

Overview of Grape Certification Programs in the European Union (EU)

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Main Virus and virus-like diseases in the EU region

- A. Grapevine degeneration complex including Grapevine fanleaf virus and other European nepoviruses
- B. Grapevine leafroll complex
- C. Grapevine rugose wood complex
- D. Grapevine fleck disease
- E. Phytoplasma-induced diseases (yellow diseases)

Pan-European regulation of the grapevine industry faces a very common European challenge:

The independent desires of the various nations often come into conflict with the effort to establish a trans-national framework for the common good.

What is needed

To control the spread of virus disease effects on grapevine, through

Sanitary Selection and Certification

Grapevine Certification in the EU

Council of the European Economic Community (EEC)
Directive (L93 of April 1968)

*"Marketing of vegetatively propagated
grapevine material"*

which classified this material in three categories:

"basic", "certified" and "standard"

EEC Directive (L93 of April 1968)

Annexes I & II points 3-5

- 3- «When nurseries or mother vine plots for the production of "basic" and "certified" propagative material are established, the highest possible guarantee must exist that the soil is not infected by **harmful organisms, virus in particular**»
- 4- «In these vineyards the presence of **harmful organisms** which reduce the value of propagative material is **tolerated only within the narrowest possible limit** »
- 5- «these vineyards must be kept free from plants **showing symptoms of virus diseases** »

U.E. Directive L93 of April 1968

*"Marketing of vegetatively propagated material
of grapevines"*

Amendment of 22 March 1971

Directive # L71/140 of 22 March 1971

5. «In the vineyards producing "basic" material, harmful virus diseases, notably fanleaf and leafroll must be eliminated»

U.E. Directive L93 of April 1968

"Marketing of vegetatively propagated material of grapevines"

Amendment of 28 September 1977

Directive # L77/629 of 28 September 1977

«The methods that can be used are:

- For all virus diseases, **woody indexing**
- For fanleaf, **in addition to woody indexing, sap inoculation on herbaceous hosts and serology**»

U.E. Directive L93 of April 1968

"Marketing of vegetatively propagated material of grapevines"
updated in 1971 and 1977

There are six main viticultural countries in the EU

- The initial participating countries were: France, Germany and Italy
- They were followed by: Spain, Portugal and Greece
- Each member state created its own legislations
- The application of the standards varies from country to country

The L93 (1968) Directive was highly Unsatisfactory

1. It was outdated: it failed to incorporate more recent emerging diseases.
2. It did not specify standardized certification protocols for propagative material.
3. As a result: **The health status of certified clones varied from country to country**

Non-uniformities between member countries

Rugose wood disease (RW)

- **In Germany:** RW is less important, and is not included in the sanitary selection scheme; no detection tests are made for it there
- **In Italy:** RW is a major problem, and is addressed using PCR screen for *GVA*, and biological indexing for Kober stem grooving

Further discrepancies

- **Closteroviruses:** Many of the EU nations specifically mention **GLRaV-1** and **GLRaV-3** but seem to ignore other leafroll viruses. For example, **GLRaV-2** is accepted in France as endemic.
- **Grapevine fleck virus:** In **Germany** and **France** testing is limited to rootstock varieties

What is needed is harmonization

EEC Directive L93 (1968) should be standardized, so that the certification protocols are uniform in all the member states.

Efforts to harmonize the certification scheme in the EU have been undertaken

- 1992, Committee from the International Council for the Study of Viruses and Virus-like Diseases of the Grapevine (ICVG) reviewed the certification programs in the various member states, and **proposed uniform standards.**
- Those standards were then adopted by the European and Mediterranean Plant Protection Organisation (EPPO).

Schemes for the production of healthy plants for planting
Schémas pour la production de végétaux sains destinés à la plantation

CERTIFICATION SCHEME

Pathogen-tested material of grapevine varieties and rootstocks

Specific scope

This standard describes the production of certified pathogen-tested material of grapevine varieties and rootstocks.

Specific approval and amendment

First approved in September 1993 and revised in 2008.

Outline of the EPPO scheme

For the production of certified grapevine varieties and rootstocks, the following successive steps should be taken

- 1. Selection of candidates for nuclear stock:** Selection for pomological and enological quality
- 2. Production of nuclear stock:** To become nuclear stock plants, selected vines should undergo testing for the harmful diseases and pathogens occurring in the EPPO region
- 3. Maintenance of nuclear stock:** Pot individually a limited number (2-5) of nuclear stock plants of each source (clone) of each variety or rootstock type taken into the scheme, and grow them under conditions ensuring freedom from re-infection by aerial or soil vectors.

Outline of the EPPO scheme

- 4. Production of propagation stock:** propagation stock is produced from nuclear-stock material in as few steps as possible under conditions ensuring freedom from infection.
- 5. Production of certified plants:** certified plants (grafted varieties, vegetatively-propagated rootstocks) are produced in nurseries from the propagation stock. For grafted plants, rootstocks of at least propagation stock standard should be used.

The protocols classified the grapevine propagation material into 5 categories with a color coding system:

1. PRIMARY SOURCE
2. PRE-BASIC
3. BASIC
4. CERTIFIED
5. STANDERD

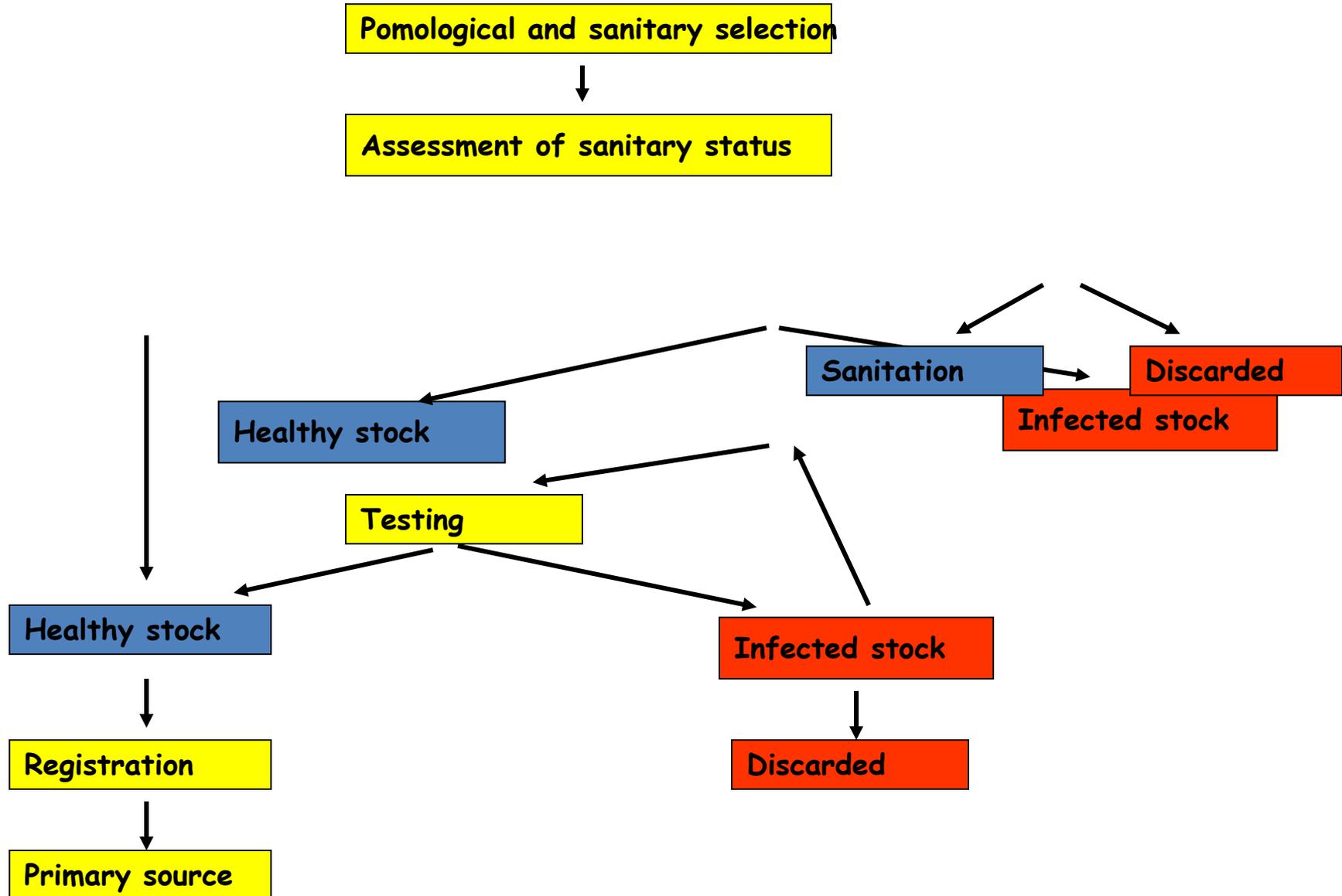
PRIMARY SOURCE

“Nuclear stock”

After pomological and sanitary selection, primary source plants are individually registered and maintained by the breeder in an insect-proof, nematode-free repository.

PRIMARY SOURCES

Nuclear stocks



PRE-BASIC

Materials or plants directly derived from the "primary source", grown under the responsibility of a public agency, under conditions ensuring freedom from re-infection and are identified by a white label with a blue band

NORME	CEE
ISTITUTO SPERIMENTALE VITICOLTURA CONEGLIANO VENETO (ITALIA) Servizio contr. e certif. mat. multipl. Vite	
<hr/>	
BARBATELLE FRANCHE ----- VARIETA':	
157.11 - UBA - 01	
CATEGORIA:	PRE-BASE
QUANTITA':	50
PAESE DI PRODUZIONE:	ITALIA
PRODUTTORE:	
NUCLEO PREMOLTIPLICAZIONE MATERIALE VITICOLO DI BASE C.R.S.A. Locorotondo (Bari)	

BASIC

Material derived from the multiplication of pre-basic stocks, propagated under conditions ensuring freedom from re-infection. Plants of basic category may be grown outdoors under the direct management and control of a public agency and are identified by a white label

NORME

CEE

**ISTITUTO SPERIMENTALE VITICOLTURA
CONEGLIANO VENETO (ITALIA)**

Servizio contr. e certif. mat. multipl. Vite

BARBATELLE FRANCHE ----- VARIETA':

157.11 - UBA - 01

CATEGORIA:

BASE

QUANTITA':

50

PAESE DI PRODUZIONE:

ITALIA

PRODUTTORE:

**NUCLEO PREMOLTIPLICAZIONE MATERIALE VITICOLO
DI BASE C.R.S.A. Locorotondo (Bari)**

CERTIFIED

Materials or plants directly derived from basic sources. Plants of certified category are usually grown outdoors in nurseries. Certified mother plants and material propagated from them are identified by a blue label.

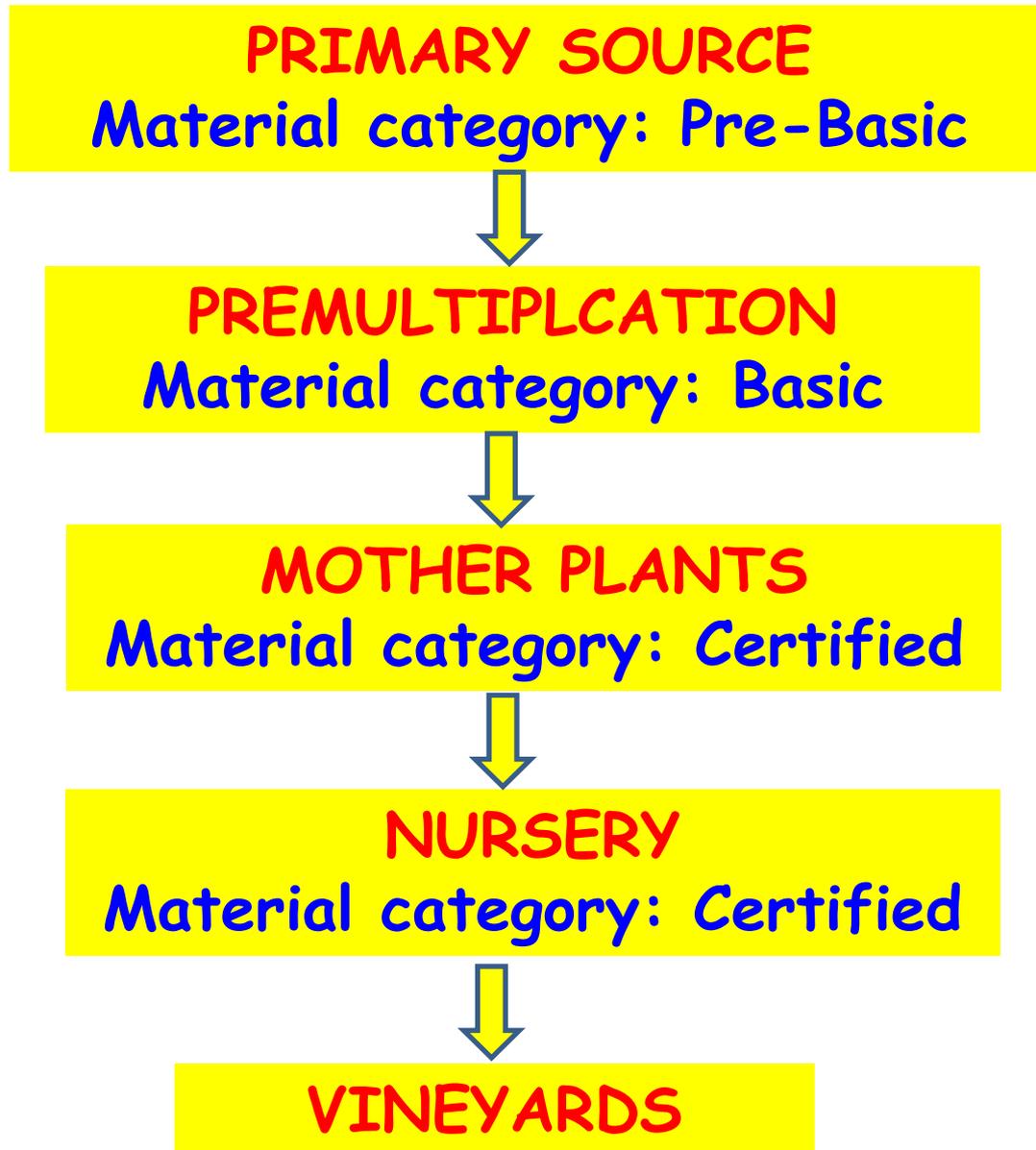
NORME	CEE
ISTITUTO SPERIMENTALE VITICOLTURA CONEGLIANO VENETO (ITALIA) Servizio contr. e certif. mat. multipl. Vite	
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BARBATELLE FRANCHE ----- VARIETA':	
779/P UBA 04	
CATEGORIA:	CERTIFICATO
QUANTITA':	50
PAESE DI PRODUZIONE:	ITALIA
PRODUTTORE:	
COVIP Sammichele (Bari)	

STANDARD

This material is true to type but it has never been tested, so it has no certified health status. This material is identified by an orange label.

NORME	CEE
ISTITUTO SPERIMENTALE VITICOLTURA CONEGLIANO VENETO (ITALIA) Servizio contr. e certif. mat. multipl. Vite	
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BARBATELLE FRANCHE ----- VARIETA':	
34 EM	
CATEGORIA:	STANDARD
QUANTITA':	50
PAESE DI PRODUZIONE:	ITALIA
PRODUTTORE:	
COVIP Sammichele (Bari)	

Italian Certification Scheme



Minimum sanitary requirements For EPPO Scheme

Tested negative by molecular/serological tests for:

- A. Grapevine degeneration complex (all mechanically transmissible nepoviruses): **GFLV, ArMV, GCMV, RpRSV, SLRV and TBRV**
- B. Grapevine leafroll complex: **GLRaV- 1,2,3,4,5,6,7 & 9**
- C. Grapevine rugose wood complex and related agents: **GVA, GVB and GRSPV**
- D. Grapevine fleck disease: **GFkV**
- E. Phytoplasma-induced diseases (yellow diseases)
Grapevine flavescence dorée phytoplasma
Grapevine bois noir and other yellows phytoplasmas

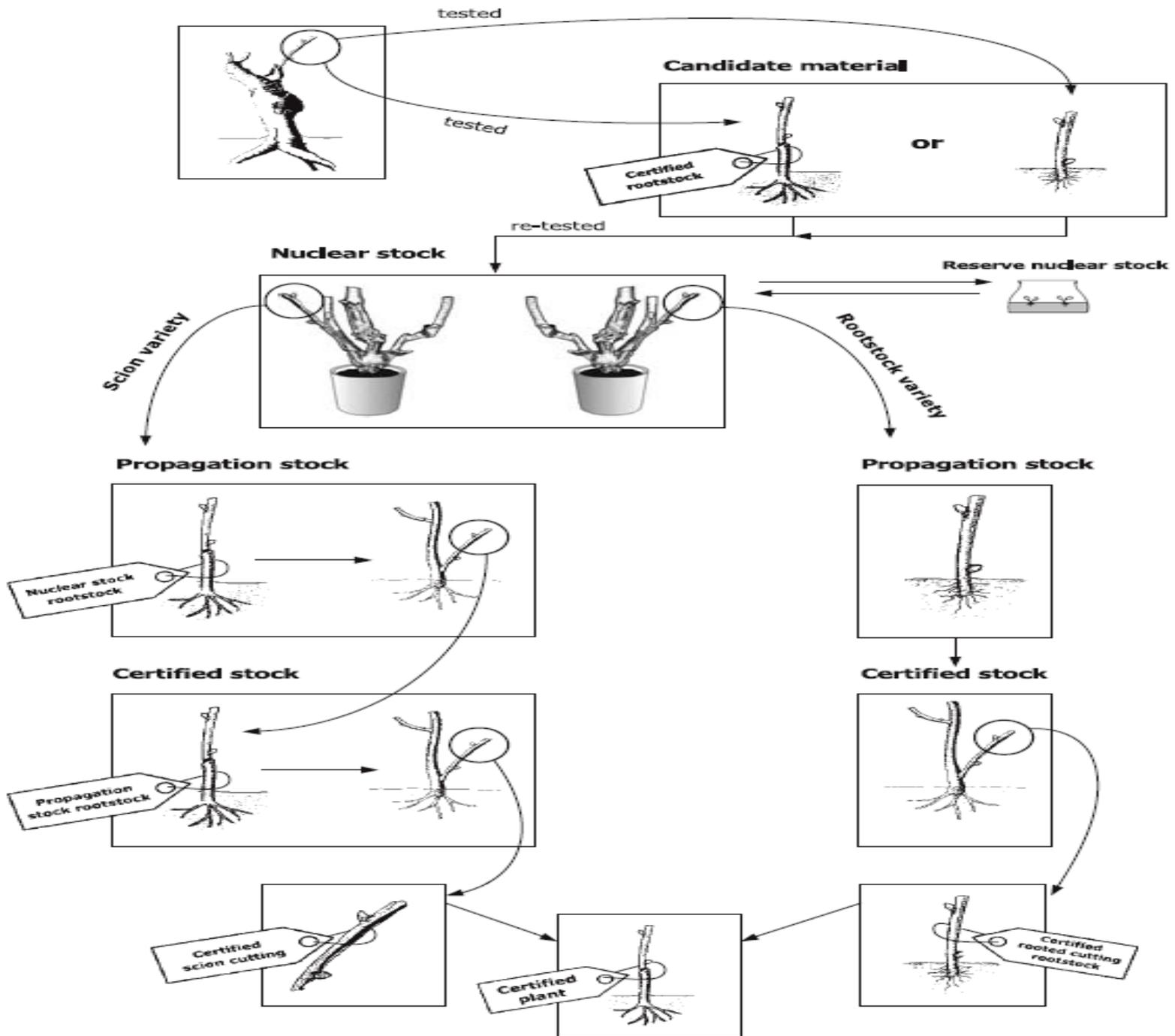


Diagram of the stages in the grapevine certification scheme.

Minimum sanitary requirements For EPPO Scheme

Tested negative by biological tests for:

Indicator	Disease identified
1. <i>Vitis rupestris</i> St George	Degeneration, fleck, rupestris stem pitting
2. <i>Vitis vinifera</i> Cabernet franc, Pinot noir and other red-berried cultivars	Leafroll
3. Kober 5BB (<i>Vitis berlandieri</i> × <i>Vitis riparia</i>)	Kober stem grooving
4. LN 33 (Couderc 1613 × <i>Vitis berlandieri</i>)	Corky bark, enation, LN33 stem grooving
5. <i>Vitis riparia</i> Gloire de Montpellier	Vein mosaic*.
6. 110 R (<i>Vitis rupestris</i> × <i>V. berlandieri</i>)	Vein necrosis*

*optional

Administration of the certification scheme

➤ Certification scheme should be carried out by an official organization (such as the **Ministry of Agriculture**) or by a specialized nursery or laboratory registered with the Ministry.

All tests and inspections during production should be recorded.

EPPO scheme includes the “gold standard” of sanitary requirements.

But such high standards are not practical for most commercial applications.

Amendment of 23 June 2005

Directive # L164/37 of 23 June 2005

24.6.2005

EN

Official Journal of the European Union

L 164/37

COMMISSION DIRECTIVE 2005/43/EC

of 23 June 2005

amending the Annexes to Council Directive 68/193/EEC on the marketing of material for the vegetative propagation of the vine

DIRECTIVE 2005/43/CE

Annex 1

Conditions relating to the growing crop

5. In particular concerning the harmful organisms referred in points (a), (b), and (c):

- (a) Complex of infectious degeneration: *Grapevine fanleaf virus (GFLV)* and *Arabis mosaic virus (ArMV)*.
- (b) Grapevine leafroll disease : *Grapevine leafroll-associated virus (GLRaV-1)* and *Grapevine leafroll-associated virus (GLRaV-3)*
- (c) *Grapevine fleck virus (GFkV)* (only in rootstocks)

Italy: Ministerial Order of July 7, 2006

- (a) Complex of infectious degeneration: **GFLV** and **ArMV**
- (b) Grapevine leafroll disease : **GLRaV-1** and **GLRaV-3**
- (c) Rugose wood disease: **GVA**
- (d) Fleck: **GFkV** (only in rootstocks)

Summary:

Grapevine certification in EU

- Only Five pathogens are covered in the regulations: *GFLV*, *ArMV*, *GLRaV-1*, *GLRaV-3*, and *GFkV* (only for rootstock)
- Each country can add requirements for any additional tests that may be needed regionally

for example: Italy tests for *GVA*, *GVB*, *GLRaV-2* & 7

Acknowledgement

- Donato Boscia, Istituto di Virologia Vegetale del CNR, UOS Bari, Italy
- Adib Rowhani and Deborah Golino

Thank you