

## **On-farm inventory of minor grape varieties in the European *Vitis* Database**

**(GrapeOnFarm)**

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## Activity Report

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### 1. INTRODUCTION

It is estimated that 6000 to 8000 grape varieties exist in the world. Large parts of this diversity, namely minor varieties, were nearly forgotten. The main reasons that contributed to the decline of these traditional varieties were Phylloxera crisis in the second half of the 19th century, abandonment of mixed plantings, strict clone selection and restrictive national wine laws. In 2013, Anderson and Aryal reported that 1271 wine varieties were in cultivation. They found Cabernet Sauvignon, Merlot and Tempranillo on the top for red wine production and for white wine the rank list was headed by Airen, followed by Chardonnay and Sauvignon blanc. A continuing concentration was determined with only 15 wine varieties planted on half of the world's grape area in 2010. In the last one to two decades an opposing trend against the spirit of time appeared. The term ABC (anything but Chardonnay) speaks about consumers tired of standardized products. Growers' magazines and wine journals report about the renaissance of neglected grape varieties and the discovery of unique and particular products which not everybody knows.

Neglected local and traditional varieties are still grown in vineyards, maintained by elderly growers or grape enthusiasts preserving tradition or just because they exist on the farm. They represent a huge treasure of useful traits, e.g. adaptation to ecological conditions and agronomic or organoleptic values with a high potential for diversification. Wines from these rare varieties are niche products, thus providing a high added value. The history of the varieties is used for marketing as well as cultural heritage aspects and the liaison between a variety and the terroir, called "typicality".

With respect to the safeguard of rare grape germplasm, the on-farm preservation supports grapevine collections. A larger number of plants and clones are conserved on farm, eventually broadening the varieties genetic basis. In addition, under practice conditions a deeper knowledge about agronomic features and wine quality can be reached.

Recognizing the heritage and value of traditional crop genetic diversity maintained on farms, in 2017 ECPGR published a "Concept for on-farm conservation and management of plant genetic resources for food and agriculture" (ECPGR 2017). Most priority actions given in the document are transmissible to *Vitis*. They encompass the agreement on descriptors, the creation of a European inventory, the development of indicators for threat levels, proposition of legal solutions hampering on-farm conservation. Focus on these four issues was laid in the scope of the ECPGR Grant Scheme Activity "[On-farm inventory of minor grape varieties in the European \*Vitis\* Database \(GrapeOnFarm\)](#)".

The inventory of on-farm producers is intended as a framework addressed to wine growers and wine consumers. It should serve the exchange of experience, promote the use of minor varieties and facilitate access to propagation material. An ambitious objective is obtaining the active participation of wine growers for monitoring on-farm conservation.

### 2. MATERIALS AND METHODS / APPROACH

#### 2.1 Announcement of the initiative

In February 2017 a short text was elaborated, describing the background and scope of the ECPGR-GrapeOnFarm project, in particular safeguard of minor varieties via conservation on farm and the establishment of a grape on-farm database. To find supporting institutions and wine growers the partners adapted the text to their national context. The initiative was disseminated via growers' magazines and other professional press media. Conferences, meetings of professionals or growers

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associations, networks of grapevine collections and projects were used to present the activity and to directly contact stakeholders.

### 2.2 Descriptors

Descriptors that could reflect the answers for “Who?” is maintaining and “What?” and “How?” were assembled under the three categories “Grower”, “Variety preserved” and “Vineyard conditions”, respectively. A separate category “Commitments” was added to take into account the growers’ collective intention about germplasm. Descriptors were translated by partners.

Supporting documents were the descriptor list for on-farm maintenance defined within the GrapeGen06 project (2007-2011) and the *ECPGR Concept for on-farm conservation and management of plant genetic resources for food and agriculture*.

### 2.3 Workshop

The workshop was held at the Julius Kühn-Institut, Institute for Grapevine Breeding Geilweilerhof on 10 October 2017.

Topics were in line with the four outcomes of the project:

- Announcement of the initiative and feedback from growers
- Descriptor list for on-farm conserved varieties
- Categories for vulnerability
- Strategies for a facilitated process for legal growing of varieties.

The Activity partners presented various and abundant approaches for the announcement of the initiative and provided a detailed report about the countries regulations to register minor varieties and exceptions for cultivation of varieties not included in national listings.

## 3. RESULTS

### 3.1 Descriptor list for on-farm conservation

In the scope of the workshop the participants agreed on the four categories:

- **Grower:** 12 descriptors on contact data and geographical situation of the winery
- **Variety preserved:** 17 descriptors encompassing passport data, rationale for the interest in conserving the variety such as personal philosophy or quality aspects, origin of the material and trueness-to-type traceability
- **Vineyard description:** 17 descriptors about plantation, training and trellising, soil, pest management, virus status and marketing.
- **Commitments:** 6 descriptors about connections to local networks or an official institute and the readiness to share the material and safety-duplication.

The final list is available at the GrapeOnFarm Activity webpage (<http://www.ecpgr.cgiar.org/working-groups/vitis/grapeonfarm>) and will be included in the European *Vitis* Database as well.

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#### 3.2 On-farm descriptor data for the European *Vitis* Database ([www.eu-vitis.de](http://www.eu-vitis.de))

Up to the workshop held on 10 October 2017, feedback from growers was disappointing. In spite of huge efforts, in most countries feedback from wine growers was weak. Best results were achieved in Albania, Montenegro and Serbia. The participants agreed that the direct contact with each wine grower might achieve the best results. Reasons for the lack of interest by wine growers were discussed, e.g. additional work, too many descriptors, no benefit for the wine grower to be listed on the European level, fear of control, some of the varieties are not on the national list.

Nevertheless in total 172 vineyards conserving traditional varieties were gathered. A large number of vineyards were recorded by the Spanish participant (97). The successful collection was due to a national project including more than 70 experts in viticulture and oenology financed by the Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, launched in 2012. Further vineyards were reported by Albania (16), Montenegro (14), Croatia (13), Germany (13), France (11), Serbia (5) and Austria (3).

The descriptor data will be included in the European *Vitis* Database. A modern on-farm tool, attractive for wine growers, consumers and other interested users is going to be developed in the next few months.

#### 3.3 Criteria to determine vulnerability of rare traditional cultivars

With regard to an easy procedure for registration of rare traditional cultivars in national listings, it is important to answer the question “which varieties can be considered as minor, respectively neglected or endangered”. Criteria and threat categories were modified from a table given by Maletić et al. (2015) who themselves had adapted it from the IUCN Red List Categories and Criteria, Version 3.1, second edition (IUCN 2012). Four threat categories were set up and two categories for safe varieties: (1) critically endangered, (2) endangered, (3) vulnerable, (4) nearly threatened, (5) least concern and (6) no concern. The table is used to advance discussions of the frame conditions for the legal cultivation of rare traditional grape varieties. The final list is available at the GrapeOnFarm-Activity webpage (<http://www.ecpgr.cgiar.org/working-groups/vitis/grapeonfarm>).

#### 3.4 National procedures for inclusion of a minor variety in the national catalogue

National procedures for registration of minor cultivars were presented by each participating country. Similarities are given, like the use of DUS criteria and the assessment of the agronomic and technical value of a variety in nearly all countries. However, the possibilities allowing cultivation and marketing of minor varieties not included in the national lists and alternative legislation to easily register the rare and historical varieties are country-specific and highly diverse. Some countries follow a more liberal way. The participants of the workshop agreed that a prerequisite for a successful preservation of minor varieties on farm is to adapt the rules from countries where to date an easy registration is possible. In that context, Italy has the most advanced legislation.

A table summarizing the countries' national procedures and suggestions for adapting legislation to achieve safeguard of rare historical varieties was compiled and made available online (<http://www.ecpgr.cgiar.org/working-groups/vitis/grapeonfarm>).

#### 3.5 Proposal for an OIV Resolution

Grape genetic resources are excluded from derogations for acceptance of marketing of plant material. The question is how to achieve public awareness and how to sensitize policy-makers about neglected varieties and the risk of genetic erosion.

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In the view of pushing discussion a resolution was drafted, describing the value of minor varieties and recommending initiating a campaign at the European Commission to achieve derogation for grape genetic resources analogous to Commission Directive 2008/62/EC or to advocate for a modification of Council Directive of 9. April 1968 on the marketing of material for the vegetative propagation of the vine (68/193/EEC), Article 3, paragraph 2: "Member States provide for derogations from the provisions of paragraph 1", by adding an item "(d) varieties adapted to the local and regional conditions and threatened by genetic erosion".

## 4. RECOMMENDATIONS

### 4.1 Direct contact to wine growers

Direct contact to wine growers revealed to be the best practice to explain the rationale for on-farm conservation. Direct relationships created confidence and growers agreed to participate. The best example is Spain. Via prospections in wine-growing regions, contacts to wineries were established, yielding a high number of on-farm conservation members.

Further support is needed:

- To capture the majority of the neglected varieties further projects are needed, in particular manpower to reach that goal.
- In addition, funding (national programmes on PGRFA) might induce cooperation regarding the transmission of (yearly) updates to be sent by growers.
- Descriptors related to agronomic and oenological features and wine quality were not considered, but of course would be useful for all users of grape germplasm. Recording of the varieties' aptitudes is thus a future goal.

### 4.2 Inclusion of a minor variety in the national catalogue according to the Italian system

The participants concluded that the Italian system is simple and does not produce any costs. A change to the current system seems to be expected in the near future, installing a more strict system. However, the registration procedure given below is still in force:

National procedure for listing a vine variety in the Italian national Register (by Mario Pecile, extract from a personal communication, 6 February 2017)

The request for registering a variety has to be drawn up according to the guidelines of the Commission Directive 2004/29/EC of 4 March 2004 on determining the characteristics and minimum conditions for inspecting vine varieties and sent to the relevant Office of the Ministry (of Agriculture, Food and Forestry policies). Registration of vine varieties in the Register has been usually requested by Public Administration Bodies (e.g. Universities, Experimental Centres) that use to carry out kind of DUS trials. A DNA test is also requested.

Then the documentation is conveyed to a relevant Committee that gives its opinion. If it is favourable, the variety is listed in the Register by a ministerial decree that is published on the Official Journal.

There are no costs for listing a variety in the Register.

Some plants of each variety are grown at our Centre in Susegana in the so-called "field Register". Before cultivation, a variety for wine production must be "classified". This means that it must be proved that a variety for wine production is well adapted to a given territory and its production of good quality wine is satisfactory. In Italy the Regions are responsible for the trials for classification.

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There are no costs for classification.

### 4.3 Use of the report to reach harmonization

The report of the ECPGR Grant Scheme Activity “GrapeOnFarm” should be sent to the Ministries of Agriculture, Research and Environment in all European countries to raise awareness about the topics treated above.

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## ANNEXES

All elaborated tables were put online at the GrapeOnFarm-activity webpage (<http://www.ecpgr.cgiar.org/working-groups/vitis/grapeonfarm>).