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Time since plantation is the most important determining factor for soil erosion rates in vineyards. A case study in the valley of Les Alcusses valley, Eastern Spain

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Vineyards are known to suffer from soil erosion around the world (Novara et al., 2011; 2013; 2015; Rodrigo Comino et al., 2015; Prosdocimi et al., 2016; Rodrigo-Comino et al., 2016a; 2016b, 2016b). As in other crops in the Mediterranean such as citrus (Cerdà et al., 2009), olives (Taguas et al., 2015), persimmon (Cerdà et al., 2016) or apricot (Keesstra et al., 2016) plantations, there is a need to survey the spatial and temporal changes in soil erosion in vineyards. Soil redistribution in agricultural land is determined by human management due to the control it exerts on the vegetation cover and soil properties. This is why the time since plantation is important in soil erosion spatial and temporal distribution. Especially because during the plantation of the saplings, the soil is compacted and all other vegetation is removed. In our experiment we selected four paired plot research sites in the Les Alcusses valley, in Eastern Spain. We selected recently planted vineyards (1-year old) and 40-years old plantations. In total 80 rainfall simulations were performed with an intensity of 55 mm h-1 on small 0.25 m2 circular plots to determine the soil detachment by rainfall. The results show that soil erosion rates in the 40-year old vineyards were high (### a rate??), and in the recently planted ones were extremely high, on average six times higher.

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