

# Vigil'Ink project: a citizen science project dedicated to Chestnut Ink Disease

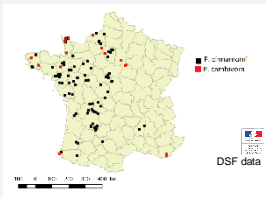
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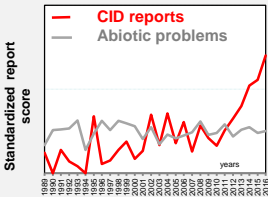
Chestnut link Disease (CID), caused by *Phytophthora cinnamomi* and *P. cambivora*, is the most damaging disease for chestnut trees, causing dieback and mortality in forests and orchards (1). Although introduced in Europe in the XIXth century (2), the current range of both pathogens is not well known in France, making it difficult to predict its extension in the context of global change.

## SOME OF OUR RESEARCH QUESTIONS

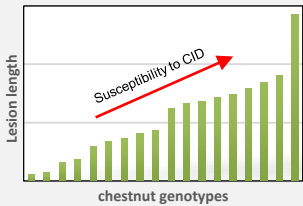
*P. cinnamomi* and *P. cambivora* distribution?



How fast does CID spread?  
Effect of climate change?



Chestnut resistance and vulnerability?



Appropriation and perception of CID?

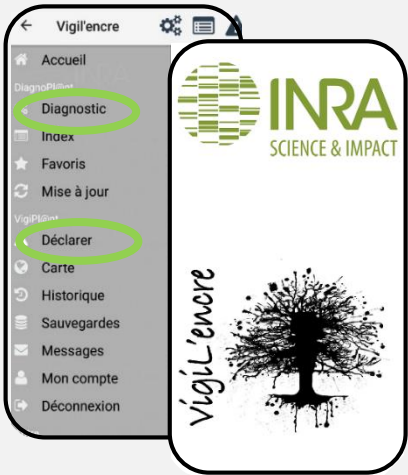


Management and mitigation?

## CITIZEN SCIENCE

“A new approach to advance ecology, education and conservation » (3):

- public participation in sampling and data collection
- communication on CID and other tree diseases
- Improving CID epidemiosurveillance and chestnut conservation



Vigil'ink project is hosted by the site



Developed by INRA., this site is specialized in plant health and offers several applications. Their main purposes are to allow users to diagnose disease, to characterize pathogens, to know their biology and to manage sustainable crop protection.

A 4 step approach:

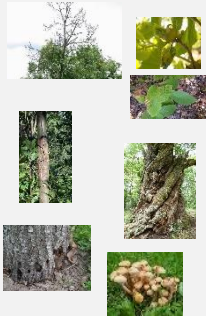
### 1- REGISTRATION & CONNECTION

A multi-purpose chestnut tree  
> multiple citizens

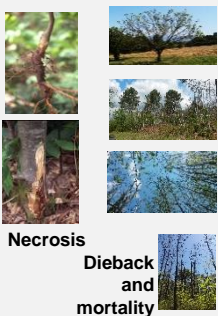
Wood  
Fruit  
Honey  
Mushrooms  
Recreation  
Biodiversity

### 2- OBSERVATION & DIAGNOSTIC

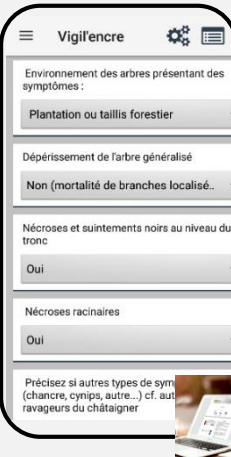
Multiple chestnut diseases



Multiple CID symptoms



### 3- REPORTING



If visual diagnostic confirmed  
4- COLLECTING SAMPLES

PHYTOPHTHORA  
→ SPECIES  
IDENTIFICATION

DATA  
ACQUISITION  
& RESEARCH  
ACTIVITIES

Links: <http://ephytia.inra.fr/>  
<https://play.google.com/store/apps/details?id=com.inra.Vigil'Ink> or <https://apps.apple.com/fr/app/vigil'Ink/id1471955505>  
<http://ephytia.inra.fr/fr/P/157/Vigil'Ink>

References: 1) Vannini & Vetrano, 2001. J For Snow Land. Res. 76: 345-350.; 2) Grente, 1961. Ann Epiphyties., 5-59.; 3) Kobori et al. 2016. Ecol Res 31: 1-19.