



- **Temporal variation of organic carbon content in some Vertisols in different climatic condition of western Sicily (Palermo-Italy)**

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The AA have appraised the temporal course, in the last 40 years, of the content of organic matter in three representative Vertisols of as many Sicilian environments: the lowland (ground Casalottello), the hill (ground Carrubba) and the mountain (ground Piano del Leone).

Comparing the actual data with those gotten in precedents experimentations (1963, 1966, 1976) is underlined that, in general, the content of organic matter is decreased in the grounds Casalottello and Carrubba while is being increased in c.da Piano del Leone.

The elaboration of the thermopluviometric data (period 1951-2001) of the three environments has allowed besides the AA to verify the hypothesis of the climatic changes and their relationship with the variation of the organic carbon of the ground. The data confirm the tendency to the desertification in the lowland and in the hill even if with different intensity, while in the environment of mountain the increasing aridity of the climate has determined an improvement in the suitability for the plants.

**Key word:** organic carbon, Vertisols, climatic change, desertification, Mediterranean environment.