«SILEX VITIOENO MODULE PORTE-GREFFE»: AN INFORMATION SYSTEM TO GATHER EXPERIMENTAL RESULTS ON GRAPEVINE ROOTSTOCKS

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Abstract:

Context and purpose of the study –Maintaining stable yields and quality over time is a major challenge for the wine industry. Within the context of climate change, the choice of the rootstock is an important lever for adapting to current and future climatic conditions. Within a vineyard, the choice of the rootstock depends on the environmental conditions, the scion variety and the objectives of production. Many experimental data on the performances of rootstock already exist and can guide our decision-making. The objectives of the information system "Silex viti-oeno module porte-greffe" alias "Silex porte-greffe" are to collect these data, to share it with the interested users and, by this way, to increase our common knowledge of the plant material used in viticulture.

Material and methods –"Silex porte-greffe" is an information system *(https://www6.inra.fr/porte-greffe-vigne/Silex-Porte-greffe)* created by UMR EGFV (INRA-ISVV Bordeaux) and UMR MISTEA (INRA Montpellier) that aims at collecting all the results from experiments about grapevine rootstocks. In order to improve the ability to share information, this system is based on the use of ontologies for the definition of the names of the factors, variables, and methods of measurement. AGROVOC is defined as one source of ontologies and includes vocabulary used by the international viticulture community. This platform is a tool for experimenters to record the description of their rootstock experiments, store all the data collected, facilitate their consultation and enable complex requests to get access to the stored information. Indeed, all the data will be easily accessible to their owners, their staff, their project partners or general public.

Results – Enriched by experimental results, "Silex porte-greffe" will contribute to highlight the functionalities of grapevine rootstocks such as rootstock-scion interactions, conferred vigor, phenological cycle, pest control and yield. This web application can also help to choose rootstocks that are the most adapted to environmental stress such as water deficit or iron chlorosis. "Silex porte-greffe" is a practical tool to carry out meta-analyses of data about rootstock responses.

Conclusion –The information collected in "Silex porte-greffe" guarantees a deeper knowledge of the plant material. This platform presents a real interest for experimentations to save the information and to constitute a big database about grapevine rootstocks. So far, this tool is being developed in France with professionals and research and development institutes. It could be further extended to European or international levels.

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Keywords: Rootstock, vine, database, data management platform, web application

1. Introduction.

« SILEX VITIOENO MODULE PORTE-GREFFE »: An information system to gather experimental results on grapevine rootstocks.

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CONTEXT

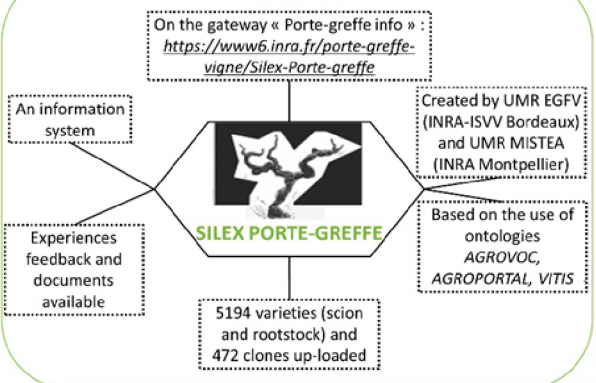
Maintaining **stable yields** and **quality** over time is a major challenge for the wine industry. Within the context of **climate change**, the choice of the **rootstock** is an important lever for **adapting** to current and future climatic conditions. Within a vineyard, the choice of the rootstock depends on the **environmental conditions**, the **scion variety** and the **objectives of production**. Many **experimental data** on the performances of rootstock **already exist** and can **guide** our decision-making. That is why "Silex viti-oeno module porte-greffe" alias "Silex porte-greffe" was created.

OBJECTIVES

OBJECTIVES OF SILEX

- To record the description of the rootstock experiments
- To store all the data collected
- To facilitate access of the owners, staff, project partners or general public to all the data
- To carry out meta-analyses of data about rootstock responses
- To increase our common knowledge of the plant material used in viticulture
- To help to choose rootstocks that are the most adapted to environmental stress

MATERIAL

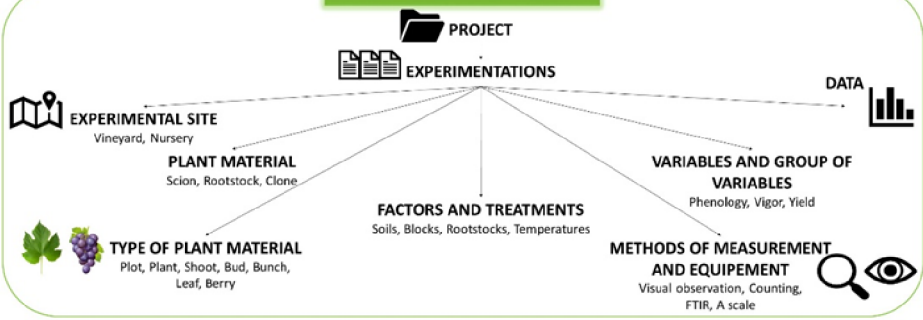


USER PROFILES

GUEST — To see public data

OWNER — To store data, to see private and public data

INFORMATION STORED



ADVANTAGES

- An easy **access** to the information system
- A fast **understanding** of the tool
- Many **supports** : a tutorial, three guides online, video tutorials, an user guide
- **Training** over a day and a half

CONCLUSION

This platform presents a real interest for **experimentations** to **save** the information and to constitute a **big database** about grapevine **rootstocks.** So far, this tool is being developed in France with professionals and research and development institutes. It could be further extended to **European or international** levels.

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