INTRODUCTION

Oleuropein (OLE) represents the major phenolic compound (PC) found in olive fruit, ranging from a wide spectrum of concentrations. The presence of this specific and unique PC in olive fruit, as well as their degradation derivatives, has been widely studied and their strong antioxidant activity reported,[1] which possesses great health benefits upon its regular consumption[2–5]. Virgin olive oil (VOO) phenolic profile is mainly derived from the amount of phenolic glycosides originally found in olive fruit, as well the activity of specific oxidative and hydrolytic enzymes during VOO processing,[4] such as the highly specific β-glucosidases. The specific presence and abundance of olive fruits PCs has been proved to be cultivar specific[5], as well as ripening related[6].

Regarding traditional Portuguese olive cultivars, such as ‘Galega vulgar’ and ‘Cobrançosa’, not much information is available, in terms of phenolic profile along ripening.

AIM: To evaluate the phenolic profile of ‘Galega vulgar’ and ‘Cobrançosa’ cultivars along their ripening stages

RESULTS & DISCUSSION

Oleuropein (OLE) concentration over MI and OPDW

- ‘Cobrançosa’ showed block I to present the highest OLE concentrations at S6, with more than 6,000 mg/Kg;
- Within all ‘Galega vulgar’ sampling blocks a positive OLE peak and maximum, was registered at S3, with block III showing the highest amount with 35,000 mg/Kg;
- For both cultivars, MI showed its most significant increase when OLE concentration was at its maximum accumulation;
- Regarding ‘Cobrançosa’, OPDW maximum values occurred at S6 in agreement with the general maximum OLE concentration registered for this cultivar;
- For ‘Galega vulgar’ most relevant OPDW increase was reached at S3, coincident also with highest OLE concentrations for all blocks.

Conclusions:

- For both ‘Cobrançosa’ and ‘Galega Vulgar’ different harvesting periods should be considered;
- ‘Cobrançosa’ presented the optimal harvest period at S6, when both MI and OPDW were at their maximum and OLE accumulation also showed an increasing trend;
- ‘Galega vulgar’ presented its optimal harvest period at S3, when most significant MI increase was registered and also the highest OPDW and OLE accumulation were reached.