IMPLANTEUS
SUSTAINABLE MEDITERRANEAN AGRICULTURE FOR HEALTH | GRADUATE SCHOOL

MAFEN MASTER **Academic Year 2026 - 2027**

Proposal of M1 tutored project

PROJECT TITLE AND SUMMARY:

Leveraging plant biodiversity and emerging model species to develop sustainable solutions for human needs

In this tutored project, you will prepare a mini-literature review focusing on how plant biodiversity and emerging model species can be used to address major human needs in agriculture, nutrition, climate resilience, and sustainable resource management. The objective is to explore how underutilized or "orphan" crops—such as sorghum, millets, cowpea, pigeon pea, chickpea, Bambara groundnut, and other climate-resilient legumes and S*olanum* plants—offer unique physiological, genetic, and ecological traits that can be harnessed for future food systems. You are expected to search for and critically analyze recent peer-reviewed publications describing how these species serve as alternative models for studying drought tolerance, heat resilience, nutrient-use efficiency, and stress memory, and how their traits can be translated into crop improvement programs. You may also examine comparative genomics, trait-based approaches, and domestication studies that highlight the potential of biodiversity for developing new crops adapted to climate change. The mini-review should include a clear introduction to the topic, a structured synthesis of selected studies, a critical discussion comparing different species and their agronomic potential, and a short section outlining future perspectives for using biodiversity-driven plant models in sustainable agriculture.

HOST UNIT: ERIT – PSII (Plant Sciences Interactions and Innovation), IAgES, Avignon University

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