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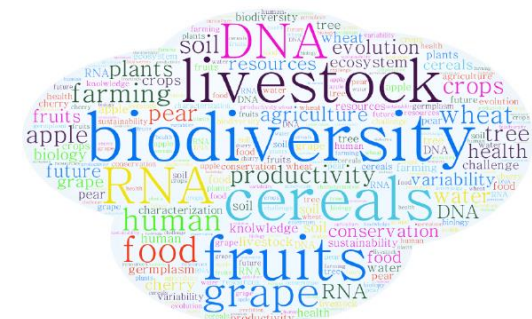
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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Genetic Resources in Agriculture



Several groups of the Department are working on different agricultural genetic resources (plants, animals and microorganisms) for their **CHARACTERIZATION, CONSERVATION, MANAGEMENT and SUSTAINABLE USE.**

Our resources

The Department is responsible for the conservation and management of plant and microbial genetic resources and collections and for the maintenance of DNA and animal tissue biobanks:

***Fruit tree species:** apple, pear, grape vine, kiwi fruit and quince

***Rose germplasm:** commercial and novel cultivars

***Cereals and biomass crops:** barley mutants, tetraploid wheats, *Arundo donax* mutants

***Livestock:** animal tissues and DNA of cosmopolitan and local animal breeds of different species (pig, cattle, sheep, goat, horse, donkey, rabbit, honey bee). Reggiana cattle biobank

***Microorganisms:** bacteria and yeast collections of agronomic, food and industrial interest (cultures for biocontrol, starter and co-starter cultures, probiotics, biotransformation agents)

Our aims

- Conservation, characterization, management and sustainable use of plant varieties and livestock breeds and populations.
- Development of new fruit tree cultivars.
- Identification of genetic variants associated to agronomic relevant traits in plants and livestock.
- Use of genetic resources for the characterization of genetic components of robustness and resilience in plants and livestock.
- Use of accessions and populations with new or improved traits for quality and productivity in breeding programs.
- Exploitation of microbial diversity for the selection of biocontrols, starters, prostarters, probiotics and biotransformation agents.

Our expertise

- Genetics, genomics, transcriptomics, phenomics and bioinformatics.
- Plant and livestock breeding and selection programs, including the use of molecular information (marker assisted selection and genomic selection).
- GXE analyses in plants and livestock.
- Analysis of plant physiological responses to climate changes to improve resource use efficiency.
- Cultivation trials of landscape roses in the absence of irrigation, pesticides, pruning and fertilization.
- Seed authentication, genetic traceability and authentication of animal products.
- Selection and use of microorganisms for the improvement of food safety, shelf life and functionality, for fermented and non-fermented products.
- Development of biotechnological processes for agro-industrial waste and byproducts utilization in the production of high-added-value compounds.
- Economic evaluation of biodiversity.

