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Check dams effects on plant and soil interface immediately after wildfire

Bruno Timóteo Rodrigues¹, Manuel Esteban Lucas-Borja², Demetrio Antonio Zema³, and Yang Yu⁴

¹Faculdade de Ciências Agronômicas (FCA) São Paulo State University (UNESP) UNESP/FCA, Brazil

²Department "Agraria", University "Mediterranea" of Reggio Calabria, Località Feo di Vito, I-89122 Reggio Calabria, Italy

³Departamento de Ciencia y Tecnología Agroforestal y Genética, Universidad de Castilla La Mancha, Campus Universitario s/n, E-02071, Albacete, Spain

⁴Department of Sediment Research, China Institute of Water Resources and Hydropower Research, Beijing 100048, China

Installation of check dams is one of the approaches for erosion mitigation on watersheds all around the world, among others soil and vegetation restoration tools. National, regional and local governments have spent in the past, and still currently spend, important funds for basin scale erosion-control schemes (maintenance and new implementations) using numerous check dams. The functions of these structures are diverse and vary depending on the geomorphic context where the structures are built. However, with the number of check-dams increasing to control floods, regulate sediment transport, reduce upstream reach slopes, and stabilize torrent beds, some projects experience disappointing results and project objectives are not achieved due to many different circumstances. Causes of failure include poor construction quality, inadequate check dam location and lack of adequate design criteria. These failures lead to reduced confidence in using check-dams as restoration tools. Moreover, construction of dense networks of check-dams, or alternatively of a few large open structures, implies major economic investments, but a comprehensive evaluation of their long-term effectiveness is still lacking. This work aims to analyse the effect of check dam over soil and plant interface immediately after wildfires. The proposed work pretends to share scientific evidence of this effect using a study case located in the Mediterranean basin.