



Vigil'encre: participatory science tool for epidemiological surveillance of chestnut ink

Introduction

Chestnut ink disease is transmitted by roots. Pathogens are soil microorganisms originating from Asia introduced to Europe at the end of the 19th century. INRAE scientists have developed a Vigil'encre application to provide information on chestnut tree diseases, identify symptoms and report the location of affected stands. Vigil'encre is available on download platforms. Vigil'encre users thus participate in research carried out by INRAE on chestnut ink.

Presentation of the Vigil'encre application

The Vigil'encre application is intended for owners of forest plots or chestnut orchards, but also for all forest users and the general public.

It is organized around three functions, which are:

- Inform about chestnut tree diseases;
- Identify symptoms and diseases;
- Report chestnut trees showing symptoms.

On the Vigil'encre homepage (Fig. 1A) there are several windows and documentation on the chestnut tree (biology, distribution, use, recognition), ink disease, other diseases (chestnut canker, *Phytophthora ramorum*, Cynips). An owner, technician or forest manager wishing to have help in establishing a diagnosis on their dying chestnut trees can use the "identify" function (Fig. 1B). The symptoms observed can thus be compared to those illustrated in Vigil'encre. For ink, symptoms can be observed at the roots or crown, at the trunk or leaves. Possible confusion with other diseases or symptoms is indicated on the home page (Fig. 1A). By opening the "Report" page (Fig. 1C), it is possible to report symptoms attributable to ink, Canker and Cynips.

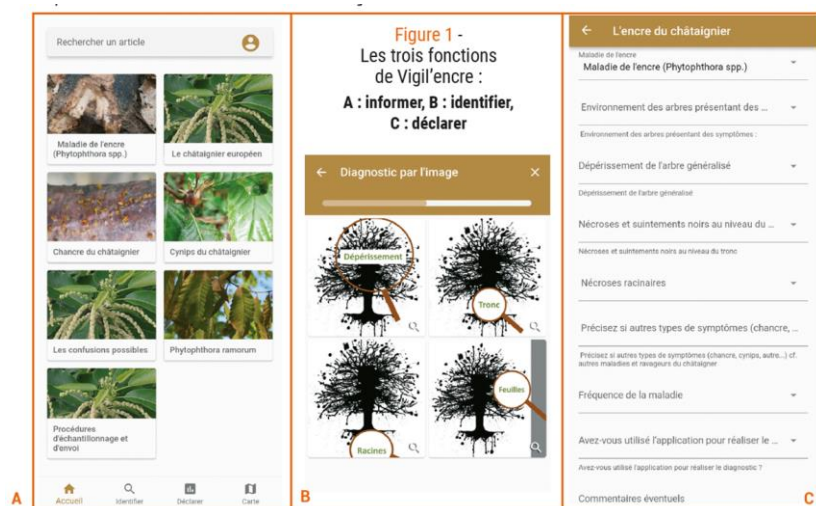


Figure 1. Presentation of the different modules of Vigil'encre designed to meet the tool's three functions (inform, identify, declare).

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For each problem, precise information is requested on the site where the report is made and the type of chestnut tree stand. It is possible to geolocate the report and submit photos of the symptoms observed. This information will make it possible to confirm the diagnosis carried out and to populate a database. To confirm the diagnosis, INRAE offers Vigil'encre users the possibility of sending soil and/or plant samples in order to carry out a diagnosis in the laboratory. The procedures to follow are detailed on the homepage. The map of the reports made is also provided (Fig. 2).



Figure 2. Mapping of alerts issued on Vigil'encre.








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The information presented in this factsheet was developed by the FOREST4EU partner, drawing on the innovations and knowledge generated by the indicated operational group with their explicit authorization.

Further information

<https://ephytia.inra.fr/fr/P/157/Vigilence>



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