Stability of carotenoids in commercial *sofrito*

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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*.

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: λ_{max}, %III/II and %Ab/II. Quantification was performed by HPLC-DAD, using external calibration curves with standards.

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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