

# Double emulsions with olive leaves extract as fat replacers in meat systems with high oxidative stability

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Double emulsions (DE) with a healthy oil blend as lipid phase and an olive leaf extract (OLE) encapsulated in the internal aqueous phase (DE/OLE) were incorporated as fat replacers in meat systems, in order to improve both the lipid profile and the oxidative stability. After 14 days of storage at 4 °C, DE/OLE showed good physical stability (90% of globule population was still below 10 µm diameter), and high antioxidant capacity (over 80%), longer than time required for this type of food ingredients. A high correlation was found between the remaining oleuropein content and the antioxidant capacity in both meat systems with DE/OLE (MS-DE/OLE) and meat systems with the oil blend as liquid oil and non-encapsulated OLE (MS-L/OLE). MS-DE/OLE were technologically feasible and showed higher retention of oleuropein (69%), oxidative stability and antioxidant capacity at 60 °C for 7 days than MS-L/OLE, where oleuropein was almost depleted. The encapsulation of OLE in DE could be a suitable strategy to avoid lipid oxidation in meat systems with healthier lipid profile.