P14 – Polyclonal selection for *Vitis vinifera* cv. 'Petite Arvine' in Switzerland

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Abstract

Petite Arvine is an emblematic white grape variety of the Valais vineyards (Switzerland). This autochthonous variety presents a high intravarietal diversity. Works has been done to characterise this clonal biodiversity. As results, the agronomic and partly oenological potential of around one hundred clones were analysed. Polyclonal selection consists in the selection of top-ranked set of clones concerning specific target traits. The massal or polyclonal approach is often opposed to the clonal approach in grapevine selection. Some advantages of polyclonal selections compared to the clonal approach that are usually mentioned are a greater potential for resilience to certain stress factors caused by changes in climate and cultivation techniques (e.g. cover crops) as well as a possible positive influence on wine complexity. The aim of this project is to compare the advantage of polyclonal selections focused on specific topics compared to the behaviour of homologated clones, from the agronomic level to the quality of the wines.

Especially in the context of climate change, we are exploring different polyclonal selections in order to mitigate the effect of abiotic stresses (higher temperature and more frequent drought) caused by the evolution of climate. Five polyclonal selections were constituted targeting specific traits, each composed of 10 clones. The following traits were selected to create these five populations: berry acidity (high level); yeast assimilable nitrogen (high level); yield at harvest (moderate/high level) and aromatic precursor P3MH (high level).

The aim of this study will be to evaluate the interest of polyclonal selection and clonal selection to mitigate the effects of climate change in viticulture and to valorize the work done to safeguard Petite Arvine genetic diversity.

Keywords: *Vitis vinifera* cv. Petite Arvine, clonal diversity, climate change, polyclonal selection