

Conservation of genetical diversity and development of new vegetative material answering the viticulturist's needs and adaptation to climatic changes, with UNIK Chenin massal selection



Symposium: July 1-3, 2019, Angers (France): Chenin Blanc International Congress

Marion SINEUX¹, Olivier ZEKRI²

INTRODUCTION: MERCIER is a familial enterprise, human sized, and the **worldwide leader for grapevine production and vineyards creation. Since 1890,** we work with passion with thousand of viticulturists in France and abroad. Resolutely looking toward the future, we dedicate and important part of our work to improve the sanitary quality and diversity of the vegetative material that we offer.

Clonal selection, that began over 50 years ago, allowed a sanitary remediation of the French vineyard and better control of the agronomical and oenological quality of the vegetative material, meanwhile reducing the intravarietal diversity. In order to conserve this genetical diversity and use it to develop new vegetative material answering viticulturists' needs and adaptation to climatic changes, Mercier frères nursery started a UNIK® massal selection program for Chenin in 2004. The aim of this massal selection was to detect different genotypes that presented moderate vigor and fertility, aerated bunches of grapes, non-early debudding and organoleptic properties superior to the control's.







Schematic explanation of UNIK® massal selection process.

MATERIAL AND METHODS:

The UNIK® massal selection process starts with prospecting phenotypically different individuals in parcels of over 50 years. For this selection, 260 vines were selected in several parcels from the main Chenin production regions of Val de Loire. The sanitary state of the material being the base of a persisting vineyard, a first sanitary selection was made with a primary and secondary viruses' analysis by ELISA and qPCR. It led to the plantation of an experimentation parcel in Savennières, with 22 genotypes, randomly planted in 5 blocks of 10 vines, in comparison with a reference clone (220). At the third leaf, 3 years of agronomical study are made to evaluate the yield, the total grapes' weight, one grape's weight, 100 berries weight, the potential level of alcohol and total acidity. The aim of the agronomical selection was to obtain vines that were resistant to Botrytis and flower abortion, with moderate production, less compact clusters, non-early debudding and oenologically superior to the clonal reference. After a first agronomical selection, 4 genotypes were micro vinified for 3 years and compared in blind testing.

AGRONOMICAL STUDY

After 3 years of growth, evaluation of the harvest weight/plant, grapes' weight, berries' weight, total acidity, pH and potential level of alcohol.

OENOLOGICAL STUDY

After 3 years of agronomical study we start microvinifications on chosen genotypes with approximately 50kg or grapes.

UNIK

Starting the 1st year of microvinification, a UNIK brand can be offered to our clients with the whole selected genotypes mixted.



Experimentation parcel of Chenin massal selection. Selected genotypes are in yellow, reference clone is in grey.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Means of bunches compacity (2014-2016)

Means of total grapes' weight/cep (kg, 2014-2016)



DISCUSSION: The results obtained during this 6 years study, supported with statistical analysis, allowed the selection of 5 Botrytis and flower abortion resistant genotypes, with low compacity clusters, moderate production and better in tasting than





the reference clone. The agronomical and oenological features of each genotypes is expanded by a global homogenization of harvest quality and maturity.

> ¹ Mercier Novatech Laboratory, Mercier Group, Le Champ des Noëls, 85770, Le Gué de Velluire, France Corresponding author: Marion Sineux, +33251525869, <u>marion.sineux@mercier-groupe.com</u>
> ²Pépinière Mercier Frères, Mercier Group, rue de la Chaignée, 85770, Vix, France, <u>olivierzekri@mercier-groupe.com</u>



