Stability of carotenoids in commercial sofrito

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\textbf{Background and objectives:}

Tomato products are an important source of carotenoids, such as sofrito, present a high level of them especially lycopene. However, the interaction between ingredients and lycopene can change the amount and isomers production during storage. The production of Z-lycopene isomers is interesting, because is more bioavailability and has more antioxidant capacity than the -E forms. The aim of the study was identified, quantify the carotenoids behavior during an accelerate stability test in how many different commercial sofrito.

\textbf{Methodology:}

The effect of ingredients on carotenoids change kinetics of nine different commercial sofrito was investigated during storage at 40°C for 0, 4,8,16 and 32 weeks. The identification of the carotenoids was based on retention time; standards; UV/VIS absorption spectrum: $\lambda_{\text{max}}$, %III/II and %Ab/II. Quantification was performed by HPLC-DAD, using external calibration curves with standards.

\textbf{Results and conclusions:}

The commercial sofritos A, B, D and G showed an increase in the content of cis-lycopene isomers during the stability assay, which could be correlated with a high content of onion and olive/sunflower oil in the nutritional label. The samples C, E and F that increased the content of trans-lycopene presented more oil than onion in their composition. The sample H was stable during the storage and correlated with low content of oil and onion. The presence of onion and oil must be encouraged in the sofrito formulation to improve carotenoid isomers content.

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