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Grapevine European Catalogue: Towards a Comprehensive List

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Introduction

Starting from the 1950's, different European countries have established official lists of grapevine varieties authorized to be cultivated. The objectives of such lists were to limit ambiguous denomination of varieties and the related trade conflicts, as well as the implementation of viticulture recovery politics through the support of certain varieties and the limitation of others. In the same direction, in 1968 the European Union (EU) decided to create a “common catalogue of varieties”, defined as the sum of current national catalogues (Council Directive of 9 April 1968 “on the marketing of material for the vegetative propagation of the vine”, 68/193/EEC, modified). These catalogues (also called “registers”) include all the wine varieties “classified” by each Member State within the framework of the Common Organisation of the Market in wine (Council Directive No 479/2008), as well as all the non-classified varieties (table grape, rootstocks, etc.).

For this work, we took the opportunity of the European research program “GrapeGen06”, focused on the study and the preservation of grapevine genetic resources, to contribute to the establishment and improvement of such

an European catalogue. The comprehensive survey aims at two objectives: to support the implementation of European regulations on propagation of grapevine plants within the EU, and to assess priority actions, by technical and research institutes, for the conservation of grapevine genetic resources.

Method

The European research program “GrapeGen06” on grapevine genetic resources (2007-2010, <http://www1.montpellier.inra.fr/grapegen06>) funded by the European Commission in the frame of EC Regulation No 870/2004, grouped together 24 partners belonging to 18 countries: (a) 11 Member States of the EU: Austria (AUT), Czech Republic (CZE), Cyprus (CYP), Germany (DEU), Spain (ESP), France (FRA), Greece (GRC), Hungary (HUN), Italy (ITA), Portugal (PRT) and Slovakia (SVK); (b) 7 third countries: Azerbaijan (AZE), Switzerland (CHE), Georgia (GEO), Croatia (HRV), Morocco (MAR), Moldova (MDA) and Turkey (TUR). On the other hand, 10 other Member States of EU having an official national catalogue

of authorized grapevine varieties were not represented in the GrapeGen06 program. These are: Belgium (BEL), Bulgaria (BGR), Denmark (DNK), United Kingdom (GBR), Luxembourg (LUX), Malta (MLT), Nederland (NLD), Romania (ROU), Slovenia (SVN) and Sweden (SWE).

The survey was done grouping all the national catalogues published by the administrations of those countries. Then the different lists were compiled, retaining the following information: (a) official registered name in the country, and registered synonyms if available, (b) grapevine species name: *Vitis vinifera*, American *Vitis* species for rootstocks or interspecific crosses, (c) colour of the berry: yellow green (B), rose (Rs), red (Rg), grey (G), dark red violet (RgV), blue black (N), according to the 2nd edition of the OIV descriptor list for grape varieties and *Vitis* species, (2007, www.oiv.int), (d) utilisation in the country: wine grape, table grape, rootstock, etc.

We verified that each variety of a given national catalogue was represented only once. If duplicates were found, they were pointed out and aggregated in one record with the names separated by a ‘ / ’ (e.g. in Italy: ‘Favorita’ / ‘Pigato’ / ‘Vermentino’).

A harmonization was then carried out by checking the correspondence of each variety name with the “Prime name” registered in the *Vitis* International Variety Catalogue (VIVC, www.vivc.de). VIVC is the most important on line database concerning grapevine genetic resources, and its use as reference helped to group the varieties under a common and consensual identifying label. Lastly, the experts of each country involved in GrapeGen06 project were asked to validate the full list of correspondences.

Results

The compilation of 24 national catalogues (among which 19 Member States of EU) is presented in the form of 6 pdf documents available on the following website: http://www1.montpellier.inra.fr/grapevine06/page_results/EU-catalogue.php

The 6 following documents are offered: Annex 1A: list of the grape varieties registered in the EU Member States, and the official names of registration in each country concerned. Annex 1B: same list for EU members and third countries partner in GrapeGen06 program. Annex 2A: index of the official names of grape varieties registered in the Member States of EU, and their common “prime name” according to VIVC. Annex 2B: same index for EU members and third countries partners of GrapeGen06 program. Annex 3A: official national catalogues of grape varieties for each Member State of the EU. Annex 3B: same official national catalogues for EU member and third countries partners in GrapeGen06 program.

Number of varieties: According to this work, a total of 1,902 grape varieties (both for fruit production and rootstocks) are officially authorized for cultivation at least in one Member State of the EU. This number increases to 2,173 when taking into account the other third countries partners in GrapeGen06 program. The variety distribution per country is shown in Tab. 1.

Many varieties (1,246) are registered only in one single Member State. This means that, for a large number of varieties, responsibilities of maintenance are too concentrated referring to just one country. Therefore, progresses in conservation and selection of grape genetic resources depend on the improvement of European cooperation and sharing among countries. On the other hand, 97 varieties are registered in at least 5 Member States of the EU. The most mentioned cultivars in the catalogues of Member States are shown in Tab. 2.

It is worth noting that in certain countries (eg Spain, Italy, Portugal), a single variety can be officially registered under two or more distinct names. The number of varieties shown in Tab. 1 takes into account those redundancies. Those cases, although not frequent, should be eliminated in the future updates of national catalogues in order to avoid confusion.

Identity of the varieties: The study of the ampelographical identity of the varieties registered in different countries brought to light the existence of 234 varieties from EU without a clear reference into the bibliographical database VIVC. This number rises to 285 if we consider the third countries partner in GrapeGen06 program. This lack of references can be explained by: i) the absence of any publication concerning the variety (e.g. ‘Virgilio’, ‘Pelso’), ii) the uncertain denomination covering several distinct varieties (e.g. ‘Madeleine’, ‘Malvasia’, ‘Muscat’, ‘Tocai’), or iii) a poor correspondence between the bibliographical references of VIVC database and the real identity of the grapevine according to the ampelographers of the concerned country (e.g. ‘Miguel de Arco’).

Synonymy of the varieties: The harmonized compilation of national catalogues allowed to establish a list of synonyms officially usable for trade by European countries. Almost all of those synonyms were already listed in the VIVC database and/or in the ampelographical literature. Many so called synonyms were actually national variant or translation of a given name (e.g. ‘Alvarinho’ - ‘Albarinho’ - ‘Alvariño’, ‘Silvaner’ - ‘Sylvaner’ - ‘Silvaner Grün’). The original synonyms, less frequent, are more relevant for trade purpose (e.g. ‘Trebiano toscano’ - ‘Ugni blanc’). Up to seven registered original synonyms for a single variety were found (e.g. ‘Afuz Ali’, ‘Blaufränkisch’).

Utilization of the varieties: Of the 1,902 EU registered varieties, 77 were rootstocks (4 %) and the rest were used for fruit production. Of the fruit varieties, 1,234 were traditionally used to produce wine, 250 as table grapes, 249 for both wine and table and 92 have no indication concerning their potential utilization.

Berry colour of varieties destined to fruit production: Among the 1,825 varieties used for fruit production in the Member States, 849 (46 %) yellow-green berries, 804 (44 %) have blue-black berries, 67 (4 %) red berries, 57 (3 %) rose berries and 13 (< 1 %) grey berries. For 35 varieties (2 %), the colour of the berries is not indicated.

Genetic origin of the varieties: Among the 1,825 varieties used for fruit production in the Member States, 1,587 (87 %) are representatives of the species *Vitis vinifera*, 88 (5 %) are interspecific hybrids of *Vitis* sp.

Table 1

The distribution by country of the grape varieties included in the national catalogues

Country	Number of grape varieties in the national catalogue	Year of the national catalogue update
Austria (AUT)*	105	2008
Belgium (BEL)	34	2000
Bulgaria (BRG)	166	2009
Cyprus (CYP)*	109	2000
Czech Republic (CZE)*	89	2007
Germany (DEU)*	163	2010
Denmark (DNK)	38	2000
Spain (ESP)*	222	2010
France (FRA)*	338	2010
United Kingdom (GBR)	45	2000
Greece (GRC)*	197	2007
Hungary (HUN)*	146	2010
Italy (ITA)*	548	2010
Luxembourg (LUX)	16	2000
Malta (MLT)	56	2000
Nederland (NLD)	50	2000
Portugal (PRT)*	511	2010
Romania (ROU)	124	2009
Slovakia (SVK)*	37	2000
Slovenia (SVN)	54	2000
Sweden (SWE)	10	2000
Switzerland (CHE)	113	2007
Georgia (GEO)	58	1998
Croatia (HRV)	231	2009
Moldova (MDA)	86	2009
Turkey (TUR)	78	2009

Members States
of the European Union
(* partners in GrapeGen06 program)

Third Countries
partners in
GrapeGen06 program)

Table 2

List of the most mentioned grape varieties in the national catalogues of EU

Varieties	No. of Member States where the varieties are officially registered (/ 21)
Chardonnay Blanc	21
Pinot Noir, Riesling Weiss	19
Pinot Gris, Sauvignon Blanc	18
Muscat à Petit Grains Blancs	16
Cabernet-Sauvignon, Merlot Noir, Müller-Thurgau, Pinot Blanc, Silvaner Grün, Traminer Rot	15
Cabernet Franc	14
Chasselas Blanc	13
Muscat Ottonel, Syrah	12
Portugieser Blau, Muscat Hamburg	11
Furmint, Gamay Noir, Kerner, Pinot Meunier, Regent, Welschriesling, Zweigeltrebe Blau	10

and 150 (8 %) have no genetic origin indicated. For the 77 rootstocks varieties, the major genetic compositions are *berlandieri-riparia* (20 %), *berlandieri-rupestris* (12 %), *berlandieri-vinifera* (7 %) and *riparia-rupestris* (6 %).

Conclusion

The present attempt to establish a comprehensive and harmonized list of grapevine varieties authorized in Europe represents the contribution of the group of experts within

the project GrapeGen06. In no case is this work intended to substitute for administrative initiatives in progress and has the sole aim to make available to professionals a usable document. To the involved people, the list presented here is a tool that will facilitate the implementation of the European regulations on grapevine. It also offers a panorama of the European grapevine genetic potential, thus enabling to specify whose responsibilities are involved and how much efforts should be produced to plan a sound genetic resources protection and further breeding. In this respect it is worth to underline the fact that over half of

the varieties are registered in only one Member State. This opens new perspectives emphasizing the importance of European inter-institute cooperation for sharing conservation and breeding responsibilities.

Considering the natural evolution of the national catalogues of grape varieties in each Member State and the

progress in grape variety identification, it would be necessary to consider an annual update of this European harmonized catalogue.

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