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Federal Department of Economic Affairs,
Education and Research EAER
Agroscope

Spread of flavescence dorée phytoplasma in formerly and recently colonised areas of Switzerland

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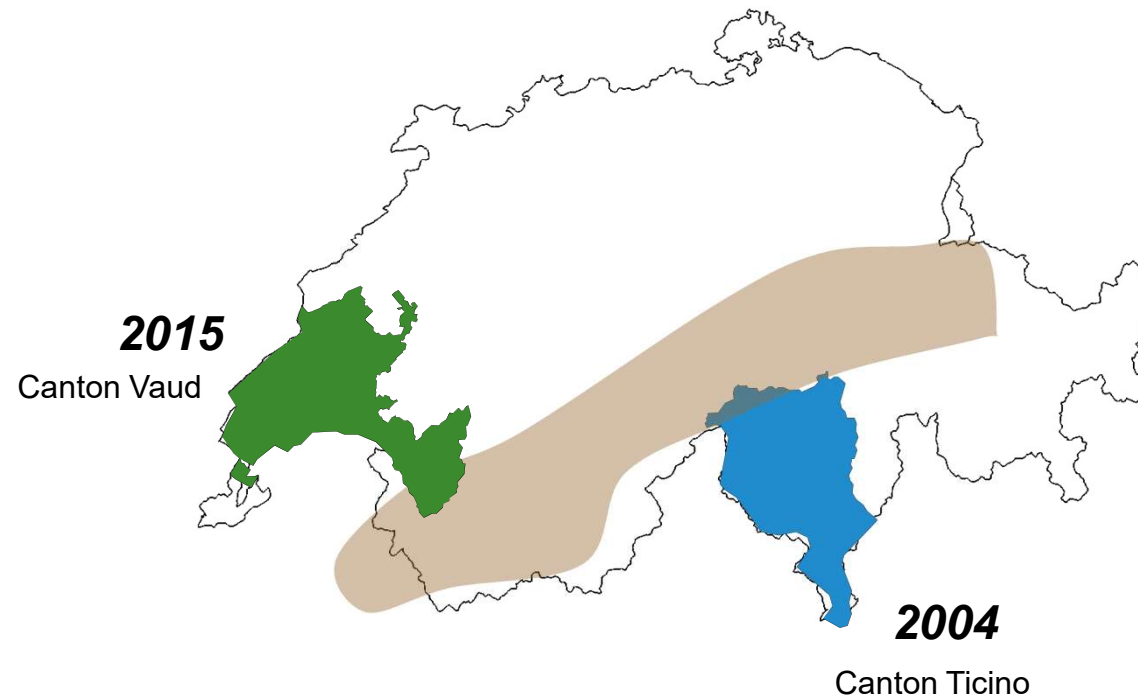
Agroscope

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www.agroscope.ch | good food, healthy environment



- The basic measures are effective
- The goal of eradicating the disease is achievable

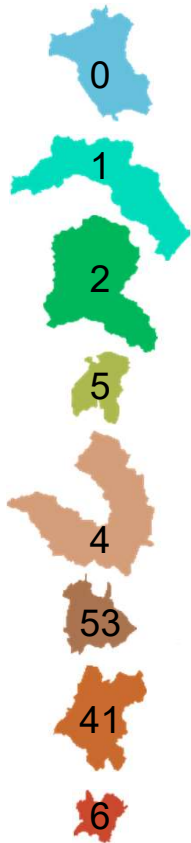


- The disease is established in the environment
- Search for a strategy to keep the incidence low



Spread of the disease south of the alps

Positive case detected in 2019



Reservoir plants for the disease:

- Vitis: FD1, FD2
- Alder: FD1, FD2
- Hazel: FD1, FD2, FD3
- Willow: FD1


Vectors of the disease:


- S. titanus : FD1, FD2
 - O. ishidae : FD1, FD2
- } • In the vineyard
• In the landscape






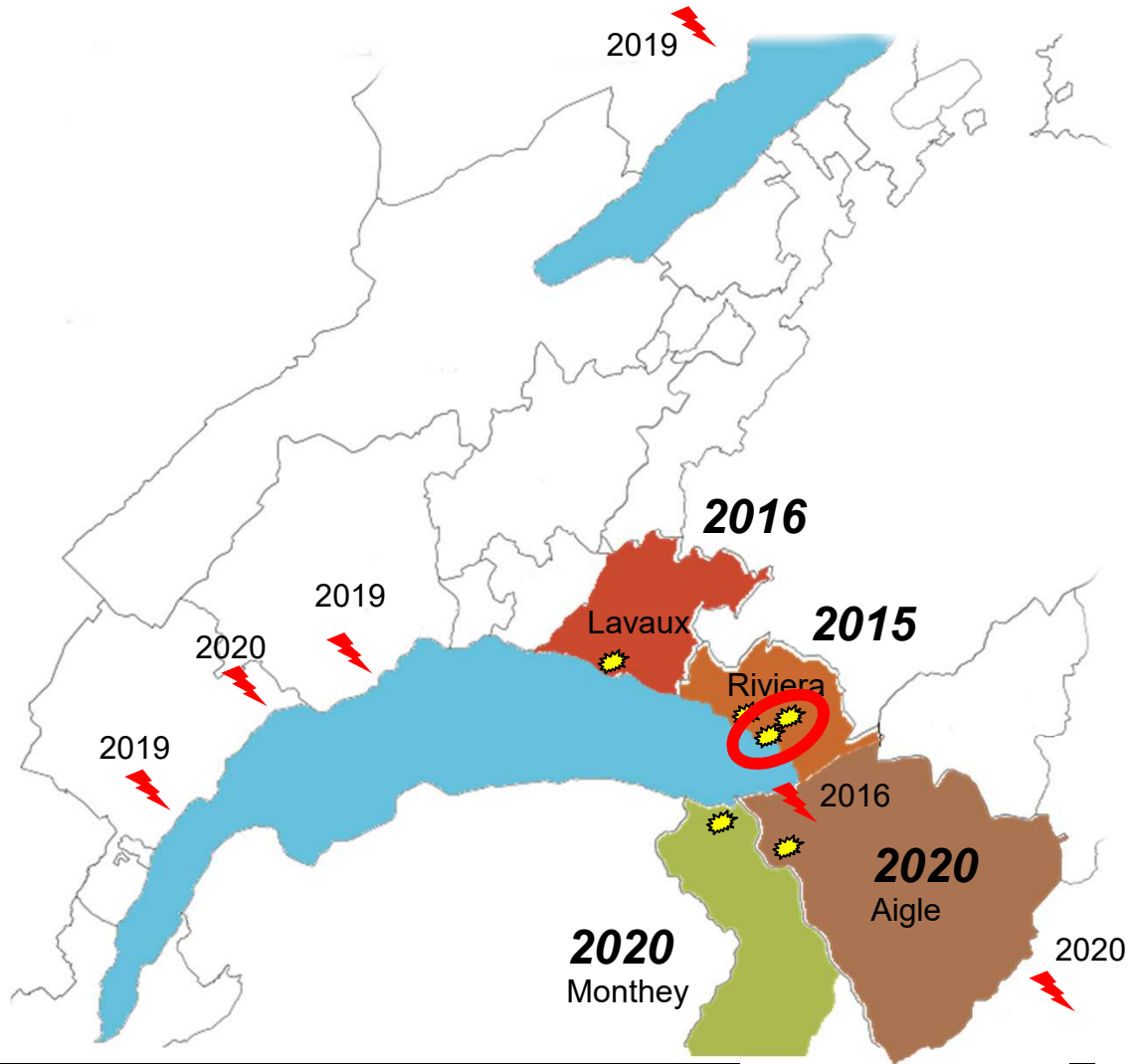
Spread of the disease north of the alps

6 hotbeds 

 Eradication takes up to 5 years

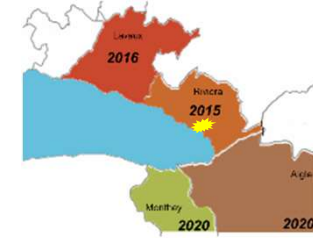
6 localized infections 
(1 – 3 vine stock)

 No local dissemination



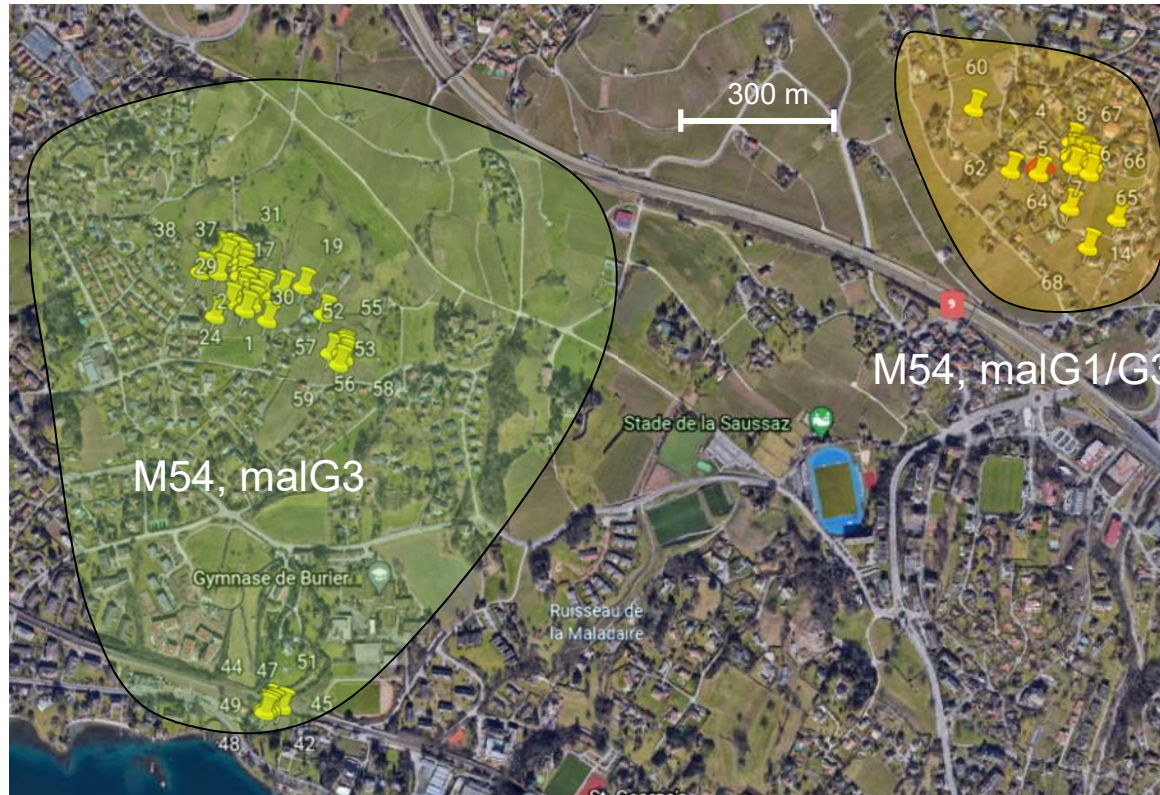


Spread of the disease north of the alps






Spread of the disease north of the alps



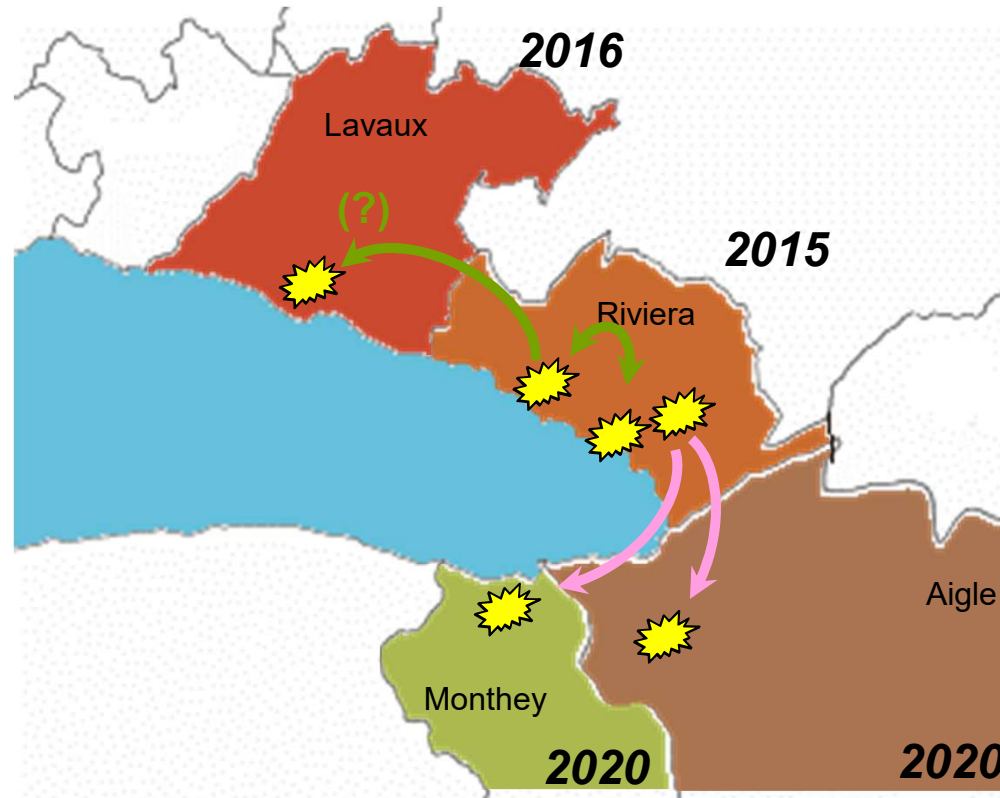


Spread of the disease north of the alps

6 hotbeds / 2 haplotypes (?)

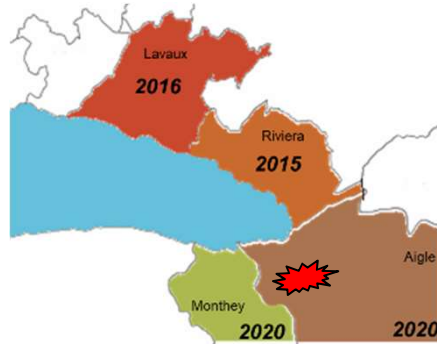
M54 maIG1/3 

M54 maIG3 



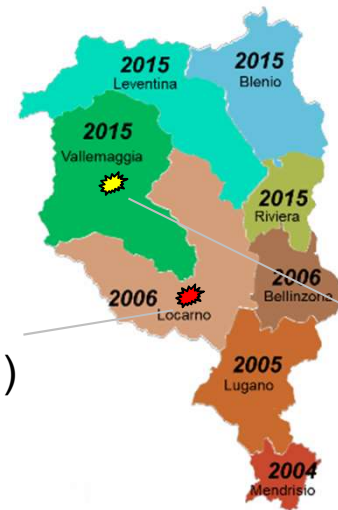


Insect analysis as a measure of plot/environment exchanges



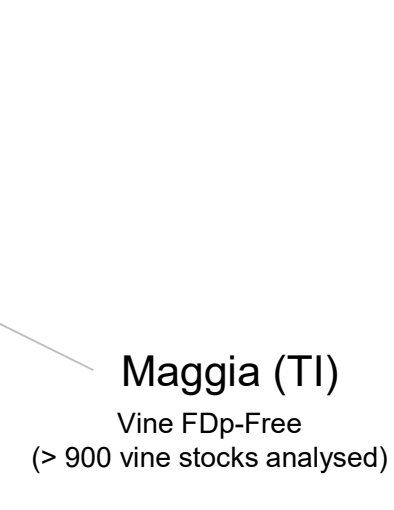
Roche (VD)

S. Titanus 46 (-)
O. Ishidae 0



Losone (TI)

S. Titanus 202 (+)
22 (-)
O. Ishidae 13 (nd)



Maggia (TI)

Vine FDP-Free
(> 900 vine stocks analysed)

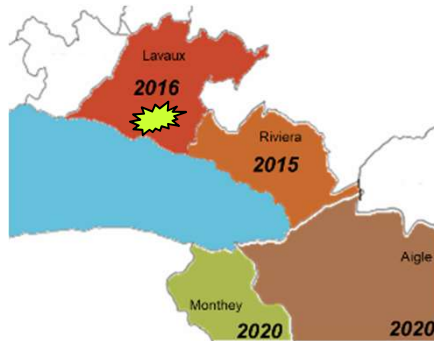
S. Titanus 92 (+) [\(M54 / M50\)](#)
41 (-)
O. Ishidae 4 (+) [\(M38\)](#)
4 (-)

- ❖ What host allows the contamination of *S. titanus* in areas with Flavescence dorée-free vinestocks?
- ❖ How long will the vine remain symptom-free?

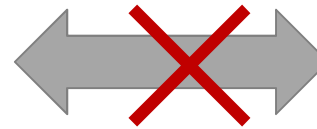
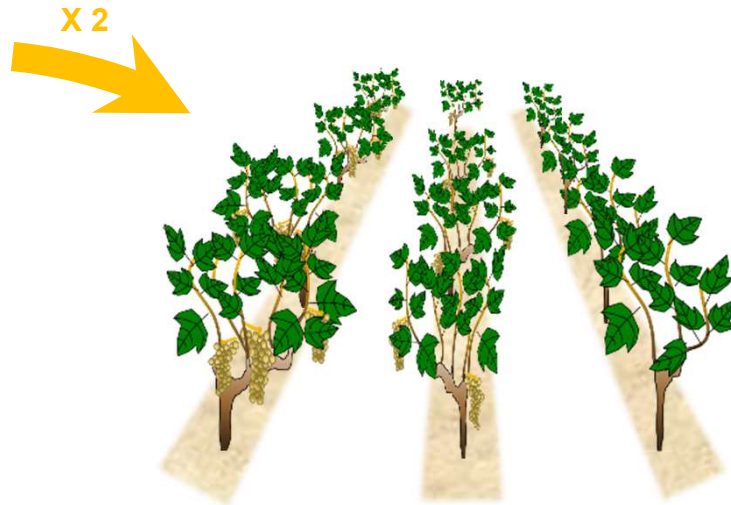


Conclusions

North of the Alps



- ❖ Only two introduction events really took place
- ❖ No interaction with the landscape





Conclusions

South of the Alps



- ❖ The landscape is a reservoir and does not allow for the eradication of the disease.
- ❖ the forest landscape continuum is involved in the spread to new areas



Multiple introduction events





Thank you for your attention



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