

Supplementary Materials

A comprehensive literature search was conducted in August 2023 by a primary and secondary reviewer using Web of Science, Scopus, PubMed, and Google Scholar. The search focused on the impact of processing on protein content, utilizing key terms like "protein quality," "plant protein," and "thermal processing" with Boolean operators to refine the search.

Articles from the past ten years (2014–2023) in English were screened using Rayyan software. References for 26 articles are included in the supplementary sheet for transparency:

1. Adu, O. B., Ogundeko, T. O., Ogunrinola, O. O., Saibu, G. M., & Elemo, B. O. (2015). The effect of thermal processing on protein quality and free amino acid profile of *Terminalia catappa* (Indian Almond) seed. *Journal of Food Science and Technology*, 52, 4637–4641.
2. Albarracín, M., José González, R., & Drago, S. R. (2015). Soaking and extrusion effects on physicochemical parameters, phytic acid, nutrient content and mineral bio-accessibility of whole rice grain. *International Journal of Food Sciences and Nutrition*, 66(2), 210–215.
3. Alderaywsh, F., Osman, M. A., Al-Juhaimi, F. Y., Gassem, M. A., Al-Maiman, S. A., Adiamo, O. Q., Özcan, M. M., & Ahmed, I. A. M. (2019). Effect of traditional processing on the nutritional quality and in vivo biological value of samh (*Mesembryanthemum forssskalei* Hochst) flour. *Journal of Oleo Science*, 68(10), 1033–1040.
4. Anna, N., & Muthulisi, S. (2018). The effect of thermal processing on the protein quality of *Monodora myristica* (Gaertn.) Dunal seeds. *Acta Scientiarum Polonorum Technologia Alimentaria*, 17(4), 321–333.
5. Arise, A. K., Aliyu, B. N., & Ajidagba, S. D. (2020). *Effect of thermal processing and fermentation on the chemical composition, protein digestibility and functional properties of bambara protein isolate*.
6. Cardone, G., Rumler, R., Speranza, S., Marti, A., & Schönlechner, R. (2021). Sprouting time affects sorghum (*Sorghum bicolor* [L.] Moench) functionality and bread-baking performance. *Foods*, 10(10), 2285.
7. Deng, Y., Padilla-Zakour, O., Zhao, Y., & Tao, S. (2015). Influences of high hydrostatic pressure, microwave heating, and boiling on chemical compositions, antinutritional factors, fatty acids, in vitro protein digestibility, and microstructure of buckwheat. *Food and Bioprocess Technology*, 8, 2235–2245.
8. Huang, L., Dong, J.-L., Zhang, K.-Y., Zhu, Y., Shen, R.-L., & Qu, L. (2021). Thermal processing influences the physicochemical properties, in vitro digestibility and prebiotics potential of germinated highland barley. *Lwt*, 140, 110814.
9. Hunsakul, K., Laokuldilok, T., Prinyawiwatkul, W., & Utama-ang, N. (2021). Effects of thermal processing on antioxidant activities, amino acid composition and protein molecular weight distributions of jasmine rice bran protein hydrolysate. *International Journal of Food Science & Technology*, 56(7), 3289–3298.
10. Llopart, E. E., Drago, S. R., De Greef, D. M., Torres, R. L., & González, R. J. (2014a). Effects of extrusion conditions on physical and nutritional properties of extruded whole grain red

- sorghum (sorghum spp). *International Journal of Food Sciences and Nutrition*, 65(1), 34–41.
11. Llopart, E. E., Drago, S. R., De Greef, D. M., Torres, R. L., & González, R. J. (2014b). Effects of extrusion conditions on physical and nutritional properties of extruded whole grain red sorghum (sorghum spp). *International Journal of Food Sciences and Nutrition*, 65(1), 34–41.
 12. Makawi, A. B., Mustafa, A. I., Adiamo, O. Q., & Ahmed, I. A. M. (2019). Effect of natural fermentation on the physicochemical, nutritional, functional, and microbiological properties of baobab (*Adansonia digitata* L.) fruit pulp flour. *International Food Research Journal*, 26(6), 1707–1715.
 13. Montemurro, M., Pontonio, E., Gobetti, M., & Rizzello, C. G. (2019). Investigation of the nutritional, functional and technological effects of the sourdough fermentation of sprouted flours. *International Journal of Food Microbiology*, 302, 47–58.
 14. Nkundabombi, M. G., Nakimbugwe, D., & Muyonga, J. H. (2016). Effect of processing methods on nutritional, sensory, and physicochemical characteristics of biofortified bean flour. *Food Science & Nutrition*, 4(3), 384–397.
 15. Nosworthy, M. G., Medina, G., Franczyk, A. J., Neufeld, J., Appah, P., Utioh, A., Frohlich, P., Tar'An, B., & House, J. D. (2020). Thermal processing methods differentially affect the protein quality of Chickpea (*Cicer arietinum*). *Food Science & Nutrition*, 8(6), 2950–2958.
 16. Pandey, H., & Awasthi, P. (2015). Effect of processing techniques on nutritional composition and antioxidant activity of fenugreek (*Trigonella foenum-graecum*) seed flour. *Journal of Food Science and Technology*, 52, 1054–1060.
 17. Puvača, N., Ljubojević Pelić, D., Živkov Baloš, M., Lević, J., Prodanović, R., Puvača Čović, V., Popović, S., & Đuragić, O. (2020). Impact of microwave thermal processing on major grain quality traits of linseed (*Linum usitatissimum* L.). *AgriEngineering*, 2(2), 256–263.
 18. Serrano-Sandoval, S. N., Guardado-Félix, D., De la Rosa-Millán, J., Heredia-Olea, E., & Gutiérrez-Urbe, J. A. (2022). Germinated chickpea–maize extrudates with high protein content and reduced starch digestibility. *Journal of Food Science*, 87(4), 1895–1905.
 19. Setia, R., Dai, Z., Nickerson, M. T., Sopiwnyk, E., Malcolmson, L., & Ai, Y. (2019). Impacts of short-term germination on the chemical compositions, technological characteristics and nutritional quality of yellow pea and faba bean flours. *Food Research International*, 122, 263–272.
 20. Stone, A. K., Parolia, S., House, J. D., Wang, N., & Nickerson, M. T. (2021). Effect of roasting pulse seeds at different tempering moisture on the flour functional properties and nutritional quality. *Food Research International*, 147, 110489.
 21. Vashishth, R., Semwal, A. D., Naika, M., Sharma, G. K., & Kumar, R. (2021). Influence of cooking methods on antinutritional factors, oligosaccharides and protein quality of underutilized legume *Macrotyloma uniflorum*. *Food Research International*, 143, 110299.

22. Wronkowska, M., Christa, K., Ciska, E., & Soral-Śmietana, M. (2015). Chemical Characteristics and Sensory Evaluation of Raw and Roasted Buckwheat Groats Fermented by *Rhizopus oligosporus*. *Journal of Food Quality*, 38(2), 130–138.
23. Xiao, Y., Xing, G., Rui, X., Li, W., Chen, X., Jiang, M., & Dong, M. (2015). Effect of solid-state fermentation with *Cordyceps militaris* SN-18 on physicochemical and functional properties of chickpea (*Cicer arietinum* L.) flour. *LWT-Food Science and Technology*, 63(2), 1317–1324.
24. Yağcı, S., Altan, A., & Doğan, F. (2020). Effects of extrusion processing and gum content on physicochemical, microstructural and nutritional properties of fermented chickpea-based extrudates. *LWT*, 124, 109150.
25. Yang, Q., Kan, L., Wu, Y., Liu, Y., & Ouyang, J. (2019). Influence of nutritional components on the texture characteristics and sensory properties of cooked chestnut kernel. *Journal of Food Processing and Preservation*, 43(10), e14112.
26. Zhou, L.-Y., Li, W., Pan, W.-J., Hussain, S., Wang, Y., Guo, W.-Q., Cai, Z.-N., Yang, W.-W., Wang, D.-D., & Chen, Y. (2017). Effects of thermal processing on nutritional characteristics and non-volatile flavor components from *Tricholoma lobayense*. *Emirates Journal of Food & Agriculture (EJFA)*, 29(4).