

REFERENCES

- Arora, B., Kamal, S., & Sharma, V. P. (2017). Effect of binding agents on quality characteristics of mushroom based sausage analogue. *Journal of Food Processing and Preservation*, 41(5), e13134.
- Asokapandian, S., Swamy, G. J., & Hajjul, H. (2019). Deep fat frying of foods: A critical review on process and product parameters. *Critical Reviews in Food Science and Nutrition*, 60(20), 3400-3413.
- Astutik, D. M., Sulmartiwi, L., Saputra, E., & Pujiastuti, D. Y. (2020). The effect addition of kappa carrageenan flour to the level of gel strength and acceptability of dumpling from threadfin bream fish (*Nemipterus nematophorus*) surimi. *IOP Conference Series: Earth and Environmental Science*, 441, 012003.
- Atashkar, M., Hojjatoleslamy, M., & Sedaghat Boroujeni, L. (2018). The influence of fat substitution with κ-carrageenan, konjac, and tragacanth on the textural properties of low-fat sausage. *Food science & nutrition*, 6(4), 1015–1022.
- Ayadi, M. A., Kechaou, A., Makni, I., & Attia, H. (2009). Influence of carrageenan addition on turkey meat sausages properties. *Journal of Food Engineering*, 93(3), 278–283.
- Badan Standarisasi Nasional (BSN). (2014). LAMPIRAN LXXII PERATURAN BADAN STANDARDISASI NASIONAL REPUBLIK INDONESIA NOMOR 6 TAHUN 2019 TENTANG SKEMA PENILAIAN KESESUAIAN TERHADAP STANDAR NASIONAL INDONESIA SEKTOR PANGAN. Retrieved from https://bsn.go.id/uploads/download/skema_naget_ayam_%E2%80%93_lampiran_lxxii_perka_bsn_11_tahun_2019.pdf
- Bakhsh, A., Lee, S. J., Lee, E. Y., Sabikun, N., Hwang, Y. H., Joo, S. T. (2021). A novel approach for tuning the physicochemical, textural, and sensory characteristics of plant-based meat analogs with different levels of methylcellulose concentration. *Foods*, 10, 560. <https://doi.org/10.3390/foods 10030560>
- Barbut, S. (2015). *The Science of Poultry and Meat Processing*. Guelph, Ontario, Canada, Canada: University of Guelph.
- Blumenthal, M. M., & Stier, R. F. (1991). Optimization of deep-fat frying operations. *Trends in Food Science & Technology*, 2, 144–148.
- Bohrer, B. M. (2019). An investigation of the formulation and nutritional composition of modern meat analogue products. *Food Science and Human Wellness*, 8(4), 320-329.
- Borchard, W. (1998). Properties of thermoreversible gels. *Berichte Der Bunsengesellschaft Für Physikalische Chemie*, 102(11), 1580–1588.
- Brugia paglia, A. & Destefanis, G. (2012). Effect of cooking method on the nutritional value of

- Piedmontese beef. 92.
- Candogan, K., & Kolsarici, N. (2003). The effects of carrageenan and pectin on some quality characteristics of low-fat beef frankfurters. *Meat Science*, 64(2), 199–206.
- Cornet, S. H. V., Snel, S. J. E., Lesschen, J., van der Goot, A. J., & van der Sman, R. G. M. (2021). Enhancing the water holding capacity of model meat analogues through marinade composition. *Journal of Food Engineering*, 290, [110283].
- Coughlin, M. K. L., Liberman, L., Ertem, S. P., Edmund, J., Bates, F. S., & Lodge, T. P. (2021). Methyl cellulose solutions and gels: fibril formation and gelation properties. *Progress in Polymer Science*, 112, 101324.
- Dwivedi, A. K., Mallawaarachchi, I., & Alvarado, L. A. (2017). Analysis of small sample size studies using nonparametric bootstrap test with pooled resampling method. *Statistics in Medicine*.
- Egbert, R. & Borders, C. (2006). Achieving success with meat analogs. *Food Technology* 60, 28e34.
- Ergun, R., Hübner-Keese, B., & Guo, J. (2016). Cellulose. In 1165836473 874817682 B. Caballero (Ed.), *Encyclopedia of food and health* (pp. 694-702). Amsterdam: Academic Press.
- Fellet, M. (2015). A Fresh Take on Fake Meat. *ACS central science*, 1(7), 347–349.
- Fiorentini, M., Kinchla, A. J., & Nolden, A. A. (2020). Role of Sensory Evaluation in Consumer Acceptance of Plant-Based Meat Analogs and Meat Extenders: A Scoping Review. *Foods* (Basel, Switzerland), 9(9), 1334.
- Goff, H. D., & Guo, Q. (2019). Chapter 1. The Role of Hydrocolloids in the Development of Food Structure. *Food Chemistry, Function and Analysis*, 1–28.
- Grasso, S., Smith, G., Bowers, S., Ajayi, O. M., & Swainson, M. (2019). Effect of texturised soy protein and yeast on the instrumental and sensory quality of hybrid beef meatballs. *Journal of food science and technology*, 56(6), 3126–3135.
- Gyawali, R., & Ibrahim, S. A. (2016). Effects of hydrocolloids and processing conditions on acid whey production with reference to Greek yogurt. *Trends in Food Science & Technology*, 56, 61–76.
- Hafid, H., Nuraini, Agustina, D., Fitrianingsih, Inderawati, Ananda, S. H., Nurhidayati, F. (2019). Chicken nugget nutrition composition with an additional variation of breadfruit flour. *IOP Conference Series: Earth and Environmental Science*, 382, 012004.
- Haque, M. A., Timilsena, Y. P., & Adhikari, B. (2016). *Food Proteins, Structure, and Function. Reference Module in Food Science*.
- Hernández-Carmona, G., Freile-Pelegrín, Y., & Hernández-Garibay, E. (2013). Conventional and alternative technologies for the extraction of algal polysaccharides. *Functional Ingredients from Algae for Foods and Nutraceuticals*, 475-516.

- Imeson, A. (2010). Food stabilisers, thickeners, and gelling agents. Ames, IA: Blackwell Pub.
- Isengard, H. (2001). Water content, one of the most important properties of food. *Food Control*, 12(7), 395-400.
- Ismail, I., Hwang, Y. H., & Joo, S. T. (2020). Meat analog as future food: a review. *Journal of animal science and technology*, 62(2), 111–120.
- Kim, H. Y., Kim, K. J., Lee, J. W., Kim, G. W., Choe, J. H., Kim, H. W., Yoon, Y., & Kim, C. J. (2015). Quality Evaluation of Chicken Nugget Formulated with Various Contents of Chicken Skin and Wheat Fiber Mixture. *Korean journal for food science of animal resources*, 35(1), 19–26.
- Kumar, P., Sharma, B. D., & Kumar, R. R. (2011). Product profile comparison of analogue meat nuggets versus chicken nuggets. *Fleischwirtschaft international: journal for meat production and meat processing*, (1), 72-74.
- Kyriakopoulou, K., Dekkers, B. L., & Van der Goot, A. J. (2018). Plant-Based Meat Analogues. In C. Galanakis (Ed.), *Sustainable Meat Production and Processing* (pp. 103-126). Academic Press.
- Lee, H. J., Yong, H. I., Kim, M., Choi, Y. S., & Jo, C. (2020). Status of meat alternatives and their potential role in the future meat market - A review. *Asian-Australasian journal of animal sciences*, 33(10), 1533–1543.
- Li, L., Thangamathesvaran, P. M., Yue, C. Y., Tam, K. C., Hu, X., & Lam, Y. C. (2001). Gel Network Structure of Methylcellulose in Water. *Langmuir*, 17(26), 8062–8068.
- Lopes, B., Lessa V. L., Silva, B. M., Carvalho, M. A., Schnitzler, E., & Lacerda, L. (2015). Xanthan gum: Properties, production conditions, quality and economic perspective. *Journal of Food and Nutrition Research*. 54. 185-194.
- Maneuffa, A. J., Stenner, R., Matharu, A. S., Clark, J. H., Matubayasi, N., & Shimizu, S. (2017). Water activity in liquid food systems: A molecular scale interpretation. *Food chemistry*, 237, 1133–1138.
- Manjunatha, S. S., Ravi, N., Negi, P. S., Raju, P. S., & Bawa, A. S. (2014). Kinetics of moisture loss and oil uptake during deep fat frying of Gethi (*Dioscorea kamoonensis* Kunth) strips. *Journal of food science and technology*, 51(11), 3061–3071.
- Ma'ruf, W., Rosyidi, D., Eka Radiati, L., & Purwadi, P. (2019). Physical and Organlopetic properties of nuggets from Domestic CHICKEN (*Gallus domesticus*) meat with Different CORN flours as filler. *Research Journal of Life Science*, 6(3), 162-171.
- McMillin, K. W., & Hoffman, L. C. (2009). Improving the quality of meat from ratites. *Improving the Sensory and Nutritional Quality of Fresh Meat*, 418–446.

- Mohamad Mazlan, M., Talib, R. A., Chin, N. L., Shukri, R., Taip, F. S., Moh Nor, M. Z., & Abdullah, N. (2020). Physical and microstructure properties of oyster mushroom-soy protein meat analog via single-screw extrusion. *Foods*, 9(8), 1023.
- Nahm F. S. (2016). Nonparametric statistical tests for the continuous data: the basic concept and the practical use. *Korean journal of anesthesiology*, 69(1), 8–14.
- Nanta, P., Skolpap, W., & Kasemwong, K. (2021). Influence of hydrocolloids on the rheological and textural attributes of a gluten-free meat analog based on soy protein isolate. *Journal of Food Processing and Preservation*, 45(3).
- Nasatto, P. L., Pignon, F., Silveira, J. L., Duarte, M. E. R., Noseda, M. D., & Rinaudo, M. (2015). Methylcellulose, a cellulose derivative with original physical properties and extended applications. *Polymers*, 7(5), 777-803.
- Nayak, N. K., & Pathak, V. (2016). Development and quality assessment of carrageenan incorporated low fat chevon patties. *Journal of food science and technology*, 53(9), 3477–3484.
- Nayak, N. K., Pathak, V., Singh, V. P., Goswami, M., & Bharti, S. K. (2015). Quality of Carrageenan Incorporated Low Fat Chicken Nuggets during Refrigerated Storage at 4oC. *Livestock Research International*, 3(1), 7-13.
- Nickerson, M. T., Darvesh, R., & Paulson, A. T. (2010). Formation of Calcium-Mediated Junction Zones at the Onset of the Sol-Gel Transition of Commercial κ -Carrageenan Solutions. *Journal of Food Science*, 75(3).
- Park, Y. (2008). Moisture and Water Activity. 10.1201/9781420045338.ch3.
- Riaz, M. (2011). Texturized vegetable proteins. *Handbook of Food Proteins*, 395-418.
- Saha, D., & Bhattacharya, S. (2010). Hydrocolloids as thickening and gelling agents in food: a critical review. *Journal of food science and technology*, 47(6), 587–597.
- Sandulachi, E. (2016). Water Activity Concept and its Role in Food Preservation. (15), 44–47.
- Serdaroğlu, M., Nacak, B., & Karabiyikoğlu, M. (2017). Effects of Beef Fat Replacement with Gelled Emulsion Prepared with Olive Oil on Quality Parameters of Chicken Patties. *Korean journal for food science of animal resources*, 37(3), 376–384.
- Sharima-Abdullah, N., Hassan, C. Z., Arifin, N., & Huda-Faujan, N. (2018). Physicochemical properties and consumer preference of imitation chicken nuggets produced from chickpea flour and textured vegetable protein. *International Food Research Journal*, 25(3), 1016-1025. Retrieved from [http://ifrj.upm.edu.my/25%20\(03\)%202018/\(18\).pdf](http://ifrj.upm.edu.my/25%20(03)%202018/(18).pdf)
- Sun, C., Ge, J., He, J., Gan, R., & Fang, Y. (2020). Processing, quality, safety, and acceptance of meat analogue products. *Engineering*.
- Taghinezhad, E., Khoshtaghaza, M. H., Minaei, S., Suzuki, T., & Brenner, T. (2016). Relationship

- between degree of starch gelatinization and quality attributes of parboiled rice during steaming. *Rice Science*, 23(6), 339-344.
- Totosaus, A. (2009). The Use of Potato Starch in Meat Products. Global Science Books, (1), 102-108.
- Trinh, T., & Glasgow, S. (2012). On the texture profile analysis test.
- Tuso, P. J., Ismail, M. H., Ha, B. P., & Bartolotto, C. (2013). Nutritional update for physicians: plant-based diets. *The Permanente journal*, 17(2), 61–66.
- United States Agency for International Development (USAID), Nathan Associates Inc. (2013). Indonesia's Poultry Value Chain Costs, Margins, Prices, and Other Issues. United States: United States Agency for International Development (USAID).
- Warner, R. D. (2017). The Eating Quality of Meat—IV Water-Holding Capacity and Juiciness. *Lawrie's Meat Science*, 419–459.
- Wee, M. S., Goh, A. T., Stieger, M., & Forde, C. G. (2018). Correlation of instrumental texture properties from textural profile analysis (tpa) with eating behaviours and macronutrient composition for a wide range of solid foods. *Food & Function*, 9(10), 5301–5312.
- Whitley, E., & Ball, J. (2002). Statistics review 6: Nonparametric methods. *Critical care (London, England)*, 6(6), 509–513.=
- Wi, G., Bae, J., Kim, H., Cho, Y., & Choi, M. J. (2020). Evaluation of the Physicochemical and Structural Properties and the Sensory Characteristics of Meat Analogues Prepared with Various Non-Animal Based Liquid Additives. *Foods (Basel, Switzerland)*, 9(4), 461.
- Williams, P., & Phillips, G. (2009). Introduction to food hydrocolloids. *Handbook of Hydrocolloids*, 1-22.
- Yulina, I. (2017). Pengaruh konsentrasi xanthan gum terhadap sifat fisikokimia dan organoleptik nugget jamur tiram. Undergraduate thesis, Widya Mandala Catholic University Surabaya.
- Zambrano, M. V., Dutta, B., Mercer, D. G., MacLean, H. L., & Touchie, M. F. (2019). Assessment of moisture content measurement methods of dried food products in small-scale operations in developing countries: A review. *Trends in Food Science & Technology*, 88, 484-496.
- Zhang, L., Sun, D. W., & Zhang, Z. (2017). Methods for measuring water activity (aw) of foods and its applications to moisture sorption isotherm studies. *Critical reviews in food science and nutrition*, 57(5), 1052–1058.