**IMAS MASTER Academic Year 2024 - 2025**

**Proposal of M1 Internship**

**PHENOTYPIC CHARACTERIZATION OF A CORE COLLECTION OF PEACH: IMPACT OF PATHOGEN ATTACKS THROUGHOUT THE SEASON ON THE POTENTIAL GROWTH OF SHOOTS**

**Dates**: 3 to 4 months from April 2025

**Encadrants :**

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**Description**

In order to face the reduction of the phytosanitary umbrella imposed by the European Union, it is becoming urgent to identify varieties that are resilient to the various pests damaging fruit production. In this context, GAFL created a core collection of peach trees including 206 genotypes maximizing the diversity available in INRAE ​​genetic resources. This core collection is planted in a multi-site system (INRAE ​​A2M experimental unit [sites of Montfavet - Vaucluse and domain of Amarine - Bellegarde, Gard] and SEFRA Regional Experimental Station [Drôme]) and cultivated under minimal phytosanitary protection in order to characterize the response of genotypes in the face of multiple infections. This device makes it possible to observe the behavior of genotypes in contrasting environments.

This internship proposes to characterize the impact of pests and diseases on the growth dynamics of shoots of a certain number of genotypes with contrasting behavior from the core-collection. On the one hand, the evolution of the diameters of shoots and their length will be measured through the season and on the other hand the damage caused by the different attacks of pathogens will be observed on these same shoots.

This dataset will make it possible to define the potential growth of healthy shoots and to evaluate the impact of different attacks over time on this potential growth. It will make it possible to identify the pathogens and the period most damaging to the growth of the different genotypes and to search for genotypes that succeed in maintaining their growth or recovering high growth after a strong attack.

**Activities**

The intern will participate in doing observations in orchards, alone or in team, as well as in statistical analyzes of the data collected.

**Host unit**

INRAE GAFL, 67 Allée des chênes 84143 Montfavet

Travel (service car) to sites:

- INRAE ​​A2M Domaine de l’Amarine, 30034 Bellegarde

- SEFRA Regional Experimental Station, 26800 Etoile sur Rhône

**Profile:**

- Plant specialty : phytopathology, ecophysiology, genetic diversity

- Penchant for field work

- Ability to work and interact in a team

- Sense of observation, rigor and organization

- Knowledge of statistics and arboriculture appreciated