EVALUATION OF ANTIOXIDANT PROPERTIES AND STABILITY OF DEHYDRATED ROSA MOSQUETA (*Rosa eglateria*) EXTRACTS FOR SYNTHETIC ADDITIVE REPLACEMENT.

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*Rosa Mosqueta* (RM, *Rosa rubiginosa*) is a shrub from the rosaceae family, and its dry fruit contains polyphenolic compounds with antioxidant properties. The aim of this work was to optimize the obtention of natural extracts from dehydrated RM fruits for replacement of synthetic antioxidants. Stability of extracts encapsulated in different natural polymers was also studied.

RM extracts were prepared by stirring RM tea in hot water, ethanol or hexane at different pH. The filtrated extracts were encapsulated in espina corona (EC, 1% w/w), a mixture of EC (1% w/w) and maltodextrin (4,2% w/w), arabic gum (1% w/w) and trehalose (10% w/w). Solutions containing the matrix and the RM extract were stored at -18°C or freeze-dried. The freeze-dried systems were exposed to visible light, UV and heating at 70°C. The antioxidant capacity (AOC) and total polyphenols content (PPC) were evaluated by DPPH and Folin-Ciocalteu reaction, respectively.

RM extracts with maximum AOC and PPC were obtained by water extraction at pH=5,20. Freeze-drying did not affect the AOC and PPC of the extracts. During frozen storage, trehalose solutions were the best option to conserve the AOC. Maltodextrin or trehalose preserved AOC of the freeze-dried extract after UV or thermal treatment, while EC provided protection against visible light after 80 days of storage. Present results showed that there is no a unique matrix to preserve the antioxidant properties of the RH extract, the most suitable matrix depended on the process selected and on the main stress at which the product would be exposed during storage.