

DAFTAR PUSTAKA

- Abu-Salem, F. M., Mohamed, R. K., Gibriel, A. Y., & Rasmy, N. M. (2014). Levels of some antinutritional factors in tempeh produced from some legumes and jojobas seeds. *International Journal of Biological, Agricultural, Biosystems, Life Science and Engineering*, 8(3), 280–285.
- Adegoke, B. H., Olanike, A. M., Olusola, A. O., Oluwaseyi, A. I., Ibukun, A. O., & Adedolapo, B. A. (2019). Effects of cooking conditions on the texture profile, sensory and proximate qualities pressure cooked cowpea. *Acta Scientific Nutritional Health*, 3(5), 151–167. <https://doi.org/10.13140/RG.2.2.20177.89444>
- Adhianata, H., Pramana, A., Rochmawati, N., & Ditya, Y. (2022). Development of non-soybean tempeh from cowpea bean and koro bean. *IOP Conference Series: Earth and Environmental Science*, 1059(1), 012062. <https://doi.org/10.1088/1755-1315/1059/1/012062>
- Affandi, D. R., Handajani, S., & Utami, R. (2010). Kajian kandungan protein, senyawa antinutrisi, aktivitas antioksidan, dan sifat sensoris tempe koro babi (*Vicia faba* L.) dengan variasi pengecilan ukuran. *Jurnal Teknologi Hasil Pertanian*, 3(2), 77–86. <https://doi.org/10.20961/jthp.v0i0.13632>
- Agostini-Costa, T. da S., Teodoro, A. F. P., Alves, R. de B. das N., Braga, L. R., Ribeiro, I. F., Silva, J. P., Quintana, L. G., & Burle, M. L. (2014). Total phenolics, flavonoids, tannins and antioxidant activity of lima beans conserved in a Brazilian Genebank. *Ciência Rural*, 45(02), 335–341. <https://doi.org/10.1590/0103-8478cr20140030>
- Ajeigbe, S. O., Mohammed, A. K., Yahaya, I. A., & Oyelowo, A. O. (2012). Effect of processing techniques on levels of minerals and antinutritional factors of *Canavalia ensiformis*. *Pakistan Journal of Nutrition*, 11(12), 1121–1124. <http://dx.doi.org/10.3923/pjn.2012.1121.1124>
- Akkad, R., Buchko, A., Johnston, S. P., Han, J., House, J. D., & Curtis, J. M. (2021). Sprouting improves the flavour quality of faba bean flours. *Food Chemistry*, 364, 130355. <https://doi.org/10.1016/j.foodchem.2021.130355>
- Akkad, R., Kharraz, E., Han, J., House, J. D., & Curtis, J. M. (2019). Characterisation of the volatile flavour compounds in low and high tannin faba beans (*Vicia faba* var. minor) grown in Alberta, Canada. *Food Research International*, 120, 285–294. <https://doi.org/10.1016/j.foodres.2019.02.044>
- Alabi, F., Kiarie, E. G., Mnisi, C. M., & Mlambo, V. (2022). Physical treatment reduces trypsin inhibitor activity and modifies chemical composition of marama bean (*Tylosema esculentum*). *Molecules*, 27(14), 4451. <https://doi.org/10.3390/molecules27144451>

- Allen, L. H. (2013). Legumes. *Encyclopedia of Human Nutrition (third edition)*, 74–79. <https://doi.org/10.1016/B978-0-12-375083-9.00170-7>
- Anaemene, D., & Fadupin, G. (2022). Anti-nutrient reduction and nutrient retention capacity of fermentation, germination and combined germination-fermentation in legume processing. *Applied Food Research*, 2(1), 100059. <https://doi.org/10.1016/j.afres.2022.100059>
- Andriati, N., Anggrahini, S., Setyaningsih, W., Sofiana, I., Pusparasi, D. A., & Mossberg, F. (2018). Physicochemical characterization of jack bean (*Canavalia ensiformis*) tempeh. *Food Research*, 2(5), 481–485. [http://dx.doi.org/10.26656/fr.2017.2\(5\).300](http://dx.doi.org/10.26656/fr.2017.2(5).300)
- Anjulo, M. T., Doda, M. B., & Kanido, C. K. (2020). Determination of selected metals and nutritional compositions of pigeon pea (*Cajanus cajan*) cultivated in wolaita zone, Ethiopia. *Journal of Agricultural Chemistry and Environment*, 10(1), 37–56. <https://doi.org/10.4236/jacen.2021.101003>
- Anonim. (2018). Hyacinth beans, mature seeds, raw. <https://fdc.nal.usda.gov/fdc-app.html#/food-details/175210/nutrients>
- Anonim. (2019). Official Methods of Analysis of AOAC International (G.W. Latimer). ed21st.
- Ariina, M. S., Kanaujia, S., ALila, P., Sebastian, K., & Bier, K. (2021). Nutritional & anti-nutritional profile of indian bean. *Just Agriculture*, 1(9), 1–5.
- Arise, A. K., Malomo, S. A., Cynthia, C. I., Aliyu, N. A., & Arise, R. O. (2022). Influence of processing methods on the antinutrients, morphology and in-vitro protein digestibility of jack bean. *Food Chemistry Advances*, 1, 100078. <https://doi.org/10.1016/j.focha.2022.100078>
- Ashenafi, M. (1991). Growth of *Listeria monocytogenes* in fermenting tempeh made of various beans and its inhibition by *Lactobacillus plantarum*. *Food Microbiology*, 8(4), 303–310. [https://doi.org/10.1016/S0740-0020\(05\)80004-8](https://doi.org/10.1016/S0740-0020(05)80004-8)
- Ashenafi, M., & Busse, M. (1991a). Growth of *Bacillus cereus* in fermenting tempeh made from various beans and its inhibition by *Lactobacillus plantarum*. *Journal of Applied Bacteriology*, 70(4), 329–333. <https://doi.org/10.1111/j.1365-2672.1991.tb02944.x>
- Ashenafi, M., & Busse, M. (1991b). Production of tempeh from various indigenous Ethiopian beans. *World Journal of Microbiology & Biotechnology*, 7(1), 72–79.
- Assefa, Y., Bajjalieh, N., Archontoulis, S., Casteel, S., Davidson, D., Kovács, P., Naeve, S., & Ciampitti, I. A. (2018). Spatial characterization of soybean yield and quality (amino acids, oil, and protein) for United States. *Scientific Reports*, 8(1), 14653. <https://doi.org/10.1038/s41598-018-32895-0>
- Astawan, M., Wresdiyati, T., Widowati, S., Bintari, S. H., & Ichsan, N. (2013). Karakteristik fisikokimia dan sifat fungsional tempe yang dihasilkan dari

- berbagai varietas kedelai. *Jurnal Pangan*, 22(3), 241–252. <https://doi.org/10.33964/jp.v22i3.102>
- Astuti, M., Meliala, A., Dalais, F. S., & Wahlqvist, M. L. (2000). Tempe, a nutritious and healthy food from Indonesia. *Asia Pacific Journal of Clinical Nutrition*, 9(4), 322-325. <https://doi.org/10.1046/j.1440-6047.2000.00176.x>
- Astuti, R. D., Fibri, D. L. N., Handoko, D. D., David, W., Budijanto, S., & Shirakawa, H. (2022). The volatile compounds and aroma description in various *Rhizopus oligosporus* solid-state fermented and nonfermented rice bran. *Fermentation*, 8(3), 120. <https://doi.org/10.3390/fermentation8030120>
- Astuti, T., Sitompul, M., & Faadhilanisyah, A. (2023). Tempeh consumption patterns in Indonesian family and contribution nutritional adequacy. *Action: Aceh Nutrition Journal*, 8(4), 518-525. <http://dx.doi.org/10.30867/action.v8i4.1006>
- Ayub, H. R., Ambusso, W. J., Manene, F. M., & Nyaanga, D. M. (2021). A review of cooking systems and energy efficiencies. *American Journal of Energy Engineering*, 9(1), 1–7. <https://doi.org/10.11648/j.ajee.20210901.11>
- Azkiyah, R., Soegianto, A., & Kuswanto. (2018). Observasi tanaman kacang komak (*Lablab purpureus* L. Sweet) di kabupaten Probolinggo, Jawa Timur. *Jurnal Produksi Tanaman*, 6(9), 2363–8452.
- Badan Ketahanan Pangan. (2021). Direktori Perkembangan Konsumsi Pangan. *Kementerian Pertanian RI*.
- Badan Standarisasi Nasional. (2015). Tempe Kedelai. *SNI*, 3144.
- Banti, M., & Bajo, W. (2020). Review on nutritional importance and anti-nutritional factors of legumes. *International Journal of Nutrition and Food Sciences*, 9(6), 138–149. <http://dx.doi.org/10.11648/j.ijnfs.20200906.11>
- Batista, K. A., Pereira, W. J., Moreira, B. R., Silva, C. N., & Fernandes, K. F. (2020). Effect of autoclaving on the nutritional quality of hard-to-cook common beans (*Phaseolus vulgaris*). *International Journal of Environment, Agriculture and Biotechnology*, 5(1), 22–30. <https://doi.org/10.22161/ijeab.51.4>
- Belitz, H.-D., Groshch, W., & Schieberle, P. (2009). *Food Chemistry*. Springer.
- Bhardwaj, H. L., & Hamama, A. A. (2019). Fatty acids and sugars in lablab seed produced in Virginia (a non-traditional location). *Journal of Agricultural Science*, 11(17), 28. <https://doi.org/10.5539/jas.v11n17p28>
- Boue, S. M., Shih, B. Y., Carter-Wientjes, C. H., & Cleveland, T. E. (2003). Identification of volatile compounds in soybean at various developmental stages using solid phase microextraction. *Journal of Agricultural and Food Chemistry*, 51(17), 4873–4876. <https://doi.org/https://doi.org/10.1021/jf030051q>

- Çakir, Ö., Uçarlı, C., Tarhan, Ç., Pekmez, M., & Turgut-Kara, N. (2019). Nutritional and health benefits of legumes and their distinctive genomic properties. *Food Science and Technology*, 39(1), 1–12. <https://doi.org/10.1590/fst.42117>
- Chandra-Hioe, M. V., Wong, C. H. M., & Arcot, J. (2016). The potential use of fermented chickpea and faba bean flour as food ingredients. *Plant Foods for Human Nutrition*, 71(1), 90–95. <https://doi.org/10.1007/s11130-016-0532-y>
- Chigwedere, C. M., Olaoye, T. F., Kyomugasho, C., Jamsazzadeh Kermani, Z., Pallares Pallares, A., Van Loey, A. M., Grauwet, T., & Hendrickx, M. E. (2018). Mechanistic insight into softening of Canadian wonder common beans (*Phaseolus vulgaris*) during cooking. *Food Research International*, 106, 522–531. <https://doi.org/10.1016/j.foodres.2018.01.016>
- Chukeatirote, E., Eungwanichayapant, P. D., & Kanghae, A. (2017). Determination of volatile components in fermented soybean prepared by a co-culture of *Bacillus subtilis* and *Rhizopus oligosporus*. *Food Research*, 1(6), 225–233.
- Cook, B., Pengelly, B., Schultze-Kraft, R., Taylor, M., Burkart, S., Arango, J. A., & Peter, M. (2020). *Lablab purpureus*. In *Tropical Forages: an interactive selection tool* - Digital ISBN 978958694234-8.
- Dahl-Lassen, R., van Hecke, J., Jørgensen, H., Bukh, C., Andersen, B., & Schjoerring, J. K. (2018). High-throughput analysis of amino acids in plant materials by single quadrupole mass spectrometry. *Plant Methods*, 14, 1–9. <https://doi.org/10.1186/s13007-018-0277-8>
- Dahlan, H. A., Nambu, Y., Putri, S. P., & Fukusaki, E. (2022). Effects of soaking tempe in vinegar on metabolome and sensory profiles. *Metabolites*, 12(1), 30. <https://doi.org/10.3390/metabo12010030>
- Damodaran, S., Parkin, K. L., & Fennema, O. R. (2007). *Fennema's food chemistry*. CRC press.
- Das, G., Sharma, A., & Sarkar, P. K. (2022). Conventional and emerging processing techniques for the post-harvest reduction of antinutrients in edible legumes. *Applied Food Research*, 2(1), 100112. <https://doi.org/10.1016/j.afres.2022.100112>
- Davari, S. A., Gokhale, N. B., Palsande, V. N., & Kasture, M. C. (2018). Wal (*Lablab purpureus* L.): An unexploited potential food legumes. *International Journal of Chemical Studies*, 6(2), 946–949.
- De Angelis, D., Pasqualone, A., Allegretta, I., Porfido, C., Terzano, R., Squeo, G., & Summo, C. (2021). Antinutritional factors, mineral composition and functional properties of dry fractionated flours as influenced by the type of pulse. *Heliyon*, 7(2), e06177.
- De Pasquale, I., Pontonio, E., Gobbetti, M., & Rizzello, C. G. (2020). Nutritional and functional effects of the lactic acid bacteria fermentation on gelatinized

- legume flours. *International Journal of Food Microbiology*, 316(2), 108426. <https://doi.org/10.1016/j.ijfoodmicro.2019.108426>
- Dhull, S. B., Kidwai, M. K., Noor, R., Chawla, P., & Rose, P. K. (2022). A review of nutritional profile and processing of faba bean (*Vicia faba* L.). *Legume Science*, 4(3), e129. <https://doi.org/10.1002/leg3.129>
- Djunaidi, S., Gunawan-Puteri, M. D. P. T., Wijaya, C. H., & Prabawati, E. K. (2017). Physicochemical & microbial characterization of overripe tempeh. *Insist*, 2(1), 48–51. <https://doi.org/10.23960/ins.v2i1.33>
- Du, L., Ro, K.-S., Zhang, Y., Tang, Y.-J., Li, W., Xie, J., & Wei, D. (2022). Effects of *Lactiplantibacillus plantarum* X7021 on physicochemical properties, purines, isoflavones and volatile compounds of fermented soymilk. *Process Biochemistry*, 113, 150–157. <https://doi.org/10.1016/j.procbio.2021.12.028>
- Dwiatmaka, Y., Lukitaningsih, E., Yuniarti, N., & Wahyuono, S. (2021). Fermentation of soybean seeds using *Rhizopus oligosporus* for tempeh production and standardization based on isoflavones content. *International Journal of Applied Pharmaceutic*, 14(6), 131-136.
- Egounlety, M., & Aworh, O. (2003). Effect of soaking, dehulling, cooking and fermentation with *Rhizopus oligosporus* on the oligosaccharides, trypsin inhibitor, phytic acid and tannins of soybean (*Glycine max* Merr.), cowpea (*Vigna unguiculata* L. Walp) and groundbean (*Macrotyloma geocarpa* Harms). *Journal of Food Engineering*, 56(2-3), 249–254. [https://doi.org/10.1016/S0260-8774\(02\)00262-5](https://doi.org/10.1016/S0260-8774(02)00262-5)
- Elhalis, H., Chin, X. H., & Chow, Y. (2024). Soybean fermentation: Microbial ecology and starter culture technology. *Critical Reviews in Food Science and Nutrition*, 64(21), 7648–7670. <https://doi.org/10.1080/10408398.2023.2188951>
- Erkan, S. B., Gürler, H. N., Bilgin, D. G., Germec, M., & Turhan, I. (2020). Production and characterization of tempehs from different sources of legume by *Rhizopus oligosporus*. *LWT*, 119, 108880. <https://doi.org/10.1016/j.lwt.2019.108880>
- Ezeagu, I. E., Maziya-Dixon, B., & Tarawali, G. (2003). Seed characteristics and nutrient and antinutrient composition of 12 *Mucuna* accessions from Nigeria. *Tropical Subtropical Agroecosystems*, 1(2-3), 129–139.
- Ezegbe, C. C., Nwosu, J. N., Owuamanam, C. I., Victor-Aduloju, T. A., & Nkhata, S. G. (2023). Proximate composition and anti-nutritional factors in *Mucuna pruriens* (velvet bean) seed flour as affected by several processing methods. *Heliyon*, 9(8), E18728. <https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e18728>
- Feng, X. M., Eriksson, A. R. B., & Schnürer, J. (2005). Growth of lactic acid bacteria and *Rhizopus oligosporus* during barley tempeh fermentation. *International Journal of Food Microbiology*, 104(3), 249–256. <https://doi.org/10.1016/j.ijfoodmicro.2005.03.005>

- Feng, X. M., Larsen, T. O., & Schnürer, J. (2007). Production of volatile compounds by *Rhizopus oligosporus* during soybean and barley tempeh fermentation. *International Journal of Food Microbiology*, *113*(2), 133–141. <https://doi.org/10.1016/j.ijfoodmicro.2006.06.025>
- Ferawati, F., Witthöft, C., & Bergström, M. (2020). Characterization of volatile compounds in Swedish yellow and gray peas: Implications for new legume-based ingredients. *Legume Science*, *2*(4), e55. <https://doi.org/10.1002/leg3.55>
- Fischer, E., Cayot, N., & Cachon, R. (2022). Potential of microorganisms to decrease the “beany” off-flavor: a review. *Journal of Agricultural and Food Chemistry*, *70*(15), 4493–4508. <https://doi.org/10.1021/acs.jafc.1c07505>
- Fitriani, A., Santoso, U., & Supriyadi, S. (2021). Conventional processing affects nutritional and antinutritional components and in vitro protein digestibility in Kabau (*Archidendron bubalinum*). *International Journal of Food Science*, *2021*(1), 3057805. <https://doi.org/10.1155/2021/3057805>
- Fuller, Q. D. (2003). African crops in prehistoric South Asia: a critical review. *Food, Fuel and Fields: Progress in Africa Archaeobotany*, 239–271.
- Gurusamy, S., Vidhya, C. S., Khasherao, B. Y., & Shanmugam, A. (2022). Pulses for health and their varied ways of processing and consumption in India - A review. *Applied Food Research*, *2*(2). <https://doi.org/10.1016/j.afres.2022.100171>
- Güzel, D., & Sayar, S. (2012). Effect of cooking methods on selected physicochemical and nutritional properties of barlotto bean, chickpea, faba bean, and white kidney bean. *Journal of Food Science and Technology*, *49*(1), 89–95. <https://doi.org/10.1007/s13197-011-0260-0>
- Habib, H. M., Theuri, S. W., Kheadr, E. E., & Mohamed, F. E. (2017). Functional, bioactive, biochemical, and physicochemical properties of the Dolichos lablab bean. *Food and Function*, *8*(2), 872–880. <https://doi.org/10.1039/c6fo01162d>
- Habiba, R. A. (2002). Changes in anti-nutrients, protein solubility, digestibility, and HCl-extractability of ash and phosphorus in vegetable peas as affected by cooking methods. *Food Chemistry*, *77*(2), 187–192. [https://doi.org/10.1016/S0308-8146\(01\)00335-1](https://doi.org/10.1016/S0308-8146(01)00335-1)
- Hall, C., Hillen, C., & Garden Robinson, J. (2017). Composition, nutritional value, and health benefits of pulses. *Cereal Chemistry*, *94*(1), 11–31. <https://doi.org/10.1094/CCHEM-03-16-0069-FI>
- Handajani, S. (2001). Indigenous mucuna tempe as functional food. *Asia Pacific Journal of Clinical Nutrition*, *10*(3), 222–225. <https://doi.org/10.1046/j.1440-6047.2001.00243.x>
- Handoyo, T., & Morita, N. (2006). Structural and functional properties of fermented soybean (tempeh) by using *Rhizopus oligosporus*. *International Journal of Food Properties*, *9*(2), 347–355.

<https://doi.org/10.1080/10942910500224746>

- Harahap, R. H., Lubis, Z., & Kaban, J. (2018). Komponen flavor volatil tempe yang dibungkus dengan daun pisang dan plastik. *Agritech*, 38(2), 194–199. <https://doi.org/10.22146/agritech.24720>
- Hartree, E. F. (1972). Determination of protein: a modification of the Lowry method that gives a linear photometric response. *Analytical Biochemistry*, 48(2), 422–427. [https://doi.org/10.1016/0003-2697\(72\)90094-2](https://doi.org/10.1016/0003-2697(72)90094-2)
- Holzapfel, W. H., & Wood, B. J. B. (2014). Lactic acid bacteria: biodiversity and taxonomy. John Wiley & Sons.
- Huang, S., Liu, Y., Zhang, W., Dale, K. J., Liu, S., Zhu, J., & Serventi, L. (2018). Composition of legume soaking water and emulsifying properties in gluten-free bread. *Food Science and Technology International*, 24(3), 232–241. <https://doi.org/10.1177/1082013217744903>
- Jelen, H. (2011). Food Flavors: Chemical, Sensory, and Technological Properties.
- Ji, G., Li, X., Dong, Y., & Shi, Y. (2022). Composition, formation mechanism, and removal method of off-odor in soymilk products. *Journal of Food Science*, 87(12), 5175–5190. <https://doi.org/10.1111/1750-3841.16370>
- Joshi, M., Adhikari, B., Panozzo, J., & Aldred, P. (2010). Water uptake and its impact on the texture of lentils (*Lens culinaris*). *Journal of Food Engineering*, 100(1), 61–69. <https://doi.org/10.1016/j.jfoodeng.2010.03.028>
- Kadar, A. D., Aditiawati, P., Astawan, M., Putri, S. P., & Fukusaki, E. (2018). Gas chromatography coupled with mass spectrometry-based metabolomics for the classification of tempe from different regions and production processes in Indonesia. *Journal of Bioscience and Bioengineering*, 126(3), 411–416. <https://doi.org/10.1016/j.jbiosc.2018.03.020>
- Kalidass, C., & Mahapatra, A. K. (2014). Evaluation of the proximate and phytochemical compositions of an underexploited legume *Mucuna pruriens* var. *utilis* (Wall ex Wight) LH Bailey. *21*(1), 303–308.
- Kaloo, G., & Pandey, S. C. (1993). Hyacinth bean *Lablab purpureus* (L.) Sweet. *Genetic Improvement of Vegetable Crops*, 387–389. Pergamon. <https://doi.org/10.1016/B978-0-08-040826-2.50030-8>
- Kalpanadevi, V., & Mohan, V. R. (2013). Effect of processing on antinutrients and in vitro protein digestibility of the underutilized legume, *Vigna unguiculata* (L.) Walp subsp. *unguiculata*. *LWT-Food Science and Technology*, 51(2), 455–461. <https://doi.org/10.1016/j.lwt.2012.09.030>
- Karolkowski, A., Guichard, E., Briand, L., & Salles, C. (2021). Volatile compounds in pulses: A review. *Foods*, 10(12), 3140. <https://doi.org/10.3390/foods10123140>
- Khrisanapant, P., Kebede, B., Leong, S. Y., & Oey, I. (2019). A comprehensive

- characterisation of volatile and fatty acid profiles of legume seeds. *Foods*, 8(12), 651. <https://doi.org/10.3390/foods8120651>
- Kilonzi, S. M., Makokha, A. O., & Kenji, G. M. (2017). Physical characteristics, proximate composition and anti-nutritional factors in grains of lablab bean (*Lablab purpureus*) genotypes from Kenya. *Journal of Applied Biosciences*, 114(1), 11289–11298. <https://doi.org/10.4314/jab.v114i1.2>
- Kim, J. S., & Chung, H. Y. (2008). Characterization of volatile components in field bean (*Dolichos lablab*) obtained by simultaneous steam distillation and solvent extraction. *Journal of Food Science and Nutrition*, 13(1), 18–22. <https://doi.org/10.3746/jfn.2008.13.1.018>
- Kimani, E., Matasyoh, J., Kinyua, M., & Wachira, F. N. (2019). Characterisation of volatile compounds and flavour attributes of *Lablab purpureus* bean accessions. *African Journal of Biotechnology*, 18(24), 518–530. <https://doi.org/10.5897/ajb2017.15993>
- Kitum, V. C., Kinyanjui, P. K., Mathara, J. M., & Sila, D. N. (2020). Effect of *Lb. plantarum* BFE 5092 fermentation on antinutrient and oligosaccharide composition of whole red haricot bean (*Phaseolus vulgaris* L.). *International Journal of Food Science*, 2020(1), 8876394. <https://doi.org/10.1155/2020/8876394>
- Köse, M. A., Ekbiç, E., & Arıcı, Y. K. (2019). Determination of protein, vitamins, amino acids and mineral element content of Yenice and Pınarlı bean (*Phaseolus vulgaris* L.) genotypes. *Turkish Journal of Food and Agriculture Sciences*, 1(1), 6–11.
- Kumar, A., Singh, B., Raigond, P., Sahu, C., Mishra, U. N., Sharma, S., & Lal, M. K. (2021). Phytic acid: blessing in disguise, a prime compound required for both plant and human nutrition. *Food Research International*, 142, 110193. <https://doi.org/10.1016/j.foodres.2021.110193>
- Kumar, S., & Pandey, G. (2020). Biofortification of pulses and legumes to enhance nutrition. *Heliyon*, 6(3), e03682. <https://doi.org/10.1016/j.heliyon.2020.e03682>
- Kustyawati, M. E., Nawansih, O., & Nurdjanah, S. (2017). Profile of aroma compounds and acceptability of modified tempeh. *International Food Research Journal*, 24(2), 734–740.
- Lawalata, H. J., Sembiring, L., & Rahayu, E. S. (2015). Molecular identification of lactic acid bacteria producing antimicrobial agents from bakasang, an Indonesian traditional fermented fish product. *Indonesian Journal of Biotechnology*, 16(2), 93–99. <https://doi.org/10.22146/ijbiotech.16368>
- Lee, G., Lee, M., Ahn, J., Kim, Y., & Lee, K.-G. (2023). Correlation analysis between volatile compounds and α -dicarbonyl compounds in various beans in response to different roasting conditions. *LWT*, 177, 114544. <https://doi.org/10.1016/j.lwt.2023.114544>

- Lee, L. W., Cheong, M. W., Curran, P., Yu, B., & Liu, S. Q. (2016). Modulation of coffee aroma via the fermentation of green coffee beans with *Rhizopus oligosporus*: I. Green coffee. *Food Chemistry*, *211*, 916–924. <https://doi.org/10.1016/j.foodchem.2016.05.076>
- Leksono, B. Y., Cahyanto, M. N., Rahayu, E. S., Yanti, R., & Utami, T. (2022). Enhancement of antioxidant activities in black soy milk through isoflavone aglycone production during indigenous lactic acid bacteria fermentation. *Fermentation*, *8*(7), 326. <https://doi.org/10.3390/fermentation8070326>
- Lestienne, I., Icard-Vernière, C., Mouquet, C., Picq, C., & Trèche, S. (2005). Effects of soaking whole cereal and legume seeds on iron, zinc and phytate contents. *Food Chemistry*, *89*(3), 421–425. <https://doi.org/10.1016/j.foodchem.2004.03.040>
- Liang, Z., Yi, M., Sun, J., Zhang, T., Wen, R., Li, C., Reshetnik, E. I., Gribanova, S. L., Liu, L., & Zhang, G. (2022). Physicochemical properties and volatile profile of mung bean flour fermented by *Lactocaseibacillus casei* and *Lactococcus lactis*. *LWT*, *163*, 113565. <https://doi.org/10.1016/j.lwt.2022.113565>
- Licandro, H., Ho, P. H., Nguyen, T. K. C., Petchkongkaew, A., Van Nguyen, H., Chu-Ky, S., Nguyen, T. V. A., Lorn, D., & Waché, Y. (2020). How fermentation by lactic acid bacteria can address safety issues in legumes food products? *Food Control*, *110*, 106957. <https://doi.org/10.1016/j.foodcont.2019.106957>
- Listiana, E., & Sumarjan. (2008). Keragaan aksesi kacang komak (*Lablab purpureus* (L.) Sweet) pulau Lombok. *1*(2), 97–103.
- Luo, Y., & Xie, W. (2014). Effect of soaking and sprouting on iron and zinc availability in green and white faba bean (*Vicia faba* L.). *Journal of Food Science and Technology*, *51*, 3970–3976. <https://doi.org/10.1007/s13197-012-0921-7>
- Lv, X., Liu, G., Sun, X., Chen, H., Sun, J., & Feng, Z. (2017). Nutrient consumption patterns of *Lactobacillus acidophilus* KLDS 1.0738 in controlled pH batch fermentations. *Journal of Dairy Science*, *100*(7), 5188–5194. <https://doi.org/10.3168/jds.2017-12607>
- Ma, Z., Boye, J. I., Azarnia, S., & Simpson, B. K. (2016). Volatile flavor profile of Saskatchewan grown pulses as affected by different thermal processing treatments. *International Journal of Food Properties*, *19*(10), 2251–2271. <https://doi.org/10.1080/10942912.2015.1121494>
- Maass, B. L. (2016). Origin, domestication and global dispersal of *Lablab purpureus* (L.) Sweet (*Fabaceae*): Current understanding. *Legume Perspectives*, *13*, 5–8.
- Magdalena, S., Hogaputri, J. E., Yulandi, A., & Yogiara, Y. (2022). The addition of lactic acid bacteria in the soybean soaking process of tempeh. *Food Research*, *6*(3), 27–33. [https://doi.org/10.26656/fr.2017.6\(3\).304](https://doi.org/10.26656/fr.2017.6(3).304)

- Martínez-Pineda, M., Yagüe-Ruiz, C., Caverni-Muñoz, A., & Vercet-Tormo, A. (2019). Cooking legumes: a way for their inclusion in the renal patient diet. *Journal of Renal Nutrition*, 29(2), 118–125. <https://doi.org/10.1053/j.jrn.2018.08.001>
- Melia, S., Purwati, E., Yuherman, Jaswandi, Aritonang, S. N., & Silaen, M. (2017). Characterization of the antimicrobial activity of lactic acid bacteria isolated from buffalo milk in West Sumatera (Indonesia) against *Listeria monocytogenes*. *Pakistan Journal of Nutrition*, 16(8), 645–650. <https://doi.org/10.3923/pjn.2017.645.650>
- Meng, J., Wang, J.-L., Hao, Y.-P., Zhu, M.-X., & Wang, J. (2023). Effects of *Lactobacillus fermentum* GD01 fermentation on the nutritional components and flavor substances of three kinds of bean milk. *LWT*, 184, 115006. <https://doi.org/10.1016/j.lwt.2023.115006>
- Moa, H., Kariluoto, S., Piironen, V., Zhu, Y., Sanders, M. G., Vincken, J. P., Wolkers-Rooijackers, J., & Nout, M. J. R. (2013). Effect of soybean processing on content and bioaccessibility of folate, vitamin B12 and isoflavones in tofu and tempe. *Food Chemistry*, 141(3), 2418–2425. <https://doi.org/10.1016/j.foodchem.2013.05.017>
- Mohan, V. R., Tresina, P. S., & Daffodil, E. D. (2016). Antinutritional factors in legume seeds: characteristics and determination. 211–220. <https://doi.org/10.1016/B978-0-12-384947-2.00036-2>
- Moreno, M. R. F., Leisner, J. J., Tee, L. K., Ley, C., Radu, S., Rusul, G., Vancanneyt, M., & De Vuyst, L. (2002). Microbial analysis of Malaysian tempeh, and characterization of two bacteriocins produced by isolates of *Enterococcus faecium*. *Journal of Applied Microbiology*, 92(1), 147–157. <https://doi.org/10.1046/j.1365-2672.2002.01509.x>
- Moussou, N., Ouazib, M., Wanasundara, J., Zaidi, F., & Rubio, L. (2019). Nutrients and non-nutrients composition and in vitro starch digestibility of five Algerian legume seed flours. *International Food Research Journal*, 26(4), 1339–1349.
- Mubarak, A. E. (2005). Nutritional composition and antinutritional factors of mung bean seeds (*Phaseolus aureus*) as affected by some home traditional processes. *Food Chemistry*, 89(4), 489–495. <https://doi.org/10.1016/j.foodchem.2004.01.007>
- Mulyowidarso, R. K., Fleett, G. H., & Buckle, K. A. (1991). Changes in the concentration of carbohydrates during the soaking of soybeans for tempe production. *International Journal of Food Science and Technology*, 26(6), 595–606. <https://doi.org/10.1111/j.1365-2621.1991.tb02005.x>
- Naeem, M., Shabbir, A., Ansari, A. A., Aftab, T., Khan, M. M. A., & Uddin, M. (2020). Hyacinth bean (*Lablab purpureus* L.)—An underutilised crop with future potential. *Scientia Horticulturae*, 272, 109551. <https://doi.org/10.1016/j.scienta.2020.109551>

- National Research Council. (2006). *Lablab*. In: *Lost crops of Africa, vol II: vegetables*. The National Academies Press.
- Nout, M. J. R., & Kiers, J. L. (2005). Tempe fermentation, innovation and functionality: Update into the third millenium. *Journal of Applied Microbiology*, 98(4), 789–805. <https://doi.org/10.1111/j.1365-2672.2004.02471.x>
- Nuraida, L. (2015). A review: health promoting lactic acid bacteria in traditional Indonesian fermented foods. *Food Science and Human Wellness*, 4(2), 47–55. <https://doi.org/10.1016/j.fshw.2015.06.001>
- Nurdini, A. L., Nuraida, L., Suwanto, & Suliantari. (2015). Microbial growth dynamics during tempe fermentation in two different home industries. *International Food Research Journal*, 22(4), 1668–1674.
- Nursiwi, A., Ishartani, D., Sari, A. M., & Nisyah, K. (2018). Study on *Leucaena leucocephala* seed during fermentation: sensory characteristic and changes on anti nutritional compounds and mimosine level. *IOP Conference Series: Earth and Environmental Science*, 102(1), 12093. <https://doi.org/10.1088/1755-1315/102/1/012093>
- Nwaoguikpe, R. N., Braide, W., & Ujowundu, C. O. (2011). The effects of processing on the proximate and phytochemical compositions of *Mucuna pruriens* seeds (Velvet Beans). *Pakistan Journal of Nutrition*, 10(10): 947–951.
- Oboh, H. A., Muzquiz, M., Burbano, C., Cuadrado, C., Pedrosa, M. M., Ayet, G., & Osagie, A. U. (2000). Effect of soaking, cooking and germination on the oligosaccharide content of selected Nigerian legume seeds. *Plant Foods for Human Nutrition*, 55, 97–110. <https://doi.org/10.1023/A:1008133531726>
- Olu, M., Alamu, E. A., & Oluwajoba, S. O. (2014). Effect of germination on the anti nutritional and toxic factors of cowpea. *International Journal of Food Science and Nutrition Engineering*, 4(2), 49–53.
- Oomah, B. D., Liang, L. S. Y., & Balasubramanian, P. (2007). Volatile compounds of dry beans (*Phaseolus vulgaris* L.). *Plant Foods for Human Nutrition*, 62(4), 177–183. <https://doi.org/10.1007/s11130-007-0059-3>
- Oomah, B. D., Razafindrainibe, M., & Drover, J. C. G. (2014). Headspace volatile components of Canadian grown low-tannin faba bean (*Vicia faba* L.) genotypes. *Journal of the Science of Food and Agriculture*, 94(3), 473–481. <https://doi.org/10.1002/jsfa.6272>
- Osman, M. A. (2007). Effect of different processing methods, on nutrient composition, antinutritional factors, and in vitro protein digestibility of *Dolichos lablab* bean [*Lablab purpureus* (L) sweet]. *Pakistan Journal of Nutrition*, 6(4), 299–303. <https://doi.org/10.3923/pjn.2007.299.303>
- Owens, J. D. (2014). *Indigenous fermented foods of Southeast Asia*. CRC Press.
- Pei, M., Zhao, Z., Chen, S., Reshetnik, E. I., Griбанова, S. L., Li, C., Zhang, G.,

- Liu, L., & Zhao, L. (2022). Physicochemical properties and volatile components of pea flour fermented by *Lactobacillus rhamnosus* L08. *Food Bioscience*, 46, 101590. <https://doi.org/10.1016/j.fbio.2022.101590>
- Perdani, A. W., & Utama, Z. (2020). Korelasi kadar asam fitat dan protein terlarut tepungtempe kedelai lokal kuning (*Glycine max*) dan hitam (*Glycine soja*) selama fermentasi. *Prosiding Pendidikan Teknik Boga Busana*, 15(1).
- Pisol, B., Abdullah, N., Khalil, K. A., & Nuraida, L. (2015a). Isolation and identification of lactic acid bacteria from different stages of traditional Malaysian tempeh production. *Malaysian Journal of Microbiology*, 11(4), 358–364. <https://doi.org/10.1017/CBO9781107415324.004>
- Pisol, B., Abdullah, N., Khalil, K., & Nuraida, L. (2015b). Antimicrobial activity of lactic acid bacteria isolated from different stages of soybean tempe production. *Australian Journal of Basic and Applied Sciences*, 9(28), 230–234.
- Prameswari, H. A., Nursiwi, A., Zaman, M. Z., Ishartani, D., & Sari, A. M. (2021). Changes in chemical and sensory characteristics of gunungkidul's lamtoro (*Leucaena leucocephala*) tempeh during extended fermentation. *IOP Conference Series: Earth and Environmental Science*, 828(1), 12001. <https://doi.org/10.1088/1755-1315/828/1/012001>
- Purawisastra, S., Slamet, D. S., & Soetrisno, U. S. S. (1993). Perubahan kandungan protein dan komposisi asam amino kedelai pada waktu pembuatan tempe dan tahu. *Jurnal Penelitian Gizi dan Makanan (Nutrition and Food Research)*, 16, 117–124. <https://doi.org/10.22435/pgm.v0i0.2287>
- Puspitojati, E. (2019). Studi peptida bioaktif dari fermentasi tempe koro pedang putih (*Canavalia ensiformis* (L.) D.C.) sebagai Inhibitor Angiotensin I-Converting Enzyme (ACE). Disertasi, Program Studi Ilmu Pangan, Fakultas Teknologi Pertanian, Universitas Gadjah Mada.
- Puspitojati, E., Cahyanto, M. N., Marsono, Y., & Indrati, R. (2019). Production of angiotensin-I-converting enzyme (ACE) inhibitory peptides during the fermentation of jack bean (*Canavalia ensiformis*) tempe. *Pakistan Journal of Nutrition*, 18(5), 464–470. <http://dx.doi.org/10.3923/pjn.2019.464.470>
- Puspitojati, E., Indrati, R., Cahyanto, M. N., & Marsono, Y. (2019). Formation of ACE-inhibitory peptides during fermentation of jack bean tempe inoculated by usar *Hibiscus tiliaceus* leaves starter. *IOP Conference Series: Earth and Environmental Science*, 292(1), 012022. <https://doi.org/10.1088/1755-1315/292/1/012022>
- Raes, K., Knockaert, D., Struijs, K., & Van Camp, J. (2014). Role of processing on bioaccessibility of minerals: Influence of localization of minerals and anti-nutritional factors in the plant. *Trends in Food Science & Technology*, 37(1), 32–41. <https://doi.org/10.1016/j.tifs.2014.02.002>
- Rahayu, N. A., Cahyanto, M. N., & Indrati, R. (2019a). Pola perubahan protein koro bengkok (*Mucuna pruriens*) selama fermentasi tempe menggunakan

- inokulum raprima. *Agriotech*, 39(2), 128–135. <https://doi.org/10.22146/agriotech.41736>
- Rajhi, I., Baccouri, B., Rajhi, F., Hammami, J., Souibgui, M., Amri, M., Mhadhbi, H., & Flamini, G. (2022). Evaluation of germination effect on volatile compounds of different faba bean cultivars using HS-SPME/GC-MS. *Journal of Food Composition and Analysis*, 112, 104692. <https://doi.org/10.1016/j.jfca.2022.104692>
- Rajhi, I., Baccouri, B., Rajhi, F., Mhadhbi, H., & Flamini, G. (2021). Monitoring the volatile compounds status of whole seeds and flours of legume cultivars. *Food Bioscience*, 41, 101105. <https://doi.org/10.1016/j.fbio.2021.101105>
- Reddy, N. R., & Sathe, S. K. (2001). Food phytates. CRC Press.
- Rizal, S., Kustyawati, M. E., Sartika, D., Sasriany, R., Hidayat, R., & Suyantohadi, A. (2024). Innovation of tempeh from jack bean (*Canavalia ensiformis*) fermented with *Mosaccha* inoculum. *Food Bioscience*, 62, 105564. <https://doi.org/10.1016/j.fbio.2024.105564>
- Robotham, O., & Chapman, M. (2017). Population genetic analysis of hyacinth bean (*Lablab purpureus* (L.) Sweet, Leguminosae) indicates an East African origin and variation in drought tolerance. *Genetic Resources and Crop Evolution*, 64(1), 139–148. <https://doi.org/10.1007/s10722-015-0339-y>
- Roland, W. S. U., Pouvreau, L., Curran, J., van de Velde, F., & de Kok, P. M. T. (2017). Flavor aspects of pulse ingredients. *Cereal Chemistry*, 94(1), 58–65. <https://doi.org/https://doi.org/10.1094/CCHEM-06-16-0161-FI>
- Romulo, A., & Surya, R. (2021). Tempe: A traditional fermented food of Indonesia and its health benefits. *International Journal of Gastronomy and Food Science*, 26, 100413. <https://doi.org/10.1016/j.ijgfs.2021.100413>
- Rosa-Sibakov, N., Re, M., Karsma, A., Laitila, A., & Nordlund, E. (2018). Phytic acid reduction by bioprocessing as a tool to improve the in vitro digestibility of faba bean protein. *Journal of Agricultural and Food Chemistry*, 66(40), 10394–10399. <https://doi.org/10.1021/acs.jafc.8b02948>
- Ruiz-Terán, F., & Owens, J. D. (1996). Chemical and enzymic changes during the fermentation of bacteria-free soya bean tempe. *Journal of the Science of Food and Agriculture*, 71, 523–530. [https://doi.org/10.1002/\(SICI\)1097-0010\(199608\)71:4%3C523::AID-JSFA613%3E3.0.CO;2-R](https://doi.org/10.1002/(SICI)1097-0010(199608)71:4%3C523::AID-JSFA613%3E3.0.CO;2-R)
- Saadoun, J. H., Calani, L., Cirlini, M., Bernini, V., Neviani, E., Del Rio, D., Galaverna, G., & Lazzi, C. (2021). Effect of fermentation with single and co-culture of lactic acid bacteria on okara: evaluation of bioactive compounds and volatile profiles. *Food & Function*, 12(7), 3033–3043. <https://doi.org/10.1039/D0FO02916E>
- Saeed A, H., & Salam A, I. (2013). Current limitations and challenges with lactic acid bacteria: a review. *Food and Nutrition Sciences*, 4(11), 73-87.

<http://dx.doi.org/10.4236/fns.2013.411A010>

- Samtiya, M., Aluko, R. E., & Dhewa, T. (2020). Plant food anti-nutritional factors and their reduction strategies: an overview. *Food Production, Processing and Nutrition*, 2, 1-14. <https://doi.org/10.1186/s43014-020-0020-5>
- Sandberg, A. S., & Scheers, N. (2016). Phytic acid: properties, uses, and determination. In *Encyclopedia of Food and Health*, 365–368. Academic Press.
- Sangronis, E., & Machado, C. J. (2007). Influence of germination on the nutritional quality of *Phaseolus vulgaris* and *Cajanus cajan*. *LWT-Food Science and Technology*, 40(1), 116–120. <https://doi.org/10.1016/j.lwt.2005.08.003>
- Serventi, L. (2020). *Upcycling legume water: From wastewater to food ingredients*. Springer.
- Setyorini, D. (2008). Komak: sumber protein nabati untuk daerah kering. *Warta Plasma Nutfah Indonesia*, 20, 8–10.
- Shaahu, D. T., Kaankuka, F. G., & Okpanachi, U. (2015). Proximate, amino acid, anti-nutritional factor and mineral composition of different varieties of raw *Lablab purpureus* seeds. *International Journal of Scientific & Technology Research*, 4(4), 157–161.
- Shahidi, F., & Oh, W. Y. (2020). Lipid-derived flavor and off-flavor of traditional and functional foods: an overview. *Journal of Food Bioactives*, 10, 20–31. <https://doi.org/10.31665/jfb.2020.10224>
- Shanker, K. S., Kishore, K. H., Kanjilal, S., Misra, S., Narayana Murty, U. S., & Prasad, R. B. N. (2007). Biotransformation of ferulic acid to acetovanillone using *Rhizopus oryzae*. *Biocatalysis and Biotransformation*, 25(1), 109–112. <https://doi.org/10.1080/10242420601141721>
- Sharma, K., Kumar, V., Kaur, J., Tanwar, B., Goyal, A., Sharma, R., Gat, Y., & Kumar, A. (2019). Health effects, sources, utilization and safety of tannins: a critical review. *Toxin Reviews*, 40(4), 432–444. <https://doi.org/10.1080/15569543.2019.1662813>
- Sharma, S., Kaur, M., Goyal, R., & Gill, B. S. (2014). Physical characteristics and nutritional composition of some new soybean (*Glycine max* (L.) Merrill) genotypes. *Journal of Food Science and Technology*, 51, 551–557. <https://doi.org/10.1007/s13197-011-0517-7>
- Shimelis, E. A., & Rakshit, S. K. (2007). Effect of processing on antinutrients and in vitro protein digestibility of kidney bean (*Phaseolus vulgaris* L.) varieties grown in East Africa. *Food Chemistry*, 103(1), 161–172. <https://doi.org/10.1016/j.foodchem.2006.08.005>
- Shurtleff, W., & Aoyagi, A. (2007). *History of tempeh: A special report on the history of traditional fermented soyfoods*. Soyinfo Center: Lafayette, CA, USA.

- Singh, A., & Abhilash, P. C. (2019). Varietal dataset of nutritionally important *Lablab purpureus* (L.) Sweet from Eastern Uttar Pradesh, India. *Data in Brief*, 24, 103935. <https://doi.org/10.1016/j.dib.2019.103935>
- Singh, B. P., & Vij, S. (2018). α -Galactosidase activity and oligosaccharides reduction pattern of indigenous lactobacilli during fermentation of soy milk. *Food Bioscience*, 22, 32–37. <https://doi.org/10.1016/j.fbio.2018.01.002>
- Siqueira, B. dos S., Vianello, R. P., Fernandes, K. F., & Bassinello, P. Z. (2013). Hardness of carioca beans (*Phaseolus vulgaris* L.) as affected by cooking methods. *LWT - Food Science and Technology*, 54(1), 13–17. <https://doi.org/10.1016/j.lwt.2013.05.019>
- Ślizewska, K., & Chlebicz-Wójcik, A. (2020). Growth kinetics of probiotic *Lactobacillus* strains in the alternative, cost-efficient semi-solid fermentation medium. *Biology*, 9(12), 423. <https://doi.org/10.3390/biology9120423>
- Sparringa, R. A., & Owens, J. D. (1999). Protein utilization during soybean tempe fermentation. *Journal of Agricultural and Food Chemistry*, 47(10), 4375–4378. <https://doi.org/10.1021/jf981279u>
- Sridhar, K. R., & Seena, S. (2006). Nutritional and antinutritional significance of four unconventional legumes of the genus *Canavalia*-A comparative study. *Food Chemistry*, 99(2), 267–288. <https://doi.org/10.1016/j.foodchem.2005.07.049>
- Starzyńska-Janiszewska, A., Stodolak, B., & Mickowska, B. (2014). Effect of controlled lactic acid fermentation on selected bioactive and nutritional parameters of tempeh obtained from unhulled common bean (*Phaseolus vulgaris*) seeds. *Journal of the Science of Food and Agriculture*, 94(2), 359–366. <https://doi.org/10.1002/jsfa.6385>
- Steinkraus, K. (1995). *Handbook of Indigenous Fermented Foods*, Second Edition. Marcel Dekker, Inc.
- Steinkraus, K. (2004). *Industrialization of indigenous fermented foods*, revised and expanded. CRC Press.
- Stodolak, B., & Starzyńska-Janiszewska, A. (2008). The influence of tempeh fermentation and conventional cooking on anti-nutrient level and protein bioavailability (in vitro test) of grass-pea seeds. *Journal of the Science of Food and Agriculture*, 88(13), 2265–2270. <https://doi.org/10.1002/jsfa.3341>
- Subagio, A. (2006). Characterization of hyacinth bean (*Lablab purpureus* (L.) sweet) seeds from Indonesia and their protein isolate. *Food Chemistry*, 95(1), 65–70. <https://doi.org/10.1016/j.foodchem.2004.12.042>
- Sudaryono, Taufik, A., & Wijanarko, A. (2013). Peluang peningkatan produksi kedelai di Indonesia. *Teknik Produksi dan Pengembangan Pusat Penelitian dan Pengembangan Tanaman Pangan*, 130–167.

- Suharjanto, T. (2010). Respon hasil kacang komak terhadap intensitas cekaman kekeringan. *Agrika*, 4(1), 30–36.
- Syanda, J. S. (2019). *The effects of physical properties of common bean (*Phaseolus vulgaris* L.) varieties on soaking and cooking time*. Master of Science Thesis, South Eastern Kenya University.
- Teka, T. A., Retta, N., Bultosa, G., Admassu, H., & Astatkie, T. (2020). Protein fractions, in vitro protein digestibility and amino acid composition of select cowpea varieties grown in Ethiopia. *Food Bioscience*, 36, 100634. <https://doi.org/10.1016/j.fbio.2020.100634>
- Toor, B. S., Kaur, A., Sahota, P. P., & Kaur, J. (2021). Antioxidant potential, antinutrients, mineral composition and ftir spectra of legumes fermented with *Rhizopus oligosporus*. *Food Technology & Biotechnology*, 9(4), 530–542. <https://doi.org/https://doi.org/10.17113/ftb.59.04.21.7319>
- Tresina, P. S., & Mohan, V. R. (2013). Assessment of nutritional and antinutritional potential of underutilized legumes of the genus *Mucuna*. *Tropical and Subtropical Agroecosystems*, 16(2), 155–169.
- Tylewicz, U., Inchingolo, R., & Rodriguez-Estrada, M. T. (2022). Food aroma compounds. *Nutraceutical and functional food components*, 363–409. Academic Press.
- Vadivel, V. (2019). The nutritional and antioxidant contents of wild jack bean (*Canavalia ensiformis* L. DC.): An under-exploited legume from south India. *International Journal of Recent Scientific Research*, 10(10), 33502–33508.
- Vadivel, V., & Janardhanan, K. (2000). Nutritional and anti-nutritional composition of velvet bean: an under-utilized food legume in South India. *International Journal of Food Sciences and Nutrition*, 51(4), 279–287. <https://doi.org/10.1080/09637480050077167>
- Vadodariya, P., Abuj, B., Karmakar, N., Gudadhe, N., Faldu, P., Narwade, A., Chauhan, D., Kaur, B., & Debnath, M. K. (2022). Comparative biochemical study of different *Lablab purpureus* L. groups under processing. *Legume Research-An International Journal*, 45(11), 1362–1371.
- Vagadia, B. H., Vanga, S. K., & Raghavan, V. (2017). Inactivation methods of soybean trypsin inhibitor—A review. *Trends in Food Science & Technology*, 64, 115–125. <https://doi.org/10.1016/j.tifs.2017.02.003>
- Vidal-Valverde, C., Frías, J., & Valverde, S. (1993). Changes in the carbohydrate composition of legumes after soaking and cooking. *Journal of the American Dietetic Association*, 93(5), 547–550. [https://doi.org/10.1016/0002-8223\(93\)91814-7](https://doi.org/10.1016/0002-8223(93)91814-7)
- Vong, W. C., Hua, X. Y., & Liu, S.-Q. (2018). Solid-state fermentation with *Rhizopus oligosporus* and *Yarrowia lipolytica* improved nutritional and flavour properties of okara. *LWT*, 90, 316–322.

<https://doi.org/10.1016/j.lwt.2017.12.050>

- Wafula, E. N., Wainaina, I. N., Buvé, C., Kinyanjui, P. K., Saeys, W., Sila, D. N., & Hendrickx, M. E. (2021). Prediction of cooking times of freshly harvested common beans and their susceptibility to develop the hard-to-cook defect using near infrared spectroscopy. *Journal of Food Engineering*, 298, 1–10. <https://doi.org/10.1016/j.jfoodeng.2021.110495>
- Wijaya, C. H., Nurjanah, S., & Utama, Q. D. (2015). Implementasi dan analisis keuntungan teknologi back-slopping pada pembuatan “quick tempe” skala industri rumah tangga. *Jurnal Pangan*, 24(1), 49–62. <https://doi.org/10.33964/jp.v24i1.42>
- Xiang, L., Zhu, W., Jiang, B., Chen, J., Zhou, L., & Zhong, F. (2023). Volatile compounds analysis and biodegradation strategy of beany flavor in pea protein. *Food Chemistry*, 402, 134275. <https://doi.org/10.1016/j.foodchem.2022.134275>
- Yang, S.-E., Vo, T.-L. T., Chen, C.-L., Yang, N.-C., Chen, C.-I., & Song, T.-Y. (2020). Nutritional composition, bioactive compounds and functional evaluation of various parts of *Cajanus cajan* (L.) Millsp. *Agriculture*, 10(11), 558. <https://doi.org/10.3390/agriculture10110558>
- Yi, C., Li, Y., Zhu, H., Liu, Y., & Quan, K. (2021). Effect of *Lactobacillus plantarum* fermentation on the volatile flavors of mung beans. *LWT*, 146, 111434. <https://doi.org/10.1016/j.lwt.2021.111434>
- Yildirim, R. M., & Arici, M. (2019). Effect of the fermentation temperature on the degradation of phytic acid in whole-wheat sourdough bread. *LWT*, 112, 108224. <https://doi.org/10.1016/j.lwt.2019.05.122>
- Yudianti, N. F., Yanti, R., Cahyanto, M. N., Rahayu, E. S., & Utami, T. (2020). Isolation and characterization of lactic acid bacteria from legume soaking water of tempeh productions. *Digital Press Life Sciences*, 2, 00003. <https://doi.org/https://doi.org/10.29037/digitalpress.22328>
- Zhao, X., Sun, L., Zhang, X., Wang, M., Liu, H., & Zhu, Y. (2021). Nutritional components, volatile constituents and antioxidant activities of 6 chickpea species. *Food Bioscience*, 41, 100964. <https://doi.org/10.1016/j.fbio.2021.100964>