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# Erosion as affected by agricultural practices in the Mediterranean vineyard

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Soil degradation and erosion will be influenced during the 21st century both by climate and land use changes. Soils in the Mediterranean environment may be particularly vulnerable to such changes because of contrasted climate, low vegetation cover and specific poor soil characteristics. The extension of viticulture on hillslopes in the Mediterranean basin might be responsible for a increasing runoff and erosion. It is therefore crucial to better understand the relationships between the land use and farming techniques changes and the various stages and processes of soil erosion.

Runoff and erosion measurements were carried out in an experimental field located in the French Mediterranean wine area, for various modes of wine growing (chemical and mechanical weeding of the inter-rows, grass covering). We observed most of the time the higher runoff rates and soil losses under chemically weeded vineyards, whereas limited soil losses occurred under grass and intermediate but variable runoff and erosion were measured with mechanical weeding. However, because of the inter-annual variability of rainfall characteristics, as well as of the dynamics of grass development, our results show that such experiments should last for at least three to four years to lead to useful conclusions and recommendations for agricultural practices limiting runoff and erosion.