

## REFERENCES

- Abiodun-Solanke, Musa, B., & Ogbonna, M. (2016). Comparative study of fatty acids characterization of cage cultured and captured catfish (*Clarias gariepinus*) in Brackish water. *Scotland Conference Proceedings*.
- Ackman. (1989). Nutritional composition of fats in seafoods. *Progress in Food Nutrition Science*, 13, 161–241.
- Adeniyi, Orjiekwe, C. L., Ehiagbonare, J. E., & Josiah, S. J. (2012). Nutritional composition of three different fishes (*Clarias gariepinus*, *Malapteruruselectricus* and *Tilapia guineensis*). *Pakistan Journal of Nutrition*, 11(9), 891–895.
- Agbolosu, A. A., Teye, M., & Adam, R. I. (2014). Effects of Replacing Maize with Graded Levels of Boiled Mango Kernel Meal on the Carcass and Sensory Characteristics of Indigenous Guinea Fowl (*Numida meleagris*) Meat. *Global Journal of Animal Scientific Research*, 2(4), 345–350.
- Akhter, F., Siddiquei, H. R., & Alahi, M. E. E. (2021). Recent Advancement of the Sensors for Monitoring the Water Quality Parameters in Smart Fisheries Farming. *Computers*, 10(3), 1–20.
- Ayeloja, George, F. O. A., Dauda, T. O., Jimoh, W. A., & Popoola M.A. (2013). Nutritional comparison of captured *Clarias gariepinus* and *Oreochromis niloticus*. *International Research Journal of Natural Sciences*, 1(1).
- Ayinla. (1993). Chemical composition of *Clarias gariepinus* collected from wild. *Nigerian Institute for Oceanography and Marine Research, Lagos Technical Paper*, 89, 1–12.
- Balaban, M., Henderson, T., Teixeira, A., & W. Otwell. (1994). Ohmic thawing of shrimp blocks. Developments in food engineering. *Proceedings of the 6th International Congress on Engineering and Food, Chiba, Japan, Eds J. Yano, R. Matsuno & K. Nakamura, Blackie Academic and Professional Press, London*.
- Basmal, J. (2021). Analysis of The Texture Profile and Sensory Quality of The Jelly with The Addition of Liquid Cork Fish (*Channa striata*). *IOP Conference Series: Earth and Environmental Science*, 934(1), 12022.
- Bechteal, P., Bland, J., Woods, K., Lea, J., Brashear, S., Boue, S., Daigle, K., & Bett-Gerber, K. (2018). Effect of Par Frying on Composition and Texture of Breaded and Battered Catfish. *Foods*, 7, 46.
- Chang, S. K. C. (2010). *Protein Analysis BT - Food Analysis* (S. S. Nielsen (ed.); pp.

133–146). Springer US. [https://doi.org/10.1007/978-1-4419-1478-1\\_9](https://doi.org/10.1007/978-1-4419-1478-1_9)

Clarke, S. D. (2004). The multi-dimensional regulation of gene expression by fatty acids: polyunsaturated fats as nutrient sensors. *Current Opinion in Lipidology*, 15(1), 13–18.

Copatti, C., Garcia, L., Kochhann, D., Cunha, M., & Baldisserotto, B. (2011). Dietary salt and water pH effects on growth and Na<sup>+</sup> fluxes of silver catfish juveniles. *Acta Scientiarum Animal Sciences*, 33, 261–266. <https://doi.org/10.4025/actascianimsci.v33i3.11192>

Csavas I. (1995). Status and perspectives of culturing catfishes in East and South-East Asia. *Presented at the International Workshop on the Biological Basis for Aquaculture of Siluriformes, May Montpellier, France.*

Dauda, A. B., Natrah, I., Karim, M., Kamarudin, M. S., & Bich, A. H. (2018). African Catfish Aquaculture in Malaysia and Nigeria: Status, Trends and Prospects. *Fisheries and Aquaculture Journal*, 9(1). <https://doi.org/10.4172/2150-3508.1000237>

Dauda, LA, F., & A, D. (2013). Use of Probiotics for Sustainable Aquaculture Production in Nigeria. *Journal of Agriculture and Social Research*, 13, 35–45.

DOF. (2016). Annual Fisheries Statistics. *Department of Fisheries, Malaysia, Ministry of Agriculture and Agro-Based Industries, Putrajaya.*

Emmanuel B. E, C., O., & Aladetohun, N. F. (2011). Comparative analysis of the proximate compositions of *Tarpon atlanticus* and *Clarias gariepinus* from culture system in south western Nigeria. *African Journal of Food, Agriculture, Nutrition and Development*, 11(6), 5344–5359.

FAO. (2014). *FAO year book, Fishery and Aquaculture Statistics, Food and Agriculture Organization of the United Nations, Rome.*

(FAO). (2016). *The State of World Fisheries and Aquaculture 2016. Contributing to food security and nutrition for all. Rome. 200 pp. Food and Agriculture Organization of the United Nations (FAO).*

Fenkes, M., Shiels, H. A., Fitzpatrick, J. L., & Robert L. Nudds. (2015). The potential impacts of migratory difficulty, including warmer waters and altered flow conditions, on the reproductive success of salmonid fishes. *Comparative Biochemistry and Physiology, Part A*, 11–21.

Gebrekiros. (2016). Factors Affecting Stream Fish Community Composition and Habitat Suitability. *Journal of Aquaculture and Marine Biology*, 4(2).

Gressler, V., Yokoya, N. S., Fujii, M. T., Colepicolo, P., Filho, J. M., Torres, R. P., & Pinto, E. (2010). Lipid, fatty acid, protein, amino acid and ash contents in four Brazilian red algae species. *Food Chemistry*, 120(2), 585–590.

- Grigorakis, K. (2007). Compositional and organoleptic quality of farmed and wild gilthead sea bream (*Sparus aurata*) and sea bass (*Dicentrarchus labrax*) and factors affecting it: A review. *Aquaculture*, 272(1–4), 55–75.
- Gu, Nieves, Y, S., Luchsinger, J. ., & Scarneas N. (2010). Food combination and Alzheimer disease risk: a protective diet. *Archives of Neurology*, 67(7), 699–706. <https://doi.org/10.1001/archneurol.2010.84>
- Haard, N. F. (1992). Control of chemical composition and food quality attributes of cultured fish. *Food Research International*.
- Herlambang Wahyu, Cholifah Ambarwati, Nufus, F., Yuli, W., Giarti, K., Suciati, W., Amin, M. H., & Hayati, A. (2016). Impact of Water Pollution in The Quality of Catfish (*Pangasius* sp.) Spermatozoa. *Seminar Nasional Bioteknologi*.
- Ho, B. T., & Paul, D. R. (2009). Fatty acid profile of Tra Catfish (*Pangasius hypophthalmus*) compared to Atlantic Salmon (*Salmo solar*) and Asian Seabass (*Lates calcarifer*). *International Food Research Journal*, 16, 501–506.
- Isangedigh, I. A., Obot, O., & David, G. S. (2017). Comparative Study Of The Nutrient Contents Of Cultured And Wild African Catfish (*Clarias gariepinus*, Burchell 1822). *International Journal of Agriculture, Environment and Bioresearch*, 2(5).
- Johnsen, P. B., & Carol A. Kelly. (1990). A technique for the quantitative sensory evaluation of farm-raised catfish. *Journal of Sensory Studies*, 189–199.
- Jr. Bradley, & L. Robert. (2010). Moisture and Total Solids Analysis. In: Food Analysis. In *Food Analysis* (pp. 85–104). Springer. [https://doi.org/Doi: 10.1007/978-1-4419-1478-1\\_6](https://doi.org/Doi:10.1007/978-1-4419-1478-1_6)
- Kasumyan AO. (2001). Effects of chemical pollutants on foraging behavior and sensitivity of fish to food stimuli. *Journal of Ichthyology*, 41, 76–87.
- Kasumyan AO. (2019). The taste system in fish and the effects of environmental variables. *Journal of Fish Biology.*, 95(1), 155–178. <https://doi.org/10.1111/jfb.13940>
- Kiessling, A., Pickova, J., & Eales, J. . (2005). Age, ration level, and exercise affect the fatty acid profile of chinook salmon (*Oncorhynchus tshawytscha*) muscle differently. *Aquaculture*, 243, 345–356.
- Lall, & Kaushik SJ. (2021). Nutrition and Metabolism of Minerals in Fish. *Animals*, 11(2711).
- Li Xiu-Ming, Jian-Ming Yuan, Shi-JianFu, & Yao-GuangZhanga. (2016). The effect of sustained swimming exercise on the growth performance, muscle cellularity and flesh quality of juvenile qingbo (*Spinibarbus sinensis*). *Aquaculture*, 465, 287–295.
- Liong, HB, H., & Merican ZO. (1988). *Perspectives in aquaculture development in*

*Southeast Asia and Japan: Proceedings of the Seminar on Aquaculture Development in Southeast Asia, Iloilo City, Philippines, 8-12 September 1987.*

- Marshall, M. R. (2010). *Ash Analysis BT - Food Analysis* (S. S. Nielsen (ed.); pp. 105–115). Springer US. [https://doi.org/10.1007/978-1-4419-1478-1\\_7](https://doi.org/10.1007/978-1-4419-1478-1_7)
- Martine van der Ploeg. (1991). Testing Flavor Quality of Preharvest Channel Catfish. In *Southern Regional Aquaculture Center* (Vol. 431).
- Meadus W. J, D, T. T., Dugan, Aalhus, P, D., D, R., B, U., & Gibson. (2013). Fortification of pork loins with docosahexaenoic acid (DHA) and its effect on flavour. *Journal of Animal Science and Biotechnology*, 4(1), 46.
- Mendivil C.O. (2021). Fish Consumption: A Review of its effects on Metabolic and Hormonal Health. *Nutrition and Metabolic Insights*, 14.
- Michael, P. O., & Adedayo, F. E. (2019). Comparative Study of the Flesh Quality of *Clarias gariepinus* in Farm-raised and Wild Populations. *Asian Journal of Fisheries and Aquatic Research*.
- Min, D. B., & Ellefson, W. C. (2010). *Fat Analysis BT - Food Analysis* (S. S. Nielsen (ed.); pp. 117–132). Springer US. [https://doi.org/10.1007/978-1-4419-1478-1\\_8](https://doi.org/10.1007/978-1-4419-1478-1_8)
- Mohsin, A.K.M., & Ambak, A. K. (1983). *Freshwater Fishes of Peninsular Malaysia*. 284.
- Nhu, D. H. (2003). DHA (Docosahexaenoic acid) source from Basa (*Pangasius bocourti*) catfish oil (in Vietnamese)'. , *Proceedings of Scientific Report of the Chemistry Society, Ho Chi Minh City, Ho Chi Minh City Chemistry Society*.
- Nkrumah, Theresah, Akwetey, & Worlah. (2021). Amino Acids and Minerals in Fresh and Processed Catfish, Mackerel and Pork. *Asian Journal of Biology*., 7–14.
- Noordin, W. N., Ibrahim, S., Nawawi, R. A., Sari, M. D., & Huda, N. (2019). Nutritional composition, sensory evaluation and halal perspective african catfish (*Clarias gariepinus*) fed with diets containing Najasa (impurities). *Current Research in Nutrition and Food Science*, 7(2), 436–448.
- Omole, Soetan, & Makanjuola. (2006). Nutritional Value of Chicken Offal as Replacement for Local Fish Meal In Growing Snails. *Journal of Central European Agriculture*, 9(3).
- Onyia, Michael, K. S., Manu, J. M., & Sabo, M. (2013). Comparison of nutrient values of wild and cultured *Heterobranchus bidorsalis* and *Clarias gariepinus*. *Nigerian Journal of Fisheries and Aquaculture*, 1(1), 7–12.
- Osibona, A., Kusemiju, K., & Akande, G. R. (2009). Proximate composition and fatty acids profile of the African Catfish *Clarias gariepinus*. *Acta Satech*, 3, 85–89.
- Pan, S. Y., Zhou, S. F., Gao, S. H., Yu, Z. L., Zhang, S. F., Tang, M. K., Sun, J. N., Ma,

- D. L., Han, Y. F., Fong, W. F., & Ko, K. M. (2013). New perspectives on how to discover drugs from herbal medicines: CAM'S outstanding contribution to modern therapeutics. *Evidence-Based Complementary and Alternative Medicine*, 2013.
- Peter B. Johnson. (1987). A Lexicon of Pond-Raised Catfish Flavor Descriptors. *Journal of Sensory Studies.*, 85–91.
- Raghu Babu, C., Ketanapalli, H., & Khasim Beebi, Sheik. Chaitanya Kolluru, V. (2018). Wheat Bran-Composition and Nutritional Quality: A Review. *Advances in Biotechnology & Microbiology*, 9(1), 21–27.
- Robinson, E. H., & Li, M. H. (2012). Composition and formulation of channel catfish feeds. *Mississippi Agriculture and Forestry Experimental Station Bulletin.*
- Rosa, R., Bandarra, N. M., & Nunes, M. L. (2007). Nutritional quality of African catfish *Clarias gariepinus* (Burchell 1822): a positive criterion for the future development of the European production of Siluroidei. *International Journal of Food Science and Technology* 2007, 42, 342–351.
- Satoh., Poe., & Nelson. (1989). Effect of dietary n-3 fatty acid on weight gain and liver pobr. Fatty acid composition of fingerling channel catfish. *The Journal of Nutrition*, 1, 23–28.
- Shahid, M., Khalid, A.-G., Albalawi, A., Almisned, H., Ahmad, F., & Zubair. (2019). Study on assessment of proximate composition and meat quality of fresh and stored *Clarias gariepinus* and *Cyprinus carpio*. *Brazilian Journal of Biology*, 79(2), 1–8.
- Steffens, W. (1997). Effects of variation feeds on nutritive in essential fatty acids in fish value of freshwater fish for humans. *Aquaculture*, 151, 97–119.
- Steven Craig. (2017). Understanding Fish Nutrition, Feeds, and Feeding. Virginia Cooperative Extension. *Virginia Cooperative Extension. Virginia State University.*, 256–420.
- Suttle N. (2010). Mineral Nutrition of Livestock. *Commonwealth Agricultural Bureaux International; Oxfordshire, UK.*
- Ukagwu, Anyanwu, Offor, Nduka (2017). Comperative Studies Of Nutrient Composition Of Wild Caught and Pond reared African Catfish, *Clarias Gariepinus*. *International Journal of Research in Applied, Natural and Social Sciences*, 5(7), 63–68.
- Whelan, J., & Rust, C. (2006). Innovative Dietary Nutrition Of N-3 Fatty Acids. *N-3 PUFAs in Nontraditional Foods.*
- Wu, C., Ye, J., Gao, J., Chen, L., & Lu, Z. (2016). The effects of dietary carbohydrate on the growth, antioxidant capacities, innate immune responses and pathogen

resistance of juvenile Black carp *Mylopharyngodon piceus*. *Fish & Shellfish Immunology*, 49, 132–142. <https://doi.org/10.1016/J.FSI.2015.12.030>

Zhang, L., Yu, Y., Dong, L., Gan, J., Mao, T., Liu, T., Li, X., & He, L. (2021). Effects of moderate exercise on hepatic amino acid and fatty acid composition, liver transcriptome, and intestinal microbiota in channel catfish (*Ictalurus punctatus*). *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*, 40, 100921. <https://doi.org/10.1016/J.CBD.2021.100921>

