

B. Xiaoyong
China (baixiaoyong@126.com)

Determining scientifically and rationally Soil Loss Tolerance (T value) is very critical for agricultural production layout and ecological construction plan. But there have been a hot dispute concerning what T value actually is in karst areas. In this paper, T value was discussed on the basis of soil formation rate, and its spatial pattern and impacts on land degradation were analyzed. The results showed that: (1) there exists spatial heterogeneity of T value in carbonate areas of South China. And it is greatly related to geological background. T values can be divided into three categories on the whole. It is respectively 20, 50 and 100t/km$^2$ yr$^{-1}$ respectively, in the purest, purer and pure carbonate rock area. (2) The occurrence of land degradation is unrelated to T value itself, although it reflected erosion sensitivity. (3) Erosion risk depends radically on the relationship between Real Soil LossRSLand T value,rather than erosion intensity or T value themselves. If RSL $>>$T, it was very risk even though RL was little. On the contrary, If T $<<$ RSL, it was safe even though RSL was bigger.

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