



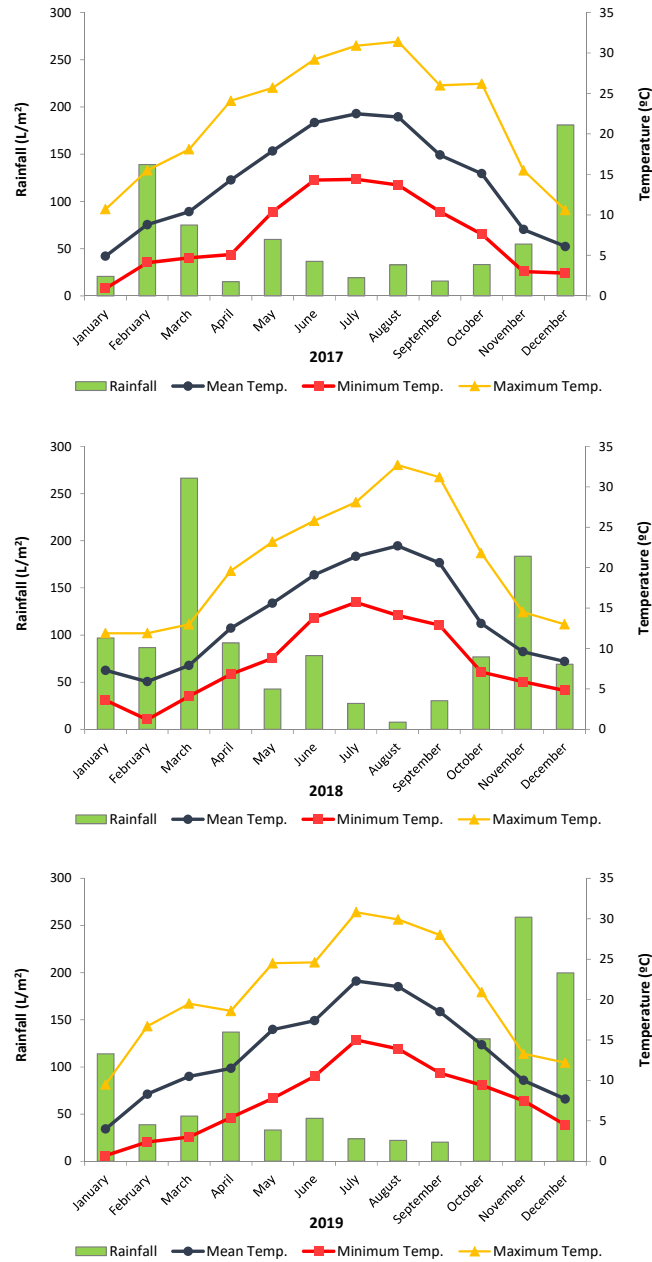
**Orchard 1:** N 42° 23' 20.2308", W 7° 12' 14.6736"  
**Orchard 2:** N 42° 23' 17.502", W 7° 12' 18.162"



**Orchard 3:** N 42° 24' 25.6968", W 7° 13' 38.5824"

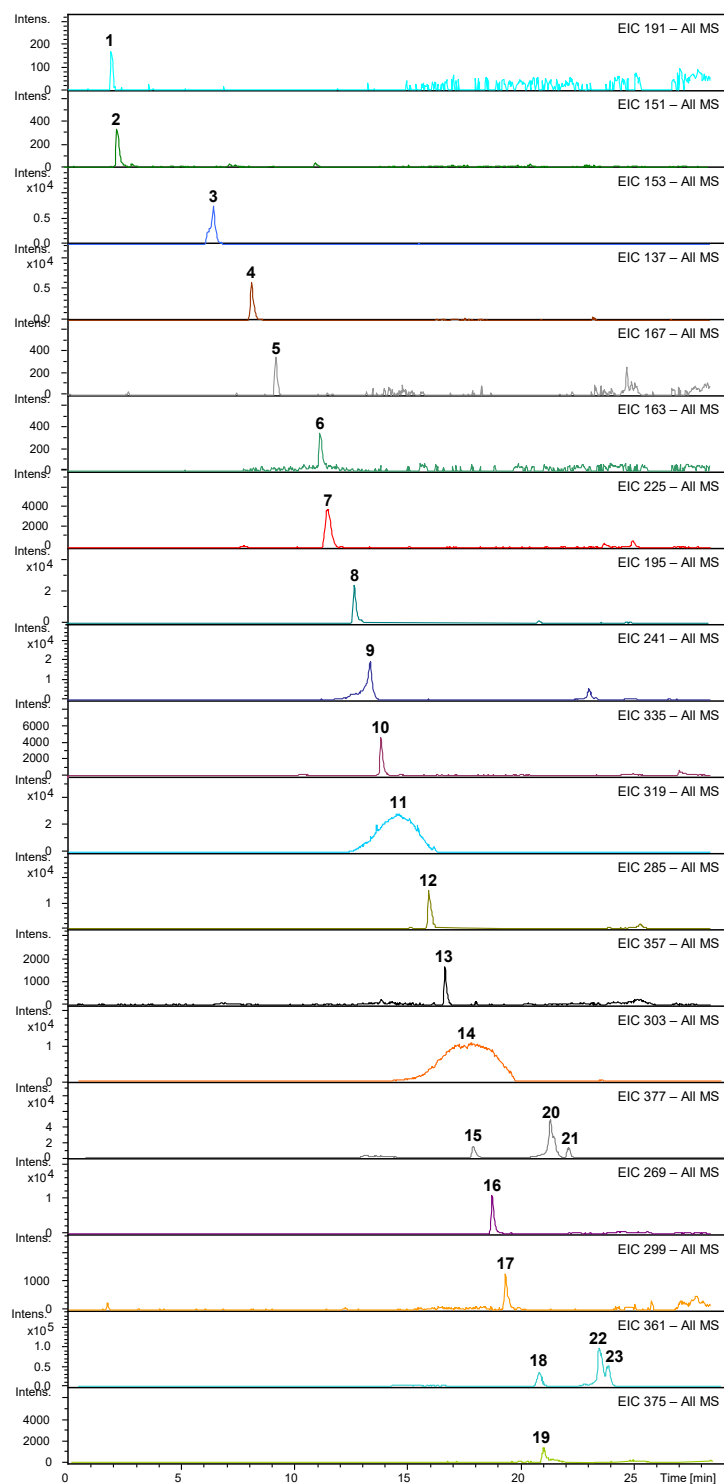


**Figure S1.** Location (geographical coordinates and aerial view) of the three orchards where Mansa de Figueiredo cultivar is disseminated.



Season	2017	2018	2019
<b>December-February (winter)</b>	Dry and warm	Wet and not excessively cold	Dry and warm
<b>March-May (spring)</b>	Dry and very warm	Very wet and cold	Warm and normal rainfall
<b>June- August (summer)</b>	Dry and very warm	Wet and warm	Slightly cold and normal rainfall
<b>September-November (autumn)</b>	Very dry and warm	Very warm and normal rainfall	Very wet and warm autumn

**Figure S2.** Monthly rainfall (L/m<sup>2</sup>), minimum, maximum, and mean temperature (°C) and main features at the studied area during the three years covered in this study (2017-2019).



**Figure S3.** Base peak chromatograms (BPCs) obtained using the optimum LC-ESI-IT MS conditions for ‘Mansa de Figueiredo’ EVOOs samples in the 2019 harvest year. Peak numbers are as follows: **1**, quinic acid; **2**, oxidised hydroxytyrosol; **3**, hydroxytyrosol; **4**, tyrosol; **5**, vanillic acid; **6**, p-coumaric acid; **7**, desoxy elenolic acid; **8**, hydroxytyrosol acetate; **9**, elenolic acid; **10**, hydroxy oleacein; **11**, oleacein; **12**, luteolin; **13**, pinoresinol; **14**, oleocanthal; **15**, oleuropein aglycone (isomer I); **16**, apigenin; **17**, diosmetin; **18**, ligstroside aglycone (isomer I); **19**, dehydro oleuropein aglycone; **20**, oleuropein aglycone (main peak); **21**, oleuropein aglycone (isomer II); **22**, ligstroside aglycone (main peak); **23**, ligstroside aglycone (isomer II).