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Effect of rainfall intensity and duration on soil loss, runoff and surface roughness.

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Soil erosion is a complex phenomenon involving the detachment and transport of soil particles, infiltration and runoff.
The effect of rainfall intensity and duration on soil loss, runoff and surface roughness were studied in north-west of Sardinia (Italy). Rainfall simulation experiments were carried out under controlled laboratory conditions using a rainfall simulator and a laser scanner 3D HDS-6100 Leica, Geosystems.
Rainfall simulations were performed at rainfall intensities of 50, 70, and 100 mm/h and rainfall durations of 10, 20, 30, 60, and 90 min.
The results obtained show that soil loss and total runoff varied considerably in function of both rainfall intensities and duration.