4th World Congress on Agroforestry

20-22 May 2019
Montpellier, France

Book of Abstracts

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From the old agroforestry systems of the modern high-density olive groves: which Carbon sequestration?

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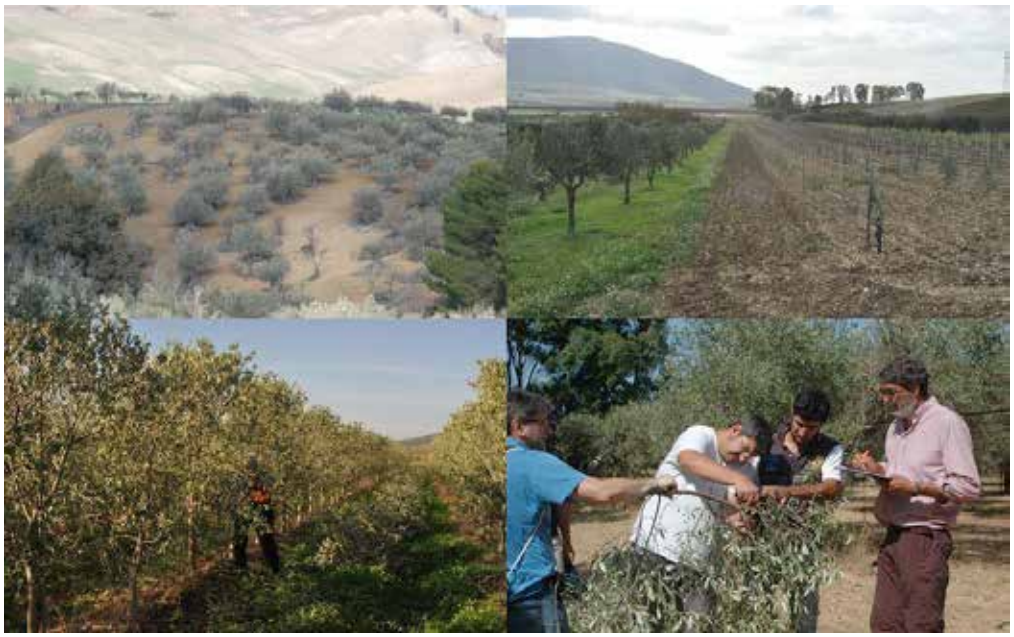
Olive tree (Olea europaea L) represents one of the most important evergreen tree species. In Sicily agroforestry systems based on the olive tree, named tTraditional olive orchard, are common and often are grown together to other tree crops, such as vineyards, or with cereals or forages. This last are usually grown in the interspace between rows and particularly in olive groves were planting density is rather low (less than 200 trees/ha). To increase crop efficiency and to reduce costs of harvesting, by using proper machines, in the last 20 years in the olive industry have been developed new planting systems: Intensive (up to 400 trees/ha), and the Superintensive (up to 2000 trees/ha). Within the project LIFE15 OLIVE4CLIMATE has been evaluated the balance, in terms of biomass and of carbon sequestration, for the above olive orchards systems. The biomass of orchard was evaluated both in the above- and in the below-ground tree components. The dry matter of the vegetation removed by pruning was evaluated as well. The enlargement of trunk cross sectional area, the dry matter accumulated in the cover crop and the root biomass were measured as well. By the data currently collected resulted that carbon sequestration efficiency in the Traditional olive orchards is greater than in the Superintensive ones and this, affects the carbon sequestration efficiency in the two orchard systems studied.



Keywords: carbon balance, carbon sequestration, olive biomass, Traditional olive grove, Intensive and Superintensive olive grove.

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