

Research on Analyzing Grassland Runoff and Simulating Grassland Erosion

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Abstract

Grassland runoff is related to soil and water conservation, but there are few related studies. In this study, a simulated rainfall experiment was carried out, and the results showed that: 1) The runoff depth increases with the increase of rainfall intensity and decreases with the increase of slope or cover, all of which can be described by linear equations; 2). Soil specific gravity, root fractal dimension and grass dry weight can explain 5.00%, 31.08%, and 6.64%, respectively;3). The NSE of the grassland erosion model established by rain intensity, flow discharge and cover is 0.700, which is 0.142 larger than that of the grassland erosion model established by rain intensity and flow discharge. The research conclusions will help prevent and control floods, improve water resource utilization and strengthen grassland erosion monitoring.

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