

REFERENCIAS BIBLIOGRÁFICAS

- Agoston, D.V. (2013). Of timescales, animal models, and human disease: the 50th anniversary of *C. elegans* as a biological model. *Eur Sci Editing*, 4(129), 1–2.
- Aguilar, G. & Canela, J.M. (2008). Hipercolesterolemia en niños. *Rev Mex Patol Clin*, 55(2), 59–64.
- Aladedunye, F.A. & Przybylski, R. (2009). Degradation and nutritional quality changes of oil during frying. *J Am Oil Chem Soc*, 86, 149–156.
- Ali, M.A., Najmaldien, A.H.A., Latip, R.A., Othman, N.H., Majid, F.A.A. & Salleh, L.M. (2013). Effect of heating at frying temperature on the quality characteristics of regular and high-oleic acid sunflower oils. *Acta Sci. Pol., Technol Aliment*, 12(2), 159–167.
- Altun, Z.F. & Hall, D.H. (2009). Introduction [en línea]. In *WormAtlas*. Disponible en: [doi:10.3908/wormatlas.1.1](https://doi.org/10.3908/wormatlas.1.1)
- Alvear-Galindo, M.G., Yamamoto-Kimura, L.T., Morán-Álvarez, C., Solís-Días, M.G., Torres-Durán, P.V, Juárez-Oropeza, M.A., Ferreira-Hermosillo, A. (2013). Consumo alimentario dentro y fuera de la escuela. *Rev Med Inst Mex Seguro Soc.*, 51(4), 450–455.
- Arduengo, M. (2014). *Caenorhabditis elegans*. In *Salem Press Encyclopedia Of Health*. Disponible en: Research Starters.

- Ashrafi, K. (2007). Obesity and the regulation of fat metabolism. In *WormBook: the online review of C. elegans biology*. Disponible en: http://www.wormbook.org/chapters/www_obesity/obesity.pdf
- Azeez, O.T., Ejeta, K.O., Frank, E.O. & Gerald, N.E. (2013). Effects of antioxidants on the oxidative stability of vegetable oil at elevated temperature. *Intl J Appl Sci Technol*, 3(5), 107–115.
- Badui, S. (2006). *Química de los Alimentos*. México: Pearson Educación.
- Barrera-Cruz, A., Molina-Ayala, M.A. & Rodríguez-González, A. (2013). Escenario actual de la obesidad en México. *Rev Med Inst Mex Seguro Soc*, 51(3), 292–299.
- Bewersdorf, J., Farese, R.V & Walther, T.C. (2011). A new way to look at fat. *Nature Meth*, 8(2), 132–3.
- Bhurosy, T. & Jeewon, R. (2014). Overweight and Obesity Epidemic in Developing Countries: A Problem with Diet, Physical Activity, or Socioeconomic Status? *The Scientific World J*, 1–7.
- Blagosklonny, M.V. (2012). Answering the ultimate question “What is the proximal cause of aging?” *Aging*, 4(12), 861–877.
- Bordin, K., Kunitake, M.T., Aracava, K.K. & Trindade, C.S.F. (2013). Changes in food caused by deep fat frying - A review. *Arch Latinoamer Nutr*, 63(1), 5–13.
- Brandsch, C., & Eder, K. (2004). Effects of peroxidation products in thermoxidised dietary oil in female rats during rearing, pregnancy and lactation on their reproductive

performance and the antioxidative status of their offspring. *British Journal of Nutrition*, 92, 267–275.

Budryn, G., Nebesny, E. & Żyżelewicz, D. (2011). Oxidative stability of lard and sunflower oil supplemented with coffee extracts under storage conditions. *Grasas y Aceites*, 62(2), 155–161.

Carrero, J.J., Martín-Bautista, E., Baró, L., Fonollá, J., Jiménez, J., Boza, J.J. & López-Huertas, E. (2005). Efectos cardiovasculares de los ácidos grasos omega-3 y alternativas para incrementar su ingesta. *Nutr Hosp*, 20(1), 63–69.

Carrillo, L., Dalmau, J., Martínez, J., Solà, R. & Pérez-Jiménez, F. (2011). Grasas de la dieta y salud cardiovascular. *Nutr Clín Diet Hosp*, 31(2), 6–25.

Chacko, C. & Rajamohan, T. (2011). Repeatedly heated cooking oils alter platelet functions in cholesterol fed Sprague dawley rats. *Int Biol Med Res*, 2(4), 991–997.

Chege, P.M. & McColl, G. (2014). *Caenorhabditis elegans*: A model to investigate oxidative stress and metal dyshomeostasis in Parkinson's disease. *Front Aging Neurosci*, 6(89), 1–15.

Chiang, Y.F., Shaw, H.M., Yang, M.F., Huang, C.Y., Hsieh, C.H. & Chao, P.M. (2011). Dietary oxidised frying oil causes oxidative damage of pancreatic islets and impairment of insulin secretion, effects associated with vitamin E deficiency. *Br J Nutr*, 105, 1311–1319.

Choe, E. & Min, D.B. (2007). Chemistry of deep-fat frying oils. *J Food Sci*, 72(5), 77–86.

- Chuang, H.C., Huang, C.F., Chang, Y.C., Lin, Y.S. & Chao, P.M. (2013). Gestational ingestion of oxidized frying oil by C57BL/6J mice differentially affects the susceptibility of the male and female offspring. *J Nutr*, *143*, 267–273.
- Codex Alimentarius (1981). Norma del codex para grasas y aceites comestibles no regulados por normas individuales. *Codex Stan 19-1981*, 1–5. Disponible en: <http://www.codexalimentarius.org/normas-oficiales/es/>
- Coronado, M., Vega, S., Gutiérrez, R., García, B. & Díaz, G. (2006). Los ácidos grasos omega-3 y omega-6: nutrición, bioquímica y salud. *REB*, *25*(3), 72–79.
- Coyote-Estrada, N. (2009). Trastornos de la alimentación. Obesidad en niños. *Gac Méd Méx*, *145*(4), 313–317.
- De Lorgeril, M. & Salen, P. (2012). New insights into the health effects of dietary saturated and omega-6 and omega-3 polyunsaturated fatty acids. *BMC Medicine*, *10*(50), 1–5.
- Derewiaka, D. & Obiedziński, M. (2009). Oxysterol content in selected meats and meat products. *Acta Sci Pol Technol Aliment*, *8*(3), 5–13.
- Derewiaka, D. & Obiedziński, M. (2010). Influence of lard heat treatment on changes in the content of cholesterol and formation of cholesterol oxidation products. *Pol J Food Nutr Sci*, *60*(1), 19–23.
- Devaux, M., Cecchini, M. & Sassi, F. (2014). *Obesity Update 2014*. OECD. Disponible en: www.oecd.org/els/health-systems/Obesity-Update-2014.pdf

- Eder, K., Keller, U., Hirche, F. & Brandsch, C. (2003). Thermally oxidized dietary fats increase the susceptibility of rat LDL to lipid peroxidation but not their uptake by macrophages. *J Nutr*, 133, 2830–2837.
- Elle, I.C., Olsen, L.C.B., Pultz, D., Rødkær, S.V. & Færgeman, N.J. (2010). Something worth dyeing for: Molecular tools for the dissection of lipid metabolism in *Caenorhabditis elegans*. *FEBS Letters*, 584, 2183–2193.
- Elle, I.C., Rødkær, S.V., Fredens, J. & Færgeman, N.J. (2012). A method for measuring fatty acid oxidation in *C. elegans*. *Worm*, 1(1), 26–30.
- Eshak, M.G., Ghaly, I.S., Khalil, W.K.B., Farag, I.M. & Ghanem, K.Z. (2010). Genetic alterations induced by toxic effect of thermally oxidized oil and protective role of tomatoes and carrots in mice. *J Am Sci*, 6(4), 175–188.
- Estadella, D., Da Penha Oller Do Nascimento, C.M., Oyama, L.M., Ribeiro, E.B., Dâmaso, A.R. & De Piano, A. (2013). Lipotoxicity: effects of dietary saturated- and trans-fatty acids. *Mediators Inflamm*, 2013, 1–13.
- FAO (2010). *Fats and fatty acids in human nutrition: Report of an expert consultation*. Food and Agriculture Organization of the United Nations. Roma.
- Fararh, K.M., Abdel-Fattah, F. & Tahia, A. E. (2012). Dietary oxidized frying oil induces hyperglycemia and decreases activities of energy metabolism related enzymes in mice. *J Anim Sci Adv*, 2(10), 847–856.
- Farhoosh, R. & Moosavi, S.M.R. (2009). Evaluating the performance of peroxide and conjugated diene values in monitoring quality of used frying oils. *J Agric Sci Technol*, 11, 173–179.

- Fausto, J., Valdez, R.M., Aldrete, M.G. & López, M.D.C. (2006). Antecedentes históricos sociales de la obesidad en México. *Invet en Salud*, 8(2), 91–94.
- Gems, D. & Doonan, R. (2008). The nematode *Caenorhabditis elegans*: Oxidative stress and aging in the nematode *Caenorhabditis elegans*. In *Aging Medicine: Oxidative Stress in Aging: From Model Systems to Human Diseases* (pp. 81–108). Disponible en: <http://discovery.ucl.ac.uk/49741/>
- Gil, Á. (2010). *Tratado de Nutrición*. España: Editorial Médica Panamericana.
- Goldberg, A.A., Bourque, S.D., Kyryakov, P., Boukh-Viner, T., Gregg, C., Beach, A., ... Titorenko, V.I. (2009). A molecular model of lipid droplets in regulating longevity. *Biochem Soc Trans*, 37(5), 1–6.
- Gonçalves, C.B. & Granero, M.G. (2009). Reduction of Cholesterol in Lard by Solvent Extraction. *Chem Engineer Trans*, 17, 909–914.
- Guha, S., Cao, M., Kane, R.M., Savino, A.M., Zou, S. & Dong, Y. (2013). The longevity effect of cranberry extract in *Caenorhabditis elegans* is modulated by daf-16 and osr-1. *Age*, 35(5), 1559–1574.
- Gutiérrez, J., Rivera-Rommarco, J., Shamah-Levy, T., Villalpando-Hernández, S., Franco, A., Cuevas-Nasu, L., ... Hernández-Ávila, M. (2012). *Encuesta Nacional de Salud y Nutrición 2012. Resultados Nacionales*. Instituto Nacional de Salud Pública. Cuernavaca.
- Han, M., Chang, H., Zhang, P., Chen, T., Zhao, Y., Zhang, Y., ... Xu, P. (2013). C13C4.5/Spinster, an evolutionarily conserved protein that regulates fertility in *C.*

- elegans* through a lysosome-mediated lipid metabolism process. *Protein and Cell*, 4(5), 364–372.
- Hashmi, S., Wang, Y., Parhar, R.S., Collison, K.S., Conca, W., Al-Mohanna, F. & Gaugler, R. (2013). A *C. elegans* model to study human metabolic regulation. *Nutrition & Metabolism*, 10, 31.
- Hench, J., Bratić Hench, I., Pujol, C., Ipsen, S., Brodesser, S., Mourier, A., ... Trifunović, A. (2011). A Tissue-specific approach to the analysis of metabolic changes in *Caenorhabditis elegans*. *PLoS ONE*, 6(12), 1–14.
- Hou, N.S. & Taubert, S. (2012). Function and regulation of lipid biology in *Caenorhabditis elegans* aging. *Frontiers Physiol*, 3(143), 1–11.
- Hu, F.B. (2008). Globalization of food patterns and cardiovascular disease risk. *Circulation*, 118, 1913–1914.
- Hulbert, A.J., Kelly, M.A. & Abbott, S.K. (2014). Polyunsaturated fats, membrane lipids and animal longevity. *J Comp Physiol B*, 184, 149–166.
- INEGI (2015). *Mujeres y hombres en México 2014*. Instituto Nacional de Estadística y Geografía. México.
- Kanner, J. (2007). Dietary advanced lipid oxidation endproducts are risk factors to human health. *Molecular Nutrition and Food Research*, 51(9), 1094–1101.
- Katiki, L.M., Ferreira, J. F. S., Zajac, A.M., Masler, C., Lindsay, D. S., Chagas, A.C.S. & Amarante, A.F.T. (2011). *Caenorhabditis elegans* as a model to screen plant extracts

- and compounds as natural anthelmintics for veterinary use. *Vet Parasitol*, 182, 264–268.
- Leong, X.F., Salimon, J., Mustafa, M.R. & Jaarin, K. (2012). Effect of Repeatedly Heated Palm Olein on Blood Pressure-Regulating Enzymes Activity and Lipid Peroxidation in Rats. *Malays J Med Sci.*, 19(1), 20–29.
- Li, H., Fan, Y.W., Li, J., Tang, L., Hu, J.N. & Deng, Z.Y. (2013). Evaluating and predicting the oxidative stability of vegetable oils with different fatty acid compositions. *J Food Sci*, 78(4), H633–H641.
- Lionaki, E. & Tavernarakis, N. (2013). Assessing aging and senescent decline in *Caenorhabditis elegans*: Cohort survival analysis. In *Cell Senescence: Methods and Protocols, Meth Molec Biol*, 965, 473–484.
- Lionetti, L., Mollica, M.P., Donizzetti, I., Gifuni, G., Sica, R., Pignalosa, A., ... Putti, R. (2014). High-lard and high-fish-oil diets differ in their effects on function and dynamic behaviour of rat hepatic mitochondria. *PLoS ONE*, 9(3), 1-13.
- Mahan, L., Escott-Stump, S. & Raymond, J. (2013). *Krause Dietoterapia*. España: Elsevier.
- Mak, H.Y. (2012). Lipid droplets as fat storage organelles in *Caenorhabditis elegans*. *J Lipid Res*, 53, 28–33.
- Markaki, M. & Tavernarakis, N. (2010). Modeling human diseases in *Caenorhabditis elegans*. *Biotechnol J*, 5, 1261–1276.
- Mataix, J. (2009). *Tratado de Nutrición y Alimentación*. España: Oceano/Ergon.

- McKay, R.M., McKay, J.P., Avery, L. & Graff, J.M. (2003). *C. elegans*: A model for exploring the genetics of fat storage. *Developmental Cell*, 4, 131–142.
- Moncada-Rodríguez, L.M. & Gualdrón, L. (2006). Retención de nutrientes en la cocción, freído y horneado de tres alimentos energéticos. *Revista de Investigación*, 6(2), 179–187.
- Nelson, D. & Cox, M. (2009). *Lehninger Principios de Bioquímica*. España: Omega.
- Norma Mexicana NMX-F-154-1987. Alimentos. Aceites y grasas vegetales o animales. Determinación del índice de peróxido. Normas Mexicanas. Dirección general de normas. Disponible en: <http://www.colpos.mx/bancodenormas/nmexicanas/NMX-F-154-1987.PDF>.
- O'Rourke, E. J., Soukas, A. A., Carr, C.E. & Ruvkun, G. (2009). *C. elegans* major fats are stored in vesicles distinct from lysosome-related organelles. *Cell Metab*, 10, 430–435.
- OMS (2003). Obesity and Overweight. *World Health Organization*. Disponible en: http://www.who.int/dietphysicalactivity/media/en/gsfes_obesity.pdf
- OMS/FAO (2003). Dieta, nutrición y prevención de enfermedades crónicas. *Organización Mundial de La Salud*. Disponible en: http://www.who.int/nutrition/publications/obesity/WHO_TRS_916_spa.pdf
- OMS. (2014). *Estadísticas sanitarias mundiales 2014*. *Organización Mundial de la Salud*. Disponible en: http://apps.who.int/iris/bitstream/10665/112817/1/WHO_HIS_HSI_14.1_spa.pdf?ua=1

- Ortega-Cortés, R. (2014). Costos económicos de la obesidad infantil y sus consecuencias. *Rev Med Inst Mex Seguro Soc.*, 52(1), S8–S11.
- Palgunow, D., Klapper, M., & Döring, F. (2012). Dietary Restriction during Development Enlarges Intestinal and Hypodermal Lipid Droplets in *Caenorhabditis elegans*. *PLoS ONE*, 7(11).
- Penumetcha, M., Schneider, M.K., Cheek, H.A. & Karabina, S. (2013). A diet containing soybean oil heated for three hours increases adipose tissue weight but decreases body weight in C57BL/6J mice. *Lipids in Health Disease*, 12(26), 2–4.
- Pignitter, M. & Somoza, V. (2012). Critical evaluation of methods for the measurement of oxidative rancidity in vegetable oils. *J Food Drug Anal*, 20(4), 772–777.
- PROFECO (2010). Estudio de calidad: aceites vegetales comestibles. *Revista Del Consumidor*, 43(3), 36–48.
- Qi, Q., Chu, A.Y., Kang, J.H., Huang, J., Rose, L.M., Jensen, M.K., ... Qi, L. (2014). Fried food consumption, genetic risk, and body mass index: gene-diet interaction analysis in three US cohort studies. *BMJ*, 348, 2–12.
- Rizzatti, V., Boschi, F., Pedrotti, M., Zoico, E., Sbarbati, A. & Zamboni, M. (2013). Lipid droplets characterization in adipocyte differentiated 3T3-L1 cells: size and optical density distribution. *Eur J Histochem*, 57(e24), 159–162.
- Rohman, A., Triyana, K., Sismindari & Erwanto, Y. (2012). Differentiation of lard and other animal fats based on triacylglycerols composition and principal component analysis. *International Food Research Journal*, 19(2), 475–479.

- Román, S., Ojeda-Granados, C. & Panduro, A. (2013). Genética y evolución de la alimentación de la población en México. *Rev Endocrinol Nutr*, 21(1), 42–51.
- Rzheshesky, A.V. (2013). Fatal “Triad”: lipotoxicity, oxidative stress, and phenoptosis. *Biochemistry (Moscow)*, 78(9), 991–1000.
- Sanders, T.B. (2010). The role of fat in the diet - quantity, quality and sustainability. *Nutr Bull*, 35, 138–146.
- Seng, Y. (2009). Consequences of Childhood Obesity. *Ann Acad Med Singapore*, 38(1), 75–81.
- Serjouie, A., Ping, C., Mirhosseini, H. & Bin, Y. (2010). Effect of Vegetable-Based Oil Blends on Physicochemical Properties of Oils During Deep-Fat Frying. *Am J Food Technol*, 5(5), 310–323.
- Shahidi, F. & Zhong, Y. (2005). Lipid oxidation: Measurement methods. In *Bailey’s Industrial Oil and Fat Products* (pp. 357–385). John Wiley & Sons, Inc.
- Shamah-Levy, T., Cuevas-Nasu, L., Méndez-Gómez-Humarán, I., Jimenez-Aguilar, A., Mendoza-Ramírez, A.J. & Villalpando, S. (2011). La obesidad en niños mexicanos en edad escolar se asocia con el consumo de alimentos fuera del hogar: durante el trayecto de la casa a la escuela. *Arch Latinoamer Nutr*, 61(3), 288–295.
- Sharma, H., Giriprasad, R., & Goswami, M. (2013). Animal fat-Processing and Its Quality Control. *J Food Process Technol*, 4(8), 1–5.

- Shi, X., Li, J., Zou, X., Greggain, J., Rødkær, S.V, Færgeman, N.J., ... Watts, J.L. (2013). Regulation of lipid droplet size and phospholipid composition by stearoyl-CoA desaturase. *J Lipid Res*, 54, 2504–2514.
- Suaterna, A.C. (2008). La fritura de los alimentos: pérdida y ganancia de nutrientes en los alimentos fritos. *Persp Nutr Hum*, 10(1), 77–88.
- Suaterna, A.C. (2009). La fritura de los alimentos: el aceite de fritura. *Persp Nutr Hum*, 11(1), 39–53.
- Sugawara, S., Honma, T., Ito, J., Kijima, R. & Tsuduki, T. (2013). Fish oil changes the lifespan of *Caenorhabditis elegans* via lipid peroxidation. *J Clin Biochem Nutr*, 52(2), 139–145.
- Szostak-Wegierek, D., Klosiewicz-Latoszek, L., Szostak, W.B. & Cybulska, B. (2013). The role of dietary fats for preventing cardiovascular disease. A Review. *Ann Natl Inst Hygiene (Poland)*, 64(4), 263–269.
- Taveras, E.M., Berkey, C.S., Rifas-Shiman, S.L., Ludwig, D.S., Rockett, H.R.H., Field, A.E., ... Gillman, M.W. (2005). Association of consumption of fried food away from home with body mass index and diet quality in older children and adolescents. *Pediatrics*, 116(4), e518–e524.
- Tvrzicka, E., Kremmyda, L.S., Stankova, B. & Zak, A. (2011). Fatty acids as biocompounds: Their role in human metabolism, health and disease - A Review. Part 1: Classification, dietary sources and biological functions. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub.*, 155(2), 117–130.

- Valenzuela, A. (2008). Ácidos grasos con isomeria *trans* I. Su origen y los efectos en la salud humana. *Rev Chil Nutr*, 35(3), 162–171.
- Walther, T.C. & Farese, R.V. (2009). The life of lipid droplets. *Biochim Biophys Acta*, 1791, 459–466.
- Wang, F., Jiang, L., Zhu, X. & Hou, J. (2013). Effects of frying on polar material and free fatty acids in soybean oils. *Intl J Food Sci Technol*, 48, 1218–1223.
- Watts, J.L. & Browse, J. (2006). Dietary manipulation implicates lipid signaling in the regulation of germ cell maintenance in *C. elegans*. *Develop Biol*, 292, 381–392.
- Wilfling, F., Wang, H., Haas, J. T., Krahmer, N., Gould, T. J., Uchida, A., ... Walther, T. C. (2013). Triacylglycerol synthesis enzymes mediate lipid droplet growth by relocating from the ER to lipid droplets. *Developmental Cell*, 24, 384–399.
- Winkleby, M.A., Kim, S., Urizar, G.G., Ahn, D., Jennings, M.G. & Snider, J. (2006). Ten-Year Changes in Cancer-Related Health Behaviors and Screening Practices among Latino Women and Men in California. *Ethnicity & Health*, 11(1), 1–17.
- Xu, J., Gao, H., Song, L., Yang, W., Chen, C., Deng, Q., ... Huang, F. (2013). Flaxseed oil and alpha-lipoic acid combination ameliorates hepatic oxidative stress and lipid accumulation in comparison to lard. *Lipids in Health and Disease*, 12(58), 1–7.
- Yagüe, M. (2003). *Estudio de utilización de aceites para fritura en establecimientos alimentarios de comidas preparadas*. Universidad Autónoma de Barcelona, Bellaterra. Disponible en: <http://avdiaz.files.wordpress.com/2008/08/mangeles-aylon-blog.pdf>

- Yen, K., Le, T.T., Bansal, A., Narasimhan, S.D., Cheng, J.X. & Tissenbaum, H.A. (2010). A comparative study of fat storage quantitation in nematode *Caenorhabditis elegans* using label and label-free methods. *PLoS ONE*, 5(9), 1–10.
- Zhang, S.O., Trimble, R., Guo, F. & Mak, H.Y. (2010). Lipid droplets as ubiquitous fat storage organelles in *C. elegans*. *BMC Cell Biol*, 11(96), 1–11.
- Zhang, Y., Zou, X., Ding, Y., Wang, H., Wu, X. & Liang, B. (2013). Comparative genomics and functional study of lipid metabolic genes in *Caenorhabditis elegans*. *BMC Genomics*, 14(164), 1–13.
- Zheng, J. & Greenway, F. (2012). *Caenorhabditis elegans* as a model for obesity research. *Intl J Obesity*, 36, 186–194.