

UMR BIOGER
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PHYTOPATHOLOGY

- **epidemiology**
- **genetics**
- **genomics**
- **biology**
- **agronomy**
- **ecology**
- **modélisation**
- **etc**



Durum wheat in the Mediterranean

Some facts,

> Durum wheat has been a part of the history of the Mediterranean and its daily food patterns for centuries.

> Nearly 50% of the durum wheat world production comes from the Mediterranean.

> A disequilibrium of yields between countries: from 5 t/ha in France to 1 t/ha in Morocco, with important inter-annual variations.

> A food security issue in Maghreb having the highest wheat consumption per capita in the world (216 kg /person /year).

> Virtually no export of durum wheat from Mediterranean countries while being currently the number one imported crop into Africa.

> Major concerns for durum wheat production are:

- arid land and erratic rainfall in Maghreb
- diseases and pests in all Mediterranean
- shrinkage of breeding programs





Adaptation of durum wheat landraces from Maghreb to their local environment

Why durum wheat landraces from Maghreb?

- > Landraces are being lost
- > Landraces are adapted to their environment
- > Landraces are genetically diverse

A project proposition for PRIMA:

I. Prospection, collection and history

- prospection and collection in gene banks
- seed management by local farmers

II. The genetic diversity available in landraces

- within landraces diversity
- between landraces diversity
- phylogeography of the host and its pathogens

III. Genetics and breeding for improved cultivars

- identification of genes of interest
- implementation in breeding programs

Adaptation of durum wheat landraces from Maghreb to their local environment

IMPACTs of the project:

- > characterized genetic resources (gene banks involved)
- > identification of useful genetic diversity
- > knowledge and survey of pathogen populations
- > impact of drought on pathogen populations
- > promote local developments:
 - plant breeding programs
 - local associations (i.e. slowfood)



PARTENAIRES

Program APOGE (INRA) France-Tunisia

Program PRIMA

- other biotic or abiotic stresses?
- seed exchanges / sociology?

