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GARDIANS OF AGRO-BIODIVERSITY: RECOVERY AND EXPLOITATION OF LOCAL FRUIT GERMPLASMS FOR SUSTAINABLE FARMING

Romi Marco, Autino Antonella, Cantini Claudio

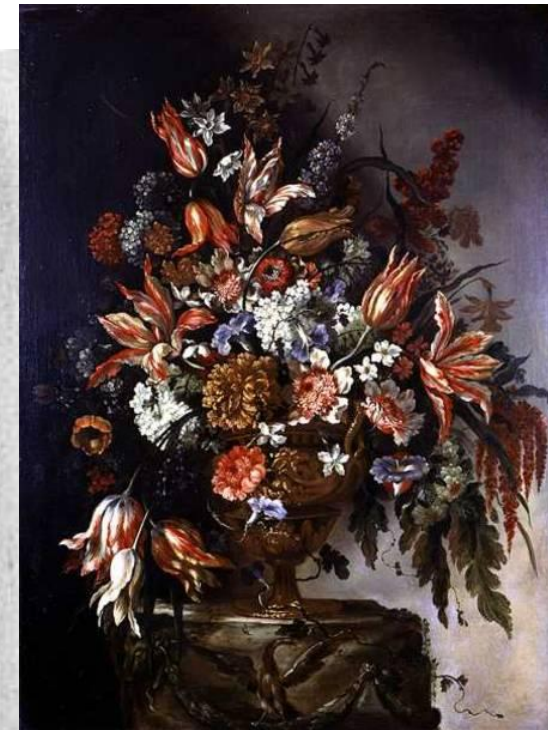


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Land cultivation in Tuscany has been a well organized activity since ancient times.
This area is thus characterized by a large biodiversity



BARTOLOMEO BIMBI
PICTORE



Painter: Bartolomeo Bimbi
Settignano, 1648 Firenze, 1729



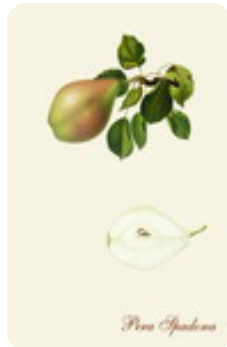




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Legal act:

The local government, Regione Toscana as first in Italy introduced a law for the “Protection of local races and varieties” Legge Regionale 64/04





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SURVEY, RECOVERY, CONSERVATION

Starting from the year 2010 a team focused of fruit plant biodiversity was formed by Province of Siena, University of Siena, Florence National Research Council of Italy and a private company (Co.Ge.P)

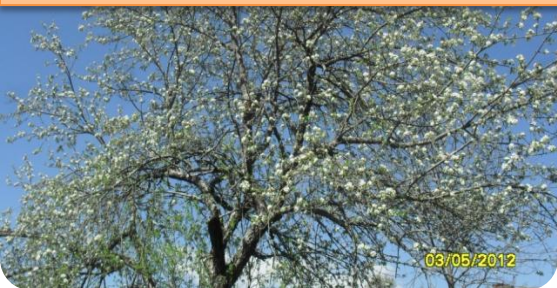
Since then this group was able to collect **fifty seven** fruit accessions of several tree species within the Siena Province.



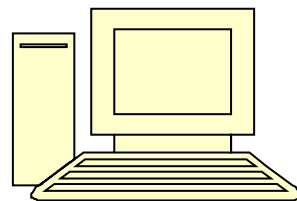
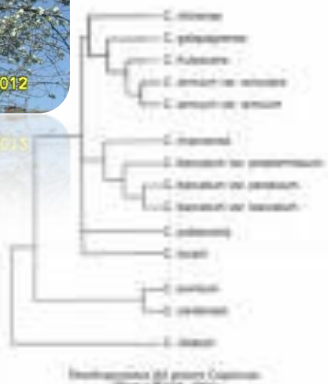


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MORPHOLOGICAL DATABASE



DNA FINGERPRINTING



COLLECTION ORCHARD





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PRESENT AND FUTURE ACTIONS:

1. Valorization of antioxidant and nutraceutical content (i.e. phenols and vitamins) of old fruits to spread to consumers their healthy characteristics
2. Promotion of old varieties in the local environment for sustainable farming with low impact for their pest resistance
3. Use of old varieties in food industry creating a line of products strictly connected to each traditional location and place



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Most ethnobotanical research reveals that traditional knowledge about local edible resources is suffering an alarming decline, especially in Europe

Pardo-de-Santayana, M., Pieroni, A. & Puri, R. K. (eds) *Ethnobotany in the New Europe: People, Health and Wild Plant Resources* (Berghahn, 2010).

A recent study demonstrates that cultural values have a major effect on traditional local knowledge. Sustainable exploitation of local biodiversity is much more likely for resources that are emotionally valued than for those that are used in an impersonal way, as a source of income.

Quave, C. L. & Pieroni, A. *Nature Plants* 1, 14021 (2015).



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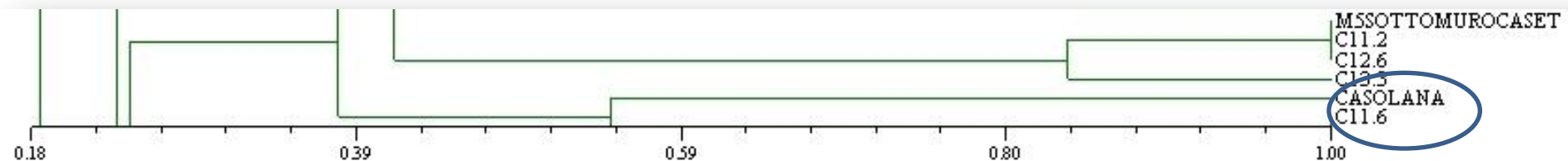
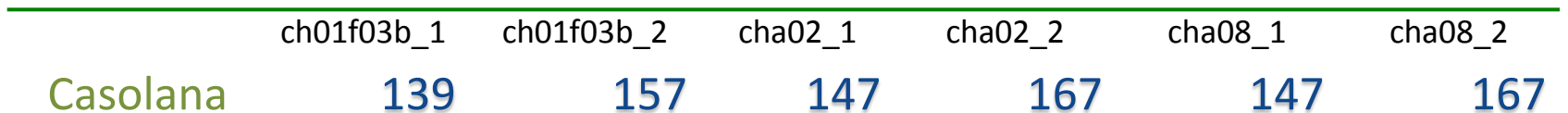
The Casolana apple case



The Decameron by the 14th-century Italian author Giovanni Boccaccio (1313–1375). The book is structured as a frame story containing 100 tales told by a group of seven young women and three young men sheltering in a secluded villa just outside Florence to escape the Black Death, which was afflicting the city.



“...the wife still young in her 28-30 years, fresh and beautiful and rounded as a Casolana apple”.





resources that are emotionally valued.....



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Sense of Belonging to a Community:
sharing among generations
Community garden



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Conservation as Cultural act: there are not only plants but part of our heritage





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Thank you