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Assessment of Sediment Loss Reduction by Vegetated Ridge Using SWAT

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Pollutants from the agricultural field are the main cause of water pollution in reach. Especially, in heavy rainfall seasons, non-point source pollutants from agricultural land contaminate stream with nitrogen, phosphorus, and other pollutants. To reduce the components of the contaminations that outflow from the agricultural areas, Best Management Practices (BMPs) have been installed. Integrated factors including weather, geographic characteristics and kind of crops should be considered for choosing proper BMPs in each field. In the fields which have long slope-length, the vegetated ridge is one of the best methods and wildly used method to reduce soil loss. In this study, the Soil & Water Assessment Tool (SWAT) was used to assess the effects of the vegetated ridge on streamflow and sediment within non-point source pollutant management areas. The LS factor in the modified Universal Soil Loss Equation (MUSLE) in SWAT was modified in order to simulate sediment loss reduction by the vegetated ridge in the target fields. This study aims to assess sediment loss reduction by implication of the vegetated ridge using SWAT and to propose the importance of vegetated ridge for reducing non-point source pollutants in agricultural fields. For further research, the development of a vegitated ridge application tool for SWAT will be conducted.