The role of vitamin E to protect oxidation of unsaturated fatty acids content in Jumil bug *Atizies taxcoensis A*

Virginia Melo, María José Barrera, Horacio Sandoval, Karina Sánchez.

Universidad Autónoma Metropolitana-Xochimilco, DF, México

Enthomophagy is a cultural tradition all over the world, ethnic groups in rural communities and population of high class restaurants in urban cities include insects in their diet and do not know the beneficial effects on health. Adult stage of Jumil bug were studied, and unsaturated fatty acids as well as vitamin E α Tocoferol composition analyzed since this nontraditional food stuff is considered to be a healthy one for population that commonly consumed them. The aim of this study is to determine the potential beneficial effect of vitamin E in antioxidation of unsaturated fatty acids composition of *Atizies toxcoensis A* edible insect.

Monounsaturated Fatty Acids (MUFAs), Polyunsaturated Fatty Acids (PUFAs) and Vitamin E α Tocoferol were measured in *Atizies Taxcoensis A* collected in adult stage at Guerrero state, November 2008. Some of the bugs captured were storage in glass containers at environment temperature for up to a year. Samples of dry insect were grownd into powder and extract oil with petroleum ether in soxhlet apparatus for total oil content, for the determination of FA composition liquid chromatography were performed using a 30 mx 0.25 mm ID fused silica column and carried out by HPLC and α Tocopherol; with freezed-dry samples homogenized and analyzed by liquid chromatography of high resolution. Rancidity of storage insects was determined by Kreis Kerr method Data obtained from %of total FA, oleic w-9, 12.28%; linoleic w-6, 32.21%; linolenic w-3, 18.95%; α tocoferol 2.26mg/100g not rancidity were presented after storage.

Jumil bug *Atizies taxcoensis A* is high in MUFAs and PUFAs therefore vitamin E α Tocoferol protect them from rancidity produced by autoxidation, MUFAs and PUFAs have methylene groups located between 2 double bonds that makes them particularly sensitive to autoxidation because of that the more PUFAs intake the more vitamin E is require. Jumil bug can be storage without spoilage for years due to their content of vitamin E.