

# Poggio Torselli

## Tuscany (Italy)

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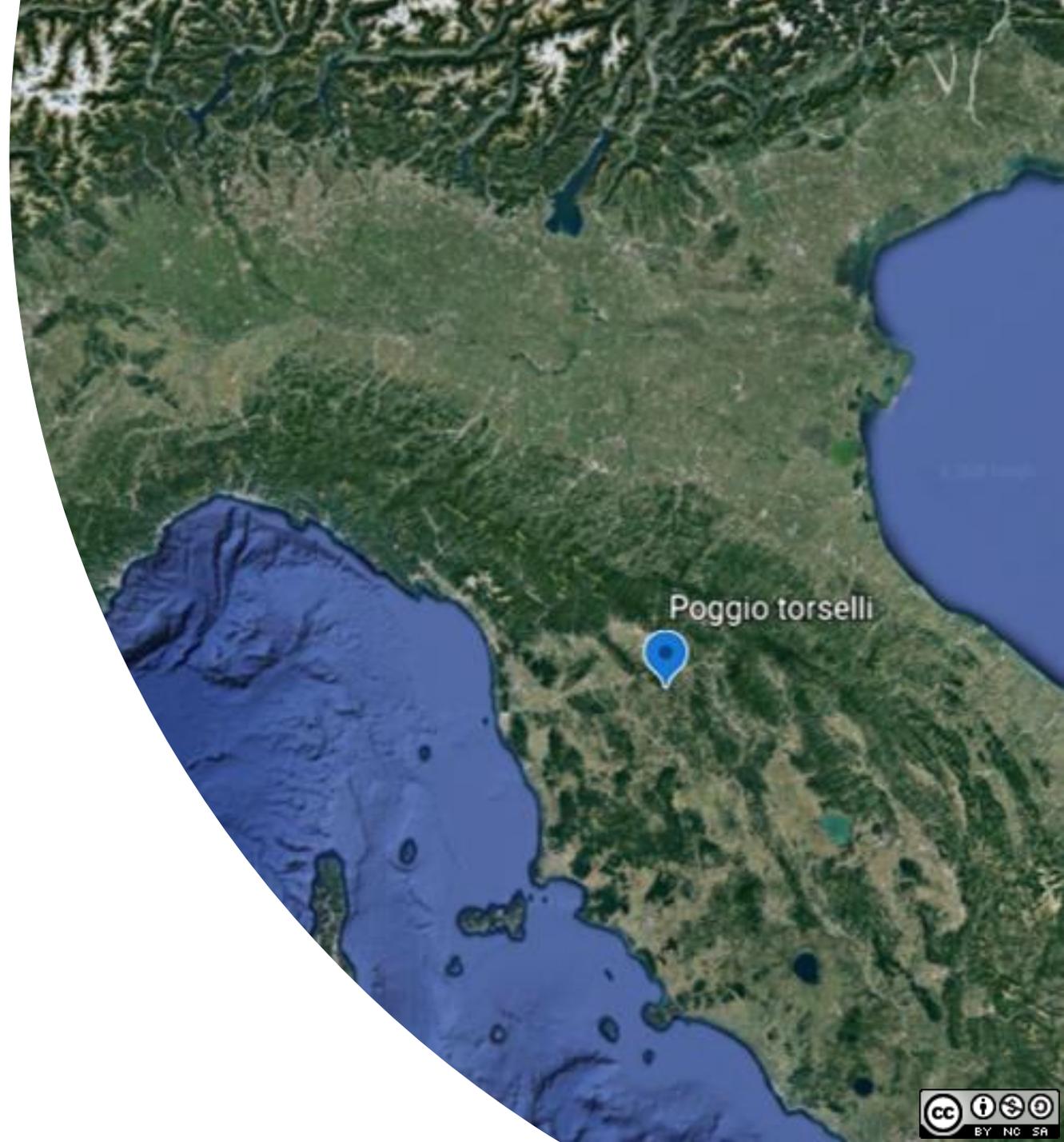
### EXPERIMENT GOALS

To assess in a long-term perspective the effectiveness of the biochar soil amendment in a **vineyard**, in terms of:

- soil carbon sequestration and soil fertility;
- vineyard productivity.

### DURATION OF THE EXPERIMENT

Started on 2018 - ongoing



## SITE DESCRIPTION

The field experiment was done in a vineyard at the “Poggio Torselli Estate” inside of the Chianti Classico district (Lat. 43°40′14″N; Long. 11°12′33″E; 170 m a.s.l.), planted in 2005 (cv. Sangiovese). The trellis system is a single curtain with plant-row spacing of 0.8 m and 2.5 m; rows orientation is North–South. The vineyard is not irrigated. The soil is a clay loam with a pH of 7.9 (USDA). A randomized plot experiment, with two treatments and three replicates was setup in 2018. Each plot, 6 in total, had a surface area of 190 m<sup>2</sup> (7.5 m in width and 25 m in length) including 4 vineyard rows and 3 inter-rows. The treatments were: a single biochar application at a rate of 21 ton (dry weight) ha<sup>-1</sup> (B) and a control (C). Biochar was applied by hand in the inter-row space of the vineyard and it was incorporated into the soil using a chisel plow tiller to 0.3 m depth.

## BIOCHAR AND ITS APPLICATION IN THE FIELD

The biochar applied was a commercial charcoal obtained wood through a pyrolysis process. The biochar at the end of the pyrolysis was crushed into particles smaller than 5 cm of diameter before the soil application. Chemical and physical characteristics have been determined.



## MEASURED PARAMETERS

**Field conditions:** meteorological data,

**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

The long term field experiment of Poggio Torselli will be design to represent an opportunity for the scientific community to test and verify the biochar soil addition in the long term in the Chianti Classico Gallo Nero district.



## PRESENTATION OF THE WORKING GROUP

The Poggio Torselli field experiment was planned and done by the Biochar Group of the IBE-CNR in collaboration with the Universities of Firenze, Insubria and Padova with a participation of the Poggio Torselli Estate

## CONTACTS

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## LOGOS



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