



## **Evaluating indigenous grass species as on-site sediment trapping measures, northwest Ethiopian highlands**

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Although many studies have been conducted to evaluate the sediment trapping efficacy (STE) of grass species as an on-site sediment trapping measure, still a lot of grass species are available of which their STE is unknown. Lack of information on the STE of such grass species has a negative influence on their acceptance and practical application by the users. Therefore, this study was conducted at Debre Mewi watershed, northwestern Ethiopian highlands, to evaluate the STE of four locally dominant indigenous grass species (Desho, Senbelet, Akirma and Sebez) and one exotic species (Vetiver) using plot experiments. On average, the annual runoff produced was found to be 79; 64; 69; 71; 74; 75 l m<sup>-2</sup>, which resulted in 7; 1.7; 2.9; 3.6; 4.5 and 5.6 kg m<sup>-2</sup> yr<sup>-1</sup> of sediment yield on the Control, Desho, Vetiver, Senbelet, Akirma and Sebez plots, respectively. Desho had a trapping efficacy of 76 % because of its fast growth and lateral spreading nature. Vetiver and Senbelet reduced the transported sediment with 59 % and 49 % STE, respectively. Because of their slow growth nature, Akirma and Sebez showed low STEs, 36 % and 20 %, respectively. The grass species were found to be important sources of livestock feed in addition to trapping sediment and reducing soil loss. Desho, Senbelet, Akirma, Vetiver and Sebez provided 132, 106, 76, 69 and 51 t ha<sup>-1</sup> yr<sup>-1</sup> fresh biomass, respectively. The indigenous grass species provided a practical means to reduce sediment yield, therefore, it can be concluded that such indigenous grass species can be used as an on-site sediment trapping measure in the northwestern highlands of Ethiopia.