# Influence of the pruning system on the fungal community of grapevine *(Vitis vinifera)*

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The novel grapevine training system called semi minimal pruned hedge (SMPH) is an innovative production system, which is economically beneficial, environmental friendly and climate change adapted. In this system the time and money intensive pruning process, usually done by hand, is accomplished by a mechanical harvester, which tremendously affects the production costs as well as the physiology of the plant.

A grapevine stock trained in SMPH shows more woody canes, a wider leave canopy and more bunches carrying fewer berries, compared to the traditional vertical positioning system (VPS).

Whether and how these physiological changes influence the fungal community of grapevine plants is mostly unknown. For that reason the aim of this three year study is to compare the fungal community of grapevine trained in SMPH and VPS. The main focus is on the susceptibility of the respective training system against fungal grapevine diseases like grey-mould (*Botrytis cinerea*), powdery mildew (*Uncinula necator*) and downy mildew (*Plasmopara viticola*), but also grapevine trunk diseases (GTD), e.g. Esca. The information which will be collected during this study shall support farmers by adapting their plant protection system to the pathogen situation in vineyards with SMPH trained grapevines.

Another aspect of this work addresses the composition and the temporal development of the fungal endophytic community in grapevine. For this purpose fungi from grapevine branches with different ages (2 months – 8 years) are isolated and identified. The analysis of the fungal communities over the time will help to better understand the role of certain fungi in the grapevine wood, especially of GTD-associated fungi, e.g. *Cadophora luteo-olivacea* or *Phaeomoniella chlamydospora*.