

SUPPLEMENTARY MATERIAL TO:

Mulching with municipal solid waste (MSW)-compost has beneficial side effects on vineyard soil compared to mulching with synthetic films.

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Table S1: Physico-chemical parameters of MSW-compost. Values derived from five subsamples of the municipal solid waste (MSW)-compost used in this work, as provided by the producing company.

Figure S1: Map and photo of the experimental site. Map and photo of the experimental site. A) Location of the Apulia region in south-east Italy; B) zoomed-in area (background map from Google Earth) with the red rectangle indicating the location of the experimental vineyard; C) detail of the experimental vineyard with the different mulching treatments.

Figure S2: Example of the Canopy Cover Free smartphone application. A) Original photo of weeds. B) Identification and measurement of the green area (leaves).

Figure S3: Micro station localized on the vineyard row connected to sensors for recording both soil and air temperature.

Table S1. Physico-chemical parameters of MSW-compost. Values derived from five subsamples of the municipal solid waste (MSW)-compost used in this work, as provided by the producing company.

Parameter	Value and measure unit
pH	6.91 ± 0.43
Salinity	$61.3 \pm 6.1 \text{ meq } 100\text{g}^{-1}$
Humidity	$22.7 \pm 4,5 \%$
NH ₃ -N	$0.187 \pm 0.019 \%$ <small>dry weight</small>
Organic N	$2.0 \pm 0.2 \%$ <small>dry weight</small>
Total N	$2.23 \pm 0.38 \%$ <small>dry weight</small>
N _{org} /N _{tot} ratio	0.92 ± 0.18
Organic C	$25.9 \pm 2.6 \%$ <small>dry weight</small>
Humic and Fulvic C	$11.2 \pm 1.1 \%$ <small>dry weight</small>
C/N ratio	12.7 ± 1.3
Plastic, Glass, Metals ($\geq 2 \text{ mm}$)	$<0.1 \%$ <small>dry weight</small>
Plastic, Glass, Metals ($\geq 5 \text{ mm}$)	$<0.1 \%$ <small>dry weight</small>
Conductivity	$4904 \pm 490 \mu\text{S cm}^{-1}$
Germination index	$74 \pm 15 \%$
Cd	$0.5 \pm 0.050 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Cr VI	$<0.25 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Total Cr	8.04 mg Kg^{-1} <small>dry weight</small>
Hg	$<0.2 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Ni	$5.29 \pm 0.53 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Pb	$16.8 \pm 1.7 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Cu	$58.7 \pm 5.9 \text{ mg Kg}^{-1}$ <small>dry weight</small>
Tl	2.0 mg Kg^{-1} <small>dry weight</small>
Zn	$211 \pm 21 \text{ mg Kg}^{-1}$ <small>dry weight</small>
<i>Escherichia coli</i>	0 CFU g^{-1}
<i>Salmonella</i> spp.	Absent

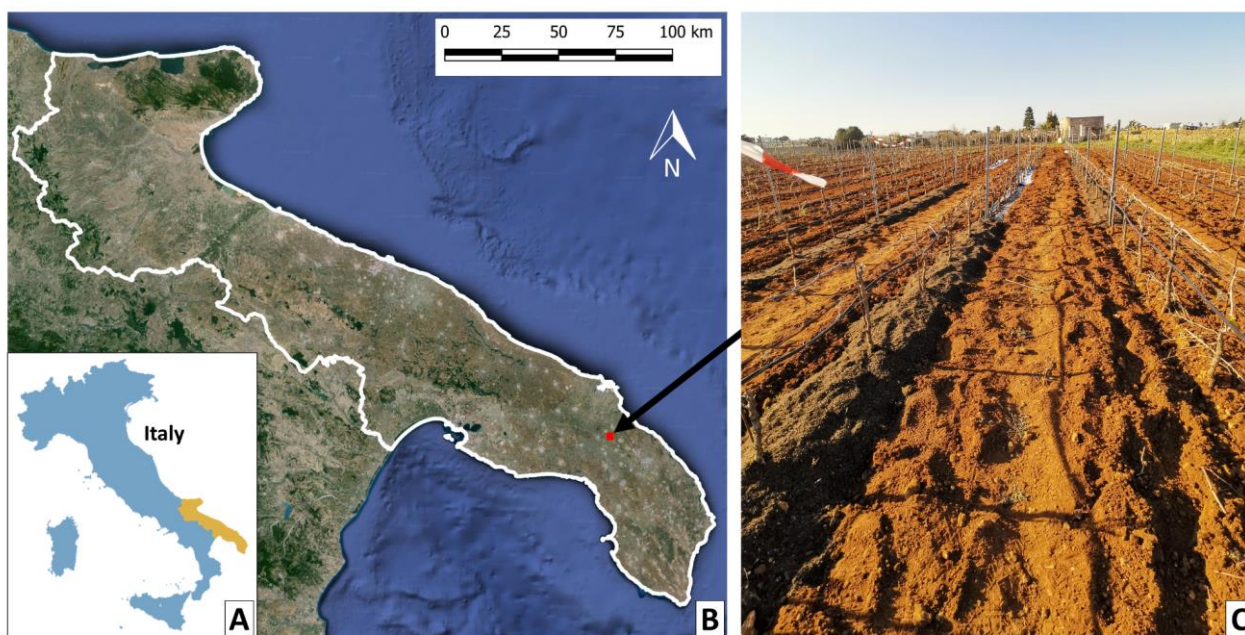


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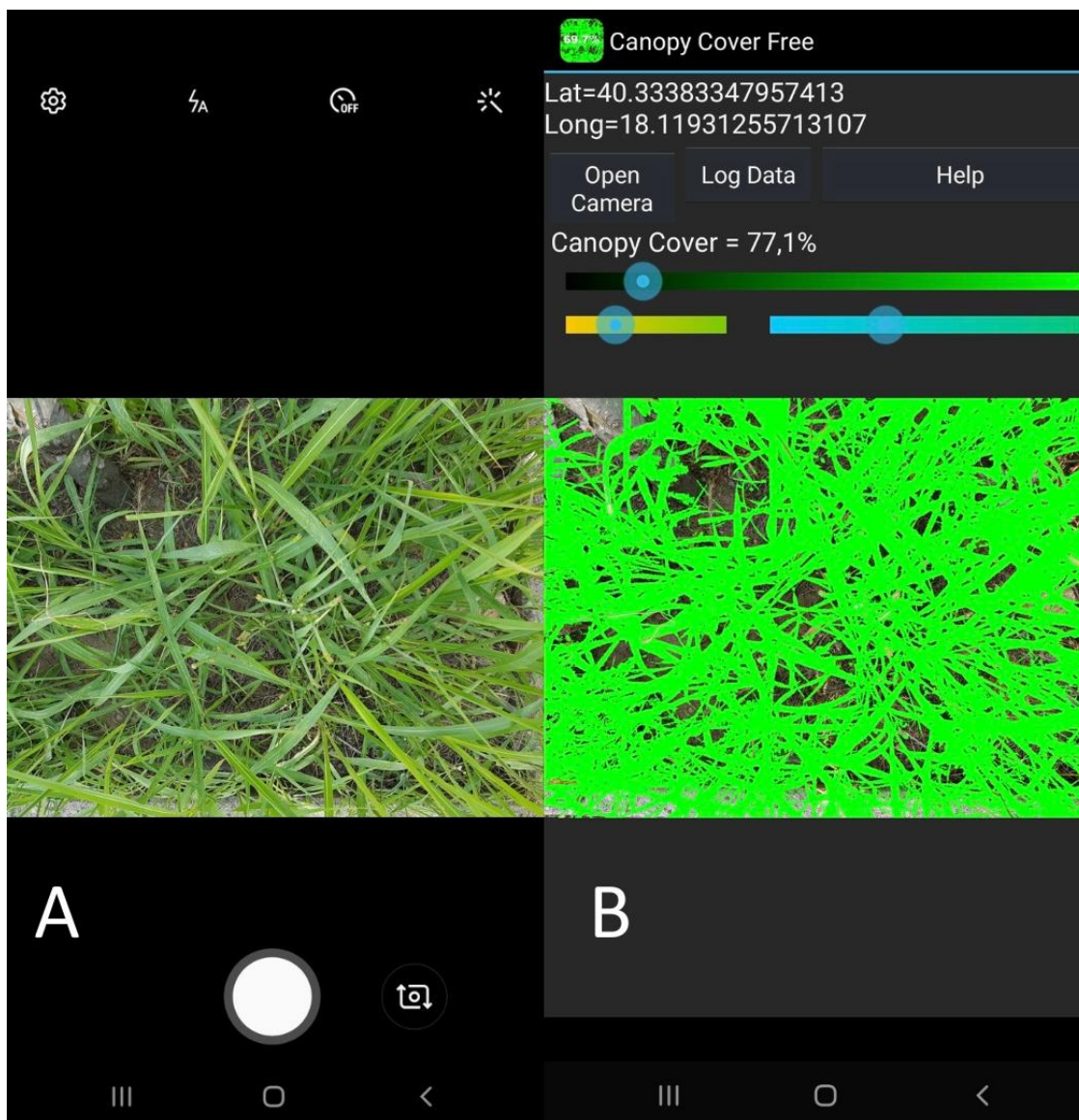


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Figure S3. Micro station localized on the vineyard row connected to sensors for recording both soil and air temperature.