



## Agroscope Job Advertisement

### Position

Post-Doc Position in Phytopathology / Plant Molecular Biology

### Introduction

The syndrome “Basses richesses” is an emerging disease caused by an endosymbiotic non-cultivable bacterium, the  $\gamma$ -proteobacterium *Candidatus Arsenophonus phytopathogenicus*. This disease severely affects the beet crop by causing a yellowing of the leaves and a drop in the sugar content in the root. It is transmitted by the leafhopper *Pentastiridius leporinus*, which is widespread in European countries.

Present for more than 20 years in several European countries, the first yellowings linked to SBR and low sugar content are observed in Switzerland in 2017. The disease has developed rapidly and affects 10% of the cultivated area in 2020. Current efforts to develop control methods focus on the search for tolerant varieties. To date, the results are insufficient and the tolerant varieties do not perform well enough to compensate for the impact of the disease on the varieties with high sugar yield grown in Switzerland.

Agroscope is seeking to identify the mechanisms that promote the development of the disease in order to support research into tolerant varieties and to develop innovative and environmentally friendly control strategies. This interdisciplinary work brings together molecular genetics teams, entomologists and institutional field workers in close contact with professional branches. It includes genetic analyses of bacterial populations, the study of the molecular response of the host plant and the search for alternative hosts likely to favour the establishment and/or spread of the disease. The beet crop is also strongly impacted by several viral and fungal diseases as well as by pest pressure. For this reason, the project involves important interactions with specialists in these other disciplines who are also involved in the preservation and development of this strategically important agro-food sector.

### Tasks

- ❖ Genomic and phylogenetic analyses.
- ❖ Setting up an experimental system for the transmission of the disease.
- ❖ Study of the circulation of the bacteria in the plant and characterisation of the immune response.
- ❖ Identification of alternative hosts and vectors.

### Requirements

- ❖ Proactive, autonomous and committed to her/his work.
- ❖ Excellent communication skills.
- ❖ PhD in microbiology/plant molecular biology/ bioinformatics.
- ❖ Experience in plant pathology is an asset.
- ❖ Notions of French and German and very good knowledge of written and spoken English.

### Information on the Employer

Agroscope is the Swiss federal centre of excellence for research in the agriculture and food sector. Its researchers carry out their work at a number of sites in Switzerland. Headquartered in Bern-Liebefeld, Agroscope is attached to the Swiss Federal Department of Economic Affairs, Education and Research EAER.

We offer varied work in a young and multidisciplinary research team, as well as thorough initial training. Agroscope have excellent core facilities providing support in a wide array of research fields.

**Place of Work**  
**Salary Category**  
**Employment Level**

1260 Nyon VD (Switzerland)  
As per Swiss National Science Foundation guidelines  
100%

## Application

If this challenge appeals to you and you meet our requirements profile, we look forward to receiving your online application ([human.resources@agroscope.admin.ch](mailto:human.resources@agroscope.admin.ch), Ref.nr. 43653). Closing date: November 15, 2020 (or until position is filled). Online applications consist of a single PDF comprising an application letter, a CV, a reference letter, copies of PhD diplomas, and the email addresses of 2 referees.

For further information, please contact Dr. Olivier Schumpp, tel. +41 58 460 43 71, [olivier.schumpp@agroscope.admin.ch](mailto:olivier.schumpp@agroscope.admin.ch) (Head of the research group in virology, bacteriology & phytoplasmology) or Dr Christophe Debonneville, tel. +41 58 484 95 91, [christophe.debonneville@agroscope.admin.ch](mailto:christophe.debonneville@agroscope.admin.ch) (project supervisor). Do not send applications to these email addresses.

Start date: 1 January 2021 or upon agreement. Duration of employment: 2 years.