



GENETIC IMPROVEMENT OF FRUIT CROPS AND SUSTAINABLE BIOTECHNOLOGIES

AGR/03 - 6 CFU - 2° Semester

Teaching Staff

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LEARNING OBJECTIVES

Provide knowledge and specialized application of some modern biotechnology in fruitculture with specific reference to plant propagation, certification and genetic improvement.

COURSE STRUCTURE

Oral lecture and lab training

DETAILED COURSE CONTENT

Provide knowledge and specialized application of some modern biotechnology in fruitculture with specific reference to plant propagation, certification and genetic improvement.

1. Reproductive biology of Fruit tree crop
2. Specific aspects of Fruit tree crop biology
3. From the classic to modern genetic improvement
4. In vitro culture and genetic improvement of fruit tree species
5. Fruitcrop germplasm conservation
6. Somaclonal variation and in vitro selection
7. Protoplasts and somatic hybridization
8. Genetic engineering: uses and perspectives for transgenesis, cisgenesis and genome editing
9. Molecular markers for fingerprinting, phylogenetic studies, MAS

10. **Bioinformatics for gene identification**

11. **Main genetic improvement goals for the most important fruit crop**

TEXTBOOK INFORMATION

1) Sansavini et al 'Arboricoltura generale' Pàtron Editore

2) Barcaccia G., Falcinelli M. "Genetica e genomica" vol II e III. Liguori editore

3) Galbiati et al., 'Biotecnologie sostenibili' Edagricole Editore
