Geophysical Research Abstracts, Vol. 9, 07377, 2007
SRef-ID:

Portable rainfall and overland flow simulator

Alves, T. (1,2), Gómez, H.(2), Gómez J.A. (2)

(1) Universidade Federal de Mato Grosso do Sul 79070-900 Campo Grande/MS Brasil.e-mail: talves@nin.ufms.br(2) Instituto de Agricultura Sostenible, C.S.I.C. Apartado 4084, 14080 Cordoba Spain.Ph: +34-957-499210; e-mail: ag2gocaj@uco.es

The use of rainfall simulations allows evaluation of key soil processes such as infiltration, runoff generation, water erosion, surface sealing, pesticide transport, etc... A good understanding and quantification of those processes is required to selecta an appropriate management that maintains productivity while simultaneously preserve the soil in the best possible condition. There are many examples and designs of portable rainfall simulators or applicators of overland flow devices in the literature, each one indicating the potential and limitations of the different designs and scales. However, we are not aware of any design that allows rainfall and overland simulation at microplot scale simultaneously. This manuscript presents the preliminary version of a rainfall and overland flow simulator at microplot scale. It is an evolution of the *InfiAsper* rainfall simulator Alves Sobrinho et al. (2002) coupled with the overland flow device proposed by Wolfe et al. (2000). *InfiAsper* allows simulation of a broad range of rainfall intensities without changing the nozzle type or their working pressure using a rotating disc to regulate rainfall intensity.