

Cesa

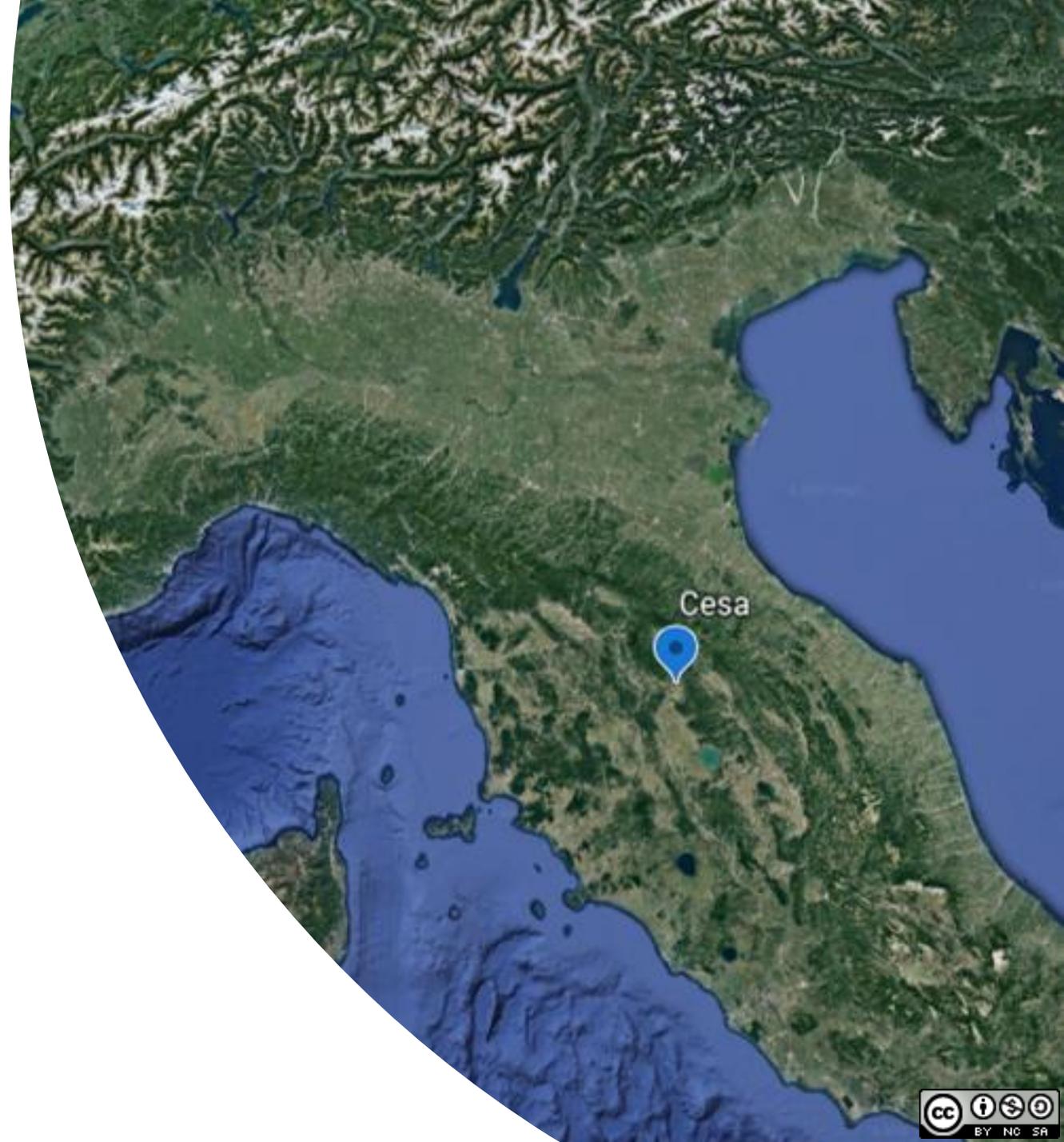
Tuscany (Italy)

- **EXPERIMENT GOALS**

- To assess in a long-term perspective the effectiveness of the biochar soil amendment in a vineyard at planting phase, in terms of: soil carbon sequestration and soil fertility; increasing soil water retention; vineyard ecophysiological parameters and productivity.

- **DURATION OF THE EXPERIMENT**

- Started on 2019 - ongoing

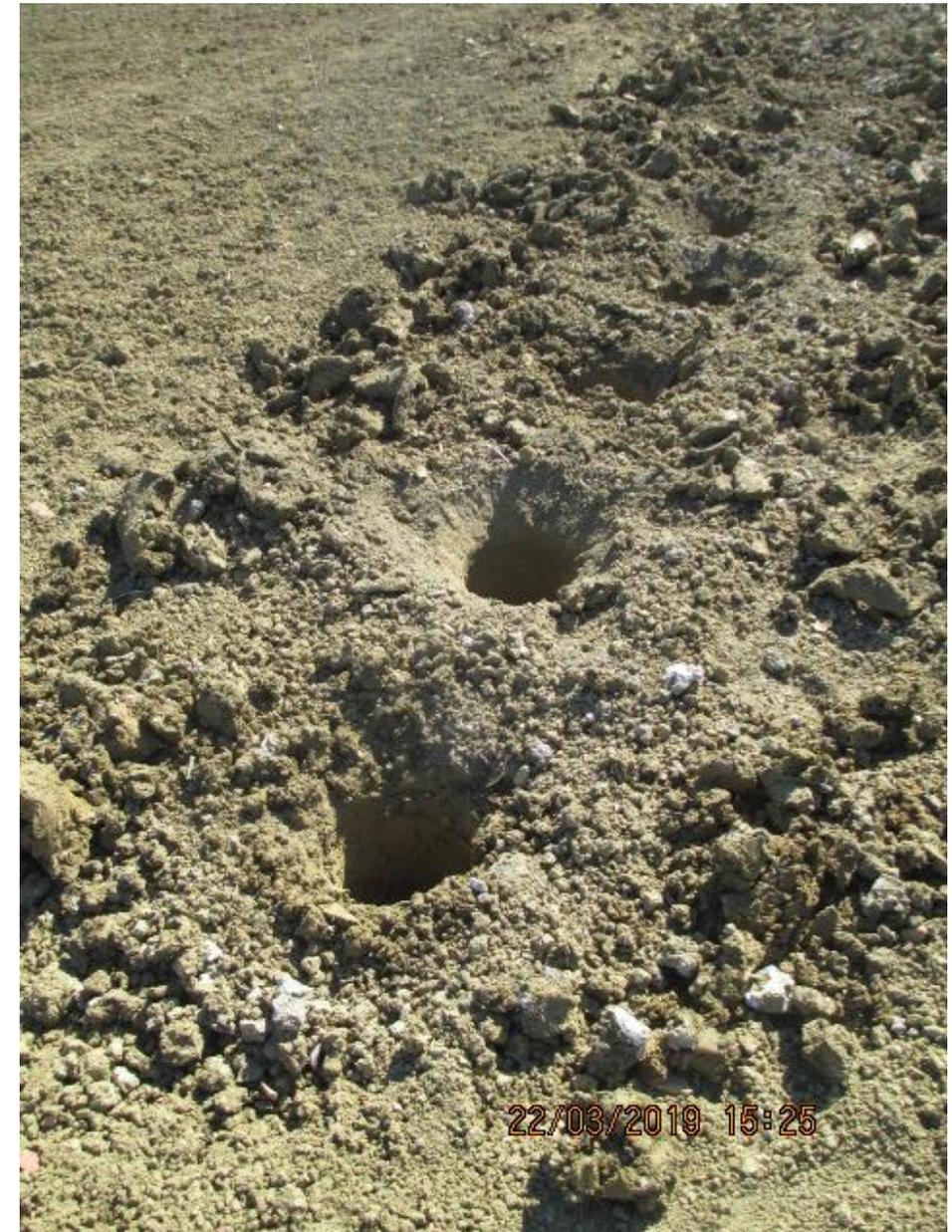


SITE DESCRIPTION

The field experiment was done in a vineyard at the Cesa (Ar) Azienda Sperimentale Ente Terre Regionali Toscane (Lat. 43°19'16"N; Long. 11°47' 38"E; 282 m a.s.l.), planted in 2019 (cv. Merlot). The vineyard has plant-row spacing of 0.8 m and 2.8 m; rows orientation is East–West. The vineyard is not irrigated. The soil is clay-loam textured. A strip plot design was done, with two treatments and nine replicates (vineyard row) and it was set up in 2009. Each replicate comprises 100 grape plants. The treatments were: a single biochar application at a rate of 3 kg plant⁻¹ at planting phase and a control. Biochar was applied mixing with soil directly in the hole where the grape plant was planted, at a depth of 0.3 m.

BIOCHAR AND ITS APPLICATION IN THE FIELD

The biochar applied was a commercial charcoal obtained from wood through the pyrolysis process at temperature of 600°C. The biochar complies with Italian legislation on biochar.



MEASURED PARAMETERS

Soil analysis and interactions with biochar: periodic soil analysis, pH, water retention, soil biological index.

Biochar dynamics and matrices: soil carbon content.

Production data: quality and quantity of grape yield.

PLANNED ACTIVITIES OR POTENTIAL EXPERIMENTAL ACTIVITIES

Cesa's long-term field experiment will be designed to represent an opportunity for the scientific community to test and verify the effects of adding biochar to the soil in a vineyard right from planting.



PRESENTATION OF THE WORKING GROUP

The Cesa field experiment was planned and done by the Biochar Group of the IBE-CNR in collaboration with Ente Terre Regionali Toscana of Regione Toscana and University of Insubria.

CONTACTS

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LOGOS

