



LIFE4FIR: Decisive in situ and ex situ conservation strategies to secure the critically endangered Sicilian fir, *Abies nebrodensis* **LIFE18 NAT/IT/000164**



CNR–National Research Council

Istituto per la BioEconomia (IBE)
Institute of BioEconomy

Maurizio Lambardi – Carla Benelli



The National Research Council (CNR) is the largest public research institution in Italy

Institute of BioEconomy (IBE)

was born in June 2019 from the merger between the *Istituto per la Valorizzazione del Legno e delle Specie Arboree* (IVaLSA) and the *Istituto di Biometereologia* (IBIMET) of the National Research Council of Italy (CNR).

IBE counts nearly 200 people divided in **6 Research Units**: Trento, Bologna, Firenze, Roma, Sassari e Catania.

Firenze is headquarter of IBE.

In Follonica (GR) is located an **experimental station** 'S. Paolina' for fruit germplasm conservation.





The **bioeconomy** is the production, utilization and conservation of biological resources, including related science, technology, and innovation, to provide information, products, processes and services across all economic sectors aiming toward a sustainable economy.

(Global Bioeconomy Summit, 2018)

Mission IBE

Mitigation and adaptation strategies to global changes, protection of biodiversity, development of bio-resources use for food, manufacturing, construction and energy purposes.

IBE has a strong interdisciplinary value with numerous human and project resources.

Lines of research at IBE-CNR

- Primary production and biodiversity;
- Wood technology;
- Agroforestry mechanization and woody biomass;
- Climate, meteorology and oceanography;
- Biotechnology, bioenergy and technology for processes and products;
- Sustainable use of natural resources and ecosystem services;
- Education and training.



Primary production and biodiversity

this research line concerns studies on:

- products/processes in the primary sector to increase economic, environmental and social sustainability;
- the impacts of natural and anthropogenic factors on agroforestry production;
- monitoring of agro-ecosystem variability and precision and digital agriculture;
- chemical-physical, sensory analysis and consumer science of food and non-food products
- conservation and enhancement of biodiversity as a strategy for improving the resilience and production of agro-ecosystems;
- biotechnologies for characterization, propagation, plant nursery and cryopreservation of genetic resources;



Expertises

Germplasm conservation in field



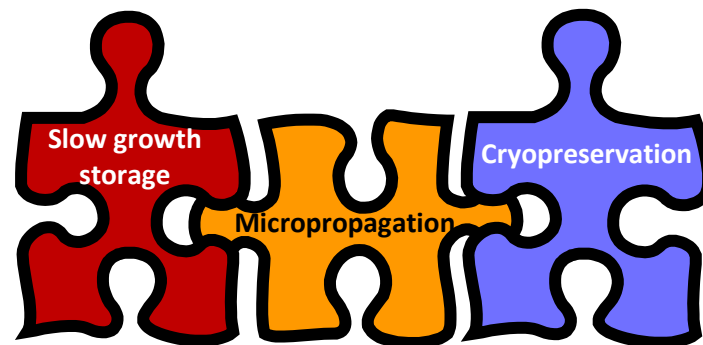
"Santa Paolina" Experimental Station



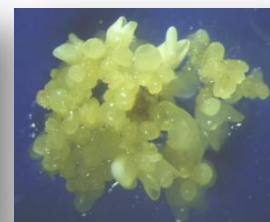
**60 ha
clonal field
collection of
fruit species**



Plant Biotechnology: *in vitro* propagation and *in vitro* conservation



medium and long term conservation





Involvement of IBE in Life4Fir

A1. Seed conservation at -18°C and application of cryopreservation protocols

C4. Seed viability

C5. Seed bank and cryobank of seeds, pollen, embryos and embryogenic callus.

D. Monitoring

E. Communication and dissemination

F. Project management

Contact list

maurizio.lambardi@ibe.cnr.it

carla.benelli@ibe.cnr.it

clementina.falco@ibe.cnr.it
(administration)

Florence Research Area – Via Madonna del Piano, 10 – 50019 Sesto Fiorentino (Florence)

Phone: +390555225 685 - 698

Fax: +3905552251