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Volatile aroma profile of *Pleurotus ostreatus* and *P. eryngii* mushrooms cultivated in substrates based on grape marc or olive mill wastes. Preliminary results.

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Wine and olive oil production are amongst the principal agricultural activities in the Mediterranean region, generating big volumes of wastes and by-products. Within the concept of recycling and sustainability, several attempts have been made to exploit these agroindustrial wastes for the production of value-added products, like mushrooms. Mushrooms' consumption and production is constantly increasing because of their health benefits and organoleptic characteristics. Volatile aroma compounds are determinants for the flavour of mushrooms. *Pleurotus* species are widely commercialized worldwide. Hence, the present work aimed to study the effect of alternative cultivation substrates on the volatile compounds of *Pleurotus eryngii* and *Pleurotus ostreatus* strains grown on wheat straw (as control), grape marc, olive leaves and two-phase olive mill wastes, in mixture. Harvested mushrooms were kept frozen until analysis. Volatile aroma compounds were isolated by headspace solid phase microextraction (HS-SPME) and identified by gas chromatography - mass spectrometry (GC - MS), after samples' equilibration in thermostated saturated NaCl solution. More than 60 volatile compounds were identified by means of mass spectra libraries and were semi-quantified using 4-methyl-1-pentanol as internal standard. Amongst the strains of *Pleurotus* mushrooms studied, 1-octen-3-ol (the so-called "mushroom alcohol") predominated comprising the 33-52 and 61-82% of volatiles in *P. ostreatus* and *P. eryngii*, respectively. Other C-8 alcohols, aldehydes and ketones were also determined in all samples. The concentrations of C-8 alcohols ranged from 430-1470 µg/g DW in *P. eryngii* and 520-1450µg/g DW in *P. ostreatus*, being higher in mushrooms grown on grape marc or olive mill wastes compared to those cultivated on wheat straw. The concentrations of C-8 ketones and C-8 aldehydes were 3-40 times and 5-130 times lower than C-8 alcohols, respectively. Additional analyses and data evaluation will be carried out.

KEYWORDS: *Pleurotus*, Volatile aroma profile, HS-SPME-GC-MS

Acknowledgments: This research has been co-financed by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH – CREATE – INNOVATE (project code: T1EDK-02560).