

Master 1 Internship at INRAE GAFL in 2026

Title – **Descriptive and statistical analysis of phenotypic diversity in pepper (*Capsicum annuum* L.)**

Location – INRAE, GAFL, 67 Allée des Chênes, 84140 Montfavet, France. <https://eng-gafl.paca.hub.inrae.fr/>

Project overview

Large-scale phenotyping of plants provides a unique opportunity to study how morphological traits and disease symptoms vary within a population. Such datasets are important for identifying key sources of phenotypic variation, detecting potential resistance characters, and help to make future breeding strategies. Pepper (*Capsicum* spp.) demonstrates high phenotypic variability that effects productivity, fruit quality and resilience to stresses. Characterizing these variable traits and understanding their relationship helps reveal underlying biological structure and also support to develop improved phenotyping methods. The internship work directly supports these objectives by analyzing phenotypic and disease-related traits to generate insights that are valuable for both research and applied crop improvement.

Mission

The intern will contribute to the analysis of phenotypic datasets (shoot and root morphology and disease-related traits) on pepper. She/He will work on two pepper datasets obtained from the project H2020 G2P-SOL and the ongoing project ANR COMBINE. The study aims to understanding the variability of pepper populations.

Key tasks

- Develop R scripts to perform descriptive statistical analysis across phenotypic datasets
- Produce graphical and visual summaries to support data interpretation
- Explore trait relationship and characterize overall phenotypic structure within the populations
- Maintain organized notes, analysis scripts, and processed datasets to ensure reproducibility
- Prepare concise summary and communication reports

Overall, the work will contribute to the scientific understanding of phenotypic diversity and trait variability as part of the team's phenotyping research activities.

Expected skills

- Good knowledge of statistics
- Experience with data analysis tools, preferably in R programming
- Ability to work independently
- Good data organization and communication skills

Dates - 01/04/2026- 31/07/2026

Remuneration – about 600 €/month

Please send your CV and a cover letter to kritika.adhikari@inrae.fr **AND** veronique.lefebvre@inrae.fr, along with your grades from your L3 and M1 evaluations.