**WATER AND AGRICULTURE**

**The research activities address a variety of hydraulic-technological, economic, agronomic, genomic and environmental aspects to make agricultural water (re)use more sustainable and efficient**

**Our research objectives**



* Promoting sustainable water use in agriculture
* Increasing knowledge on the impact of climate change on agricultural and natural ecosystems
* Developing drought adaptation and mitigation strategies for the resilience of the agricultural sector
* Facilitating technological transfer and innovation adoption to maximize water use efficiency
* Safeguarding the safety and sustainability of the water resource in different agricultural, natural and social environments

**Our expertise**



* Economics and policy in water management and innovation uptake
* Agroclimatology and agrometereology
* Crop physiological and productive responses to drought stress
* Genomic research and breeding for new drought tolerant genotypes
* Technical solutions for agroindustrial buildings and husbandry
* Remote sensing, georeferenced maps and variable rate irrigation
* Digital solutions, plant based sensors and decision support systems for precise irrigation
* Chemical, physical and microbiological quality of water
* Phytodepuration and bioremediation strategies
* Benefits/risks derived from the use of wastewater
* Hydraulic-environmental water management

**Our main projects**

INTERNATIONAL

* Rooty: A Root Ideotype Toolbox to Support Improved Wheat Yields H2020 (2018 – 2022).
* CONSOLE - CONtract SOLutions for Effective and lasting delivery of agri-environmental-climate public goods by EU agriculture and forestry H2020 (2019-2022)
* FIT4REUSE - Safe and sustainable solutions for the integrated use of non-conventional water resources in the Mediterranean agricultural sector PRIMA (2019-2022)
* DROMAMED - Capitalization of Mediterranean maize germplasm for improving stress tolerance –PRIMA (2020-2023)
* SOMMET - EURAMET Metrology for soil moisture H2020 (2022 – 2025)
* BONEX - Boosting Nexus Framework Implementation in the Mediterranean PRIMA (2022 - 2025)
* GREENing the BLUE canals infrastructure of Reno basin to enhance ecosystem connectivity and services LIFE (2019-2026)
* CEREALMED: Enhancing diversity in Mediterranean cereal farming systems PRIMA (2020-2023)
* FruitCREWS - Fruit tree Crop REsponses to Water deficit and decision support Systems applications for precise irrigation - COST ACTION (2022-2026)
* CLEANFOREST - Joint effects of Climate Extremes and Atmospheric deposition on European forests - COST ACTION (2022-2026)

NATIONAL

* TARANTO Tecnologie e processi per l’abbattimento di inquinanti e la bonifica di siti contaminati con recupero di materie prime e produzione di energia totally green (PON R&I) (2019-2022)
* INCIPIT Integrated computer modeling and monitoring for irrigation planning in Italy (PRIN 2017) (2019-2022)
* 2D-Nano-Mad-Plants: Effects of 2D-nanomaterials on seed plants reproduction PRIN (2021-2024)
* Implementazione dell’Analisi Economica ex DQA a supporto della pianificazione per il

distretto idrografico del fiume Po (progetto finanziato da AdbPo) (2021-2024)

REGIONAL

* S3O - Smart Specialized Sustainable Orchard (2020-2021) (POR-FESR)
* REpHYT Fitodepurazione e riuso per la riduzione dei nutrienti e fitofarmaci nelle acque di superficie del reticolo di bonificaPSR Emilia Romagna (2020 - 2022)
* MIRALO - Analisi genotipica e fenotipica per caratteri radicali di una collezione di germoplasma italiano di mais. PSR Lombardia (2021-2024) 

**Contact us**

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