Abstract

Diversifying Steep Slope Viticulture—Towards a Sustainable Intensive Agriculture? [†]

Manuel Seeger ^{1,*}, Felix Dittrich ², Thomas Iserloh ¹ and Sören Thiele-Bruhn ²

¹ Physical Geography, Trier University, 54296 Trier, Germany; iserloh@uni-trier.de

² Soil Science, Trier University, 54296 Trier, Germany; dittrich@uni-trier.de (F.D.); thiele@uni-trier.de (S.T.-B.)

* Correspondence: seeger@uni-trier.de

[†] Presented at TERRAenVISION 2019, Barcelona, Spain, 2–7 September 2019.

Published: 23 March 2020

Abstract: Viticulture is a land use system with a high impact on the environment and the landscape due to the high input of energy and material for soil and plant management. Reducing the input would help to reduce both, the environmental and economic costs, and consequently, increase the sustainability of this crop production. In Germany, especially in the Mosel area, vineyards are also part of the cultural heritage and substantial part of the touristic appeal, especially those located on steep slopes with shallow soils developed on Devonian slate. Within the last decades, the economic sustainability of the vineyards and cellars have been on the focus, by applying land consolidation, increasing the use of machinery and rationalisation of plant protection by e.g. spraying pesticides with helicopters. However, the awareness of the consequences of this kind of high intensive viticulture has also lead to changes in some paradigms, especially regarding soil protection: greening of the lane and selective traffic of machines is becoming more and more widespread, and there is a slowly growing community of wine cellars applying organic production. A careful management of the vegetation within the traffic lanes, and recently the implementation of plants underneath the grapevines is meant to increase soil quality and to reduce the risk of erosion. Here, we will present the concept developed within the EU-H2020 project Diverfarming (H2020-RUR-2016-2/728003), where aromatic herbs (*Thymus vulgaris*, *Origanum vulgare*) have been planted underneath grapevines. The purpose is to suppress the growth of plants fostering diseases, to reduce soil disturbance and thus, to increase soil quality as well as to stabilize it against soil erosion. A holistic approach is adopted, as the analysis and monitoring covers plant growth, soil parameters up to product quality and a value chain analysis.

Keywords: Diversification; viticulture; erosion; value-chain analysis

© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).