
INFLUENCIA DE LA DEFOLIACIÓN ANTES DE LA FLORACIÓN EN LA CALIDAD DE LA UVA Y EL RENDIMIENTO EN LAS VARIEDADES `RIESLING` Y `ZWEIGELT`

Se evaluaron en un ensayo de dos años, en las variedades de uva Riesling y Zweigelt, los efectos de varias medidas de defoliación en: las quemaduras solares, la botrytis, la densidad de la uva, el rendimiento, el peso de la uva, los mordiscos de animales de caza, el peso del mosto, el peso del racimo, la acidez, el pH, los niveles de fenoles y el nitrógeno en el mosto. En 2012 aumentó en la variedad de uva Riesling el daño por quemaduras solares debido a la defoliación y, en particular, a la eliminación temprana de las seis hojas y brotes más bajos antes de la floración en la escala BBCH 57. En 2013 el daño por quemaduras solares fue significativamente menor debido a las condiciones climáticas y, al igual que con la variedad de uva Zweigelt, se produjo solo en algunas bayas. La misma medida tuvo un efecto reductor significativo sobre la botrytis en la variedad Riesling, mientras que la infestación fue significativamente más alta en la variedad donde no se habían eliminado hojas ni brotes. En la variedad Zweigelt, la botrytis fue muy baja y solo en algunas bayas. No se pudo determinar una reducción en la densidad de las uvas por la defoliación antes de la floración en la variedad Riesling. La densidad de las uvas fue clasificada de media a densa. En el caso de la variedad Zweigelt, la densidad de las uvas se redujo significativamente de densa a media debido a la defoliación temprana y la eliminación de brotes. En ambas variedades de uva, el rendimiento y el peso de la uva se redujeron significativamente en las vides en las que se eliminaron las hojas y los brotes antes de la floración. Dependiendo del año la reducción del rendimiento en la variedad Riesling fue de 16% y 21% y en la Zweigelt de 28% y 35%, respectivamente. El peso de la uva disminuyó según el año un 20% y un 15% en la variedad Riesling y un 24% y un 29% en la Zweigelt. El peso del mosto se redujo significativamente en ambos años en la variedad de uva Riesling en las variantes en las que se eliminaron las seis hojas inferiores y los brotes en la etapa de la escala BBCH 83 (decoloración de la baya): de 0,8 a 1 ° KMW o de 0,4 a 0,7 ° KMW, respectivamente. No ocurrió lo mismo con la variedad Zweigelt. Debido a la eliminación temprana de las seis hojas inferiores y de los brotes antes de la floración, el peso del mosto no se vio afectado en ninguna de las dos variedades de uva. Solo en 2012 y solo en la variedad de uva Riesling, el contenido de fenoles totales en el mosto de la muestra donde se produjo la defoliación antes de la floración aumentó significativamente a 0,039 g / l. Los valores de nitrógeno en el mosto se dispersaron ampliamente dentro de las variantes experimentales en ambas variedades de uva sin diferencias significativas. La evaluación sensorial de los vinos Riesling no arrojó diferencias significativas en ambos años.

2019-2156: EVALUATION OF BREEDING POTENTIAL OF WILD GRAPE ORIGINATING FROM ARMENIA

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Genetic variation is the basis for adaptation of the crop to any future challenge. These challenges now are mainly new pathogens, new pests and new climatic conditions. The reduction of genetic diversity means a permanent disappearance of some genes from the primary and secondary gene pool, which reduce proportionally the ability of one species to adapt to new challenges. Crop wild relatives provide a useful source of genetic variation and represent a large pool of genetic diversity for new allelic variation required in breeding programs. The wild grapevine (*Vitis vinifera* L. subsp. *sylvestris* Gmel.) is a rare and endangered plant subspecies, heavily threatened in its natural habitats, and high priority is given to the collection and preservation of this germplasm. The preservation of wild populations of *Vitis vinifera* ssp. *sylvestris* is considered essential for the maintenance of genetic variability and the resistance to genetic erosion.

Armenia is an important centre of origin both for cultivated *Vitis vinifera* ssp. *sativa* and wild *Vitis vinifera* ssp. *sylvestris*. Besides centuries of tradition in viticulture and winemaking, Armenia possesses a high diversity of local autochthonous, and modern cultivars, as well as wild grape populations. Owing to recent prospection in Armenian woods and river floodplains many forms of wild grapevine *Vitis vinifera* ssp. *sylvestris* (approx. 3000 accessions) were discovered and inventoried, which is an important prerequisite to unlock their breeding potential in the future. During the last years, grapevine wild species have acquired a considerable interest, because they represent promising and valuable genetic resources for breeding. Resistance factors from North American wild grapes have been already successfully used to breed new varieties with resistance against Downy and Powdery Mildew, and these varieties have been commercially successful as a core element for sustainable viticulture. However, as a strategy to render the success of resistance breeding more sustainable, new sources of resistance are required. The resistance factors have to be understood in context with the complex evolution of plant immunity, which is composed of evolutionarily ancient basal immunity, complemented by a more efficient and specific second line of defence.

The fact that some genotypes of *V. sylvestris* can withstand the diseases is likely to be due to a more efficient basal immunity. Since phytoalexins, such as the stilbenes, are the central element of plants basal immunity, the overall goal of the proposed research was to characterize the diversity of *V. sylvestris* from Armenia with respect to its capacity for stilbene biosynthesis, which might be exploited as a genetic resource for resistance breeding. To achieve this goal it was necessary to screen

completely the wild species originated from Armenia to unlock and explore the gene pool of promising wild genotypes. In European countries, the activities to breed disease resistant cultivars of grapes are increasing. But the breeding programs need primarily to rely on the source material - genetic resources that harbour genes for resistance. Local genetic material found in Armenia contains genes of natural resistance to pests and diseases affecting grapevine production and our research would enable incorporation of resistance genes into future plant material, contributing to more environment-friendly and efficient grape production.

The realized project stimulates the recovery, characterization and preservation of wild *Vitis vinifera* grape germplasm, presently at risk of extinction. The recovery and characterization of wild genotypes will be the base of selection of genetic traits important in breeding programs for the generation of biotic and changing climate tolerant grapevine varieties and rootstocks, both necessary for the future of viticulture in Armenia and in Europe

2019-2157: CLIMATE CHANGE PLANNING IN VITICULTURE: NEW ZEALAND WINEGROWERS' PERSPECTIVES ON ADAPTATION

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New Zealand wine is cultivated in cool climates which produce distinctive wine-styles representative of the terroir from several different wine regions. Climate change can affect the quality and quantity of wine produced. However, effective adaptation can lessen the adverse effects of climate change and enhance resilience. This paper evaluates winegrowers' perceptions of climate change to determine the level of adaptation being implemented in the New Zealand wine industry. Through the use of an original survey and supplementary semi-structured interviews, winegrowers revealed the aspects of climate change they feel susceptible to and what adaptation strategies are being developed or utilised. The findings show that some adaptation planning is currently taking place, however, few of the adaptation strategies are being carried out. The research found winegrowers to be reactive in their decision-making, first looking to observe climate change over time before planning or implementing an adaptation strategy. The observed changes that have driven a reactive response include increased severity of droughts and grape disease. Winegrowers reported different levels of adaptation activity based on socio-economic and information barriers, as these factors hinder the decision-making process.

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