

Fatty acids in castilla walnut *juglans regia* for human health.

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Castilla walnut commonly used in gastronomy since ancient times due to their sensory characteristics nowadays, intake is increased by their functional action which is considered as food that by virtue of the presence of active components provide healthy benefits beyond basic nutrition, such benefits improve health when are consumed as part of a varied diet on a regular basis. The castilla walnut from Puebla state was studied because of the health benefits these nuts highly consumed can provide to population. The propose of this study was to value fatty acids composition and the effect they have in health. Nuts were collected in Puebla state in August 2008, fatty acids from samples were analyzed by extract oil with petroleum ether in soxhlet apparatus for total fatty acids, the saturated and unsaturated acids were determined with gas chromatography entitled with a fused silica capillary column using helium as a carrier. Data obtained: total fatty acids 45.20%; saturated fatty acids from total oil: palmitic 2.12% stearic 1.50%; w-9 oleic, 12.51%; w-6 linoleic 52.20%; w-3 linolenic, 28.58%. Saturated fatty acids carbon atoms are joined by single bonds, monounsaturated FA carbon atoms have single bonds and one double bond. W-9 oleic acid is more stable than polyunsaturated ones. PUFA w-6 and w-3 can not be synthesized by a human body, enhance membrane fluidity and stimulate receptor activity but they readily undergo peroxidation in the neurons that can damage impulse transmission. Diet rich in w-3 and w-6 polyunsaturated fatty acids reduces plasma triglycerides, cardiac arrhythmias and the risk of ischemic heart disease and heart failure, thus castilla walnuts are highly recommended for optimal cardiovascular health.