

# MANAL MHADA

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## R&D EXPERIENCE

SINCE MAY 2020

**RESEARCH AND EDUCATION FELLOW, UM6P**

**Orphan Crops Initiative:** a group of projects that enhance research on Orphan Crops to fight climate change by building resilience of marginal cropping systems and to make food systems more resilient to external shocks.

**Developing innovative remote sensing/automated crop phenotyping methods for African agriculture:** a collaboration project between Rothamsted Research Institute and Cranfield University and financed by OCP.

**Genetic Analysis of Quinoa's Varieties, Valorization and Formulation of new Products for Agricultural applications** – A research and development project financed by Situation Quinoa under the framework of *Mouvement OCP*

**Advanced Seed Technology: Controlling Seed Microenvironment through Biomaterials:** project under the framework of UM6P & MIT collaboration financed by OCP

MAY 2018 – MAY 2020

**POST-DOCTORATE FELLOW, UM6P**

**Genetic Analysis of Quinoa's Varieties, Valorization and Formulation of new Products for Agricultural applications:** a project financed by *Situation Quinoa* under the movement powered by OCP – From July 2018

**Advanced Seed Technology: Controlling Seed Microenvironment through Biomaterials:** project under the framework of UM6P & MIT collaboration financed by OCP – From September 2018

Implement research activities on the framework of the IDRC project intitled: **Scaling up quinoa value chain to improve food and nutritional security in poor rural communities in Morocco** – From May 2018 to May 2019

## ENTREPRENEURIAL EXPERIENCE

2014 – 2021

**CEO & CO-FOUNDER, AMENDY FOODS**

Amendy is a healthy food startup operating in agriculture: it assists farmers in quinoa production, designs quinoa-based recipes and delivers to Moroccan's products adapted to their cookery habits

## EDUCATION

**MAY 2016**

**DOCTORAL DEGREE, IAV HASSAN II**

Thesis topic: « Genetic analysis of phenotypic and molecular diversity in quinoa (*Chenopodium quinoa* Willd.) »

**SEPTEMBER 2011**

**MASTER DEGREE, IAV HASSAN II**

Biodiversity and Biotechnology applied to agriculture

Thesis topic: "Evaluation of the reaction of faba bean local populations (*Vicia faba* L.) to chocolate spot disease (*Botrytis fabae* Sard.) and diversity analysis using SSR markers"

**JULY 2009**

**BACHELOR DEGREE, CADI AYAD UNIVERSITY**

Plant physiology and pathology

Thesis topic: "Citrus: varietal diversity and Pathology"

## PUBLICATIONS

- **Programmable design of seed coating function induces water-stress tolerance in semi-arid regions**, Augustine T Zvinavashe, Julie Laurent, Manal Mhada, Hui Sun, Henri Manu Effa Fouda, Doyoon Kim, Salma Mouhib, Lamfeddal Kouisni, Benedetto Marelli. Nature Food. 2021
- **Bioformulation of Silk-based Coating to preserve and deliver Rhizobium tropici to Phaseolus vulgaris under Saline Environments**, M Mhada, AT Zvinavashe, Z Hazzoumi, Y Zeroual, B Marelli, L Kouisni. Frontiers in Plant Science. 2021
- **Engineering the Plant Microenvironment To Facilitate Plant-Growth-Promoting Microbe Association**, Augustine T. Zvinavashe, Ilham Mardad, Manal Mhada, Lamfeddal Kouisni, and Benedetto Marelli. Agric. Food Chem. 2021
- **Variations of Saponins, Minerals and Total Phenolic Compounds Due to Processing and Cooking of Quinoa (*Chenopodium quinoa* Willd.) Seeds**. Mhada, M.; Metougui, M.L.; El Hazzam, K.; El Kacimi, K.; Yasri, A. Foods 2020, 9, 660.
- **An Insight into Saponins from Quinoa (*Chenopodium quinoa* Willd): A Review**. El Hazzam K, Hafsa J, Sobeh M, Mhada M, Taourirte M, El Kacimi K, Yasri A. Molecules. 2020 Feb 27;25(5).
- **Diversity Analysis of a Quinoa (*Chenopodium quinoa* Willd.) Germplasm during Two Seasons**. Mhada, M., Jellen, E.N, Jacobsen, S., Benhabib, O. World Academy of Science, Engineering and Technology, International Science Index 87, International Journal of Agricultural, Biosystems Science and Engineering (2014), 8(3), 71 - 74.

- **Assessment of Downy mildew Resistance (*Peronospora farinosa*) in a Quinoa (*Chenopodium quinoa* Willd.) Germplasm.** Mhada, M., Ezzahiri, B., Benlhabib, O. World Academy of Science, Engineering and Technology, International Science Index 87, International Journal of Agricultural, Biosystems Science and Engineering (2014), 8(3), 75 - 81.

## RESEARCH JOURNEYS

JULY 2019 – SEPTEMBER 2019

**BIOMATERIAL LAB**, MIT - USA

Formulation of new seed coatings and learning new seed coating technologies developed at the Biomaterials lab.

AUGUST 2012 – OCTOBER 2012

**GENETIC LAB**, BYU - USA

Use of SNP markers on Quinoa germplasm.

Gene cloning: Genes responsible of glutamine synthase (GS), nitrate Reductase (NiR) and SOS gene (Salt Overly Sensitive)