ARIMNet2 Young Researchers Seminar

“How to better involve end-users throughout the research process to foster innovation-driven research for a sustainable Mediterranean agriculture at the farm and local scales.”

30 May - 3 June 2016, Institut Agronomique Méditerranéen de Montpellier (IAMM), France

Quality of the Moroccan saffron:

Variability of terroirs and parameters effect related to the collection and drying

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**Moroccan Saffron (crocus sativus):**
A precious terroir product with challenging production

Saffron or *Crocus sativus* L., is a local product or terroir product

- High added value, (national Green Morocco Plan (PMV= Plan Maroc Vert))
  - Goal: increase three times its production by 2020.
  - The production of this spice is not exceeding presently 3 tons per year and still rivalled in the international market.

- Production is limited to the region of Taliouine-Taznakht (area <600 ha)

- Saffron fields show a decline in production from the 6th year of use and require regular renewal.

- Local cultural practices are traditional, relatively homogeneous, with differences in drying techniques.
OBJECTIVE & HYPOTHESES

Objective(s) / Research question(s)
Characterize the variability of the quality of soils (terroirs) and assess some parameters related to the collection and saffron drying.

Hypotheses
An uncontrolled picking degrades the quality of saffron, the drying technology (shadow, oven, sun) is also crucial.
METHODOLOGY

Saffron sampling for pistil analysis

Sampling of the flowers of saffron (for pistil analysis) from different site corresponding to different terroir

Saffron quality through pistil analysis

Measures of the quality of saffron, (international standards (never carried out in Morocco)).

Determination of the water content and secondary metabolites known: safranal, picrocrocin and crocin

This standard uses a spectrophotometric method of aqueous extracts of saffron.

Also, we plan to adopt a new approach to evaluate the Safranal content by gas chromatography
INVolVEMENT OF STAKEHOLDERS

. Private company
. Several saffron cooperatives will benefit from the analysis of saffron quality through the support that we have from the saffron GIE
Parameters influencing the quality of saffron

Characterization of the variability of the quality of soils and study some parameters related to the collection and drying

Creating a platform for the analysis of Moroccan saffron (for all the producers of saffron).

analysis to master the signing of saffron in quality and signature in the national and international market
PROPOSED PARTNERSHIP

Partner 1:
1,2, 3 saffron compagny
A main producer of saffron in Taliouine (Morocco)

Scientific Partners:
SIE- chimie (france)
CNRST- Rabat
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SafranVal Project = Académie Hassan II des Sciences et Techniques

Contribution à la connaissance du safran marocain à l’aide d’outils biotechnologiques (étude physio-morphologique, identification chimique et moléculaire, et sélection de cultivars performants)

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