



DAFTAR PUSTAKA

- Abbas, & Ahmad. (2018). Impact of Processing on Nutritional and Antinutritional Factors of Legumes: A Review. *Annals. Food Science and Technology*, 19(2), 199–215.
- Abdulhalim, B. A., & Mohammad, M. A. (2023). Reducing Antinutritional Hydrogen Cyanide, Phytic Acid, and Trypsin Inhibitor in Rambling Vetch, Culban (*Vicia peregrina*). *IOP Conference Series: Earth and Environmental Science*, 1158(052003), 1–9. <https://doi.org/10.1088/1755-1315/1158/5/052003>
- Abu-Ghannam, N., & McKenna, B. (1997). Hydration Kinetics of Red Kidney Beans (*Phaseolus vulgaris* L.). *Journal of Food Science*, 62(3), 520–523. <https://doi.org/10.1111/j.1365-2621.1997.tb04420.x>
- Adane, T., Shimelis, A., Negussie, R., Tilahun, B., Haki, G., & Botswana. (2013). Effect of Processing Method on the Proximate Composition, Mineral Content and Antinutritional Factors to Taro (*Colocasia esculenta* L.) Grown in Ethiopia. *African Journal of Food, Agriculture, Nutrition and Development*, 13(57), 7383–7398. <https://doi.org/10.18697/ajfand.57.10345>
- Affrifah, N. S., Chinnan, M. S., Saalia, F. K., & Phillips, R. D. (2022). Hydrothermal Treatments Affect the Development of the Hard-to-Cook Defect in Cowpeas. *Legume Science*, 4(e126), 1–15. <https://doi.org/10.1002/leg3.126>
- Agustia, F. C., Supriyadi, S., Murdiati, A., & Indrati, R. (2023). Germination of Jack Bean [*Canavalia ensiformis* (L.) DC.] and Its Impact on Nutrient and Anti-Nutrient Composition. *Food Research*, 7(5), 210–218. [https://doi.org/10.26656/fr.2017.7\(5\).905](https://doi.org/10.26656/fr.2017.7(5).905)
- Akpapunam, M. A., & Sefa-Dedeh, S. (1997). Some Physicochemical Properties and Anti-Nutritional Factors of Raw, Cooked and Germinated Jack Bean (*Canavalia ensiformis*). *Food Chemistry*, 59(1), 121–125. [https://doi.org/10.1016/S0308-8146\(96\)00248-8](https://doi.org/10.1016/S0308-8146(96)00248-8)

- Arianto, A., Nohong, B., & Nurhaedah, N. (2014). Analisis Kandungan Asam Sianida (HCN) pada Kacang Koro Pedang (*Canavalia ensiformis*) dengan Menggunakan Lama Perendaman NaCl yang Berbeda. *Jurnal Galung Tropika*, 3(3), 186–191. <https://doi.org/10.31850/jgt.v3i3.92>
- Arun, P., Moffett, J. R., Ives, J. A., Todorov, T. I., Centeno, J. A., Namboodiri, M. A. A., & Jonas, W. B. (2005). Rapid Sodium Cyanide Depletion in Cell Culture Media: Outgassing of Hydrogen Cyanide at Physiological pH. *Analytical Biochemistry*, 339(2), 282–289. <https://doi.org/10.1016/j.ab.2005.01.015>
- Association of Official Analytical Chemist (AOAC). (2005). *Official Methods of Analysis* (18th ed.). USA: Association of Official Analytical Chemists International.
- Badan Standardisasi Nasional. (2006). *SNI 01-7152-2006 tentang Bahan tambahan pangan pangan – Persyaratan Perisa dan Penggunaan dalam Produk Pangan*. Jakarta: Badan Standardisasi Nasional.
- Bahrami, A., Hosseini, M. R., & Razmi, K. (2007). An Investigation on Reusing Process Water in Gold Cyanidation. *Mine Water and the Environment*, 26(3), 191–194. <https://doi.org/10.1007/s10230-007-0001-9>
- Bhat, Z. F., Morton, J. D., Bekhit, A. E.-D. A., & Suleria. (2023). *Processing Technologies and Food Protein Digestion*. London: Academic Press.
- Bosmali, I., Giannenas, I., Christophoridou, S., Ganos, C. G., Papadopoulos, A., Papathanasiou, F., Kolonas, A., & Gortzi, O. (2023). Microclimate and Genotype Impact on Nutritional and Antinutritional Quality of Locally Adapted Landraces of Common Bean (*Phaseolus vulgaris* L.). *Foods*, 12(1119), 1–19. <https://doi.org/10.3390/foods12061119>
- Bullock, J. I., Duffin, P. A., & Nolan, K. B. (1993). *In Vitro* Hydrolysis of Phytate at 95°C and the Influence of Metal Ion on the Rate. *Journal of the Science of Food and Agriculture*, 63(2), 261–263. <https://doi.org/10.1002/jsfa.2740630214>
- Carrasco-Castilla, J., Hernández-Álvarez, A. J., Jiménez-Martínez, C., Jacinto-Hernández, C., Alaiz, M., Girón-Calle, J., Vioque, J., & Dávila-Ortiz, G.

- (2012). Antioxidant and Metal Chelating Activities of Peptide Fractions from Phaseolin and Bean Protein Hydrolysates. *Food Chemistry*, 135(3), 1789–1795. <https://doi.org/10.1016/j.foodchem.2012.06.016>
- Chatur, P., Johnson, S., Coorey, R., Bhattacharai, R. R., & Bennett, S. J. (2022). The Effect of High Pressure Processing on Textural, Bioactive and Digestibility Properties of Cooked Kimberley Large Kabuli Chickpeas. *Frontiers in Nutrition*, 9(847877), 1–14. <https://doi.org/10.3389/fnut.2022.847877>
- Chigwedere, C. M., Nkonkola, C. M., Rai, S., Kyomugasho, C., Kermani, Z. J., Pallares Pallares, A., Van Loey, A. M., Grauwet, T., & Hendrickx, M. E. (2019). Cotyledon Pectin Molecular Interconversions Explain Pectin Solubilization During Cooking of Common Beans (*Phaseolus vulgaris*). *Food Research International*, 116, 462–470. <https://doi.org/10.1016/j.foodres.2018.08.062>
- 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>
- Ciabotti, Silva, Juhasz, Mendonça, Tavano, Mandarino, & Gonçalves. (2016). Chemical Composition, Protein Profile, and Isoflavones Content in Soybean Genotypes with Different Seed Coat Colors. *International Food Research Journal*, 23(2), 621–629.
- Corrêa, M. M., de Carvalho, L. M. J., Nutti, M. R., de Carvalho, J. L. V., Neto, A. R. H., & Ribeiro, E. M. G. (2010). Water Absorption, Hard Shell and Cooking Time of Common Beans (*Phaseolus vulgaris* L.). *Global Journal of Food and Agribusiness Management*, 1(1), 001–008.
- Cousminer, J. J. & Research Chefs Association. (2017). *Culinology: The Intersection of Culinary Art and Food Science*. New Jersey: Wiley.
- Dalkin, K., & Bowles, D. J. (1983). Analysis of Inter-Relationship of Jackbean Seed Components by Two-Dimensional Mapping of Iodinated Tryptic Peptides. *Planta*, 157(6), 536–539. <https://doi.org/10.1007/BF00396885>

- Davies, N. T., & Reid, H. (1979). An Evaluation of the Phytate, Zinc, Copper, Iron and Manganese Contents of, and Zn Availability from, Soya-Based Textured-Vegetable-Protein Meat-Substitutes or Meat-Extenders. *British Journal of Nutrition*, 41(3), 579–589.
<https://doi.org/10.1079/BJN19790073>
- D'Mello, J. P. F., & Acamovic, T. (1989). Leucaena Leucocephala in Poultry Nutrition—A Review. *Animal Feed Science and Technology*, 26(1–2), 1–28. [https://doi.org/10.1016/0377-8401\(89\)90003-5](https://doi.org/10.1016/0377-8401(89)90003-5)
- Drulyte, D., & Orlien, V. (2019). The Effect of Processing on Digestion of Legume Proteins. *Foods*, 8(224), 1–9. <https://doi.org/10.3390/foods8060224>
- Duhan, A., Chauhan, B. M., Punia, D., & Kapoor, A. C. (1989). Phytic Acid Content of Chickpea (*Cicer arietinum*) and Black Gram (*Vigna mungo*): Varietal Differences and Effect of Domestic Processing and Cooking Methods. *Journal of the Science of Food and Agriculture*, 49(4), 449–455. <https://doi.org/10.1002/jsfa.2740490407>
- Faye, L., & Chrispeels, M. J. (1987). Transport and Processing of the Glycosylated Precursor of Concanavalin A in Jack-Bean. *Planta*, 170(2), 217–224. <https://doi.org/10.1007/BF00397891>
- Ferreira, Ziegler, Paraginski, Vanier, Elias, & Oliveira. (2017). Physicochemical, Antioxidant and Cooking Quality Properties of Long-Term Stored Black Beans: Effects of Moisture Content and Storage Temperature. *International Food Research Journal*, 24(6), 2490–2499.
- Gänzle, M. G. (2020). Food Fermentations for Improved Digestibility of Plant Foods – An Essential Ex Situ Digestion Step in Agricultural Societies? *Current Opinion in Food Science*, 32, 124–132. <https://doi.org/10.1016/j.cofs.2020.04.002>
- Gepts, P., Beavis, W. D., Brummer, E. C., Shoemaker, R. C., Stalker, H. T., Weeden, N. F., & Young, N. D. (2005). Legumes as a Model Plant Family. Genomics for Food and Feed Report of the Cross-Legume Advances through Genomics Conference. *Plant Physiology*, 137(4), 1228–1235. <https://doi.org/10.1104/pp.105.060871>

- Godrich, J., Rose, P., Muleya, M., & Gould, J. (2023). The Effect of Popping, Soaking, Boiling and Roasting Processes on Antinutritional Factors in Chickpeas and Red Kidney Beans. *International Journal of Food Science & Technology*, 1–11. <https://doi.org/10.1111/ijfs.16190>
- Graham, P. H., & Vance, C. P. (2003). Legumes: Importance and Constraints to Greater Use. *Plant Physiology*, 131(3), 872–877. <https://doi.org/10.1104/pp.017004>
- Herdiani, E. (2021, December 21). *Koro Pedang, Alternatif Pengganti Kedelai*. BBPP Lembang. <https://bbpplembang.bppsdmp.pertanian.go.id/publikasi-detail/1456>
- Herman, E. M., & Shannon, L. M. (1984). Immunocytochemical Localization of Concanavalin A in Developing Jack-Bean Cotyledons. *Planta*, 161(2), 97–104. <https://doi.org/10.1007/BF00395468>
- Hossain, M. A. (1990). Detoxification of Linseed and Sesame Meal and Evaluation of Their Nutritive Value in the Diet of Common Carp (*Cyprinus carpio* L.). *Asian Fisheries Science*, 3(2), 169–183. <https://doi.org/10.33997/j.afs.1990.3.2.002>
- Hui. (2006). *Handbook of Food Science, Technology, and Engineering* (Vol. 3). Boca Raton: CRC Press.
- Huma, N., Anjum, M., Sehar, S., Issa Khan, M., & Hussain, S. (2008). Effect of Soaking and Cooking on Nutritional Quality and Safety of Legumes. *Nutrition & Food Science*, 38(6), 570–577. <https://doi.org/10.1108/00346650810920187>
- Hurrell, R. F., Reddy, M. B., Juillerat, M.-A., & Cook, J. D. (2003). Degradation of Phytic Acid in Cereal Porridges Improves Iron Absorption by Human Subjects. *The American Journal of Clinical Nutrition*, 77(5), 1213–1219. <https://doi.org/10.1093/ajcn/77.5.1213>
- 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>

- Kanetro, B., Riyanto, M., Puji mulyani, D., & Huda, N. (2021). Improvement of Functional Properties of Jack Bean (*Canavalia ensiformis*) Flour by Germination and Its Relation to Amino Acids Profile. *Current Research in Nutrition and Food Science Journal*, 9(3), 812–822. <https://doi.org/10.12944/CRNFSJ.9.3.09>
- Keskin, S. O., Ali, T. M., Ahmed, J., Shaikh, M., Siddiq, M., & Uebersax, M. A. (2022). Physico-Chemical and Functional Properties of Legume Protein, Starch, and Dietary Fiber—A Review. *Legume Science*, 4(e117), 1–15. <https://doi.org/10.1002/leg3.117>
- Kinyanjui, P. K., Njoroge, D. M., Makokha, A. O., Christiaens, S., Ndaka, D. S., & Hendrickx, M. (2015). Hydration Properties and Texture Fingerprints of Easy- and Hard-to-Cook Bean Varieties. *Food Science & Nutrition*, 3(1), 39–47. <https://doi.org/10.1002/fsn3.188>
- Koriyama, T., Sato, Y., Iijima, K., & Kasai, M. (2017). Influences of Soaking Temperature and Storage Conditions on Hardening of Soybeans (*Glycine max*) and Red Kidney Beans (*Phaseolus vulgaris*). *Journal of Food Science*, 82(7), 1546–1556. <https://doi.org/10.1111/1750-3841.13749>
- Kumar, M., Prasad, K., Chandra, T., & Debnath, S. (2018). Evaluation of Physical Properties and Hydration Kinetics of Red Lentil (*Lens culinaris*) at Different Processed Levels and Soaking Temperatures. *Journal of the Saudi Society of Agricultural Sciences*, 17(3), 330–338. <https://doi.org/10.1016/j.jssas.2016.07.004>
- Kyomugasho, C., Wainaina, I., Grauwet, T., Van Loey, A., & Hendrickx, M. E. (2023). Bean Softening During Hydrothermal Processing is Greatly Limited by Pectin Solubilization Rather Than Protein Denaturation or Starch Gelatinization. *Food Research International*, 165(112471), 1–12. <https://doi.org/10.1016/j.foodres.2023.112471>
- Li, D., Zhu, Z., & Sun, D.-W. (2018). Effects of Freezing on Cell Structure of Fresh Cellular Food Materials: A Review. *Trends in Food Science & Technology*, 75, 46–55. <https://doi.org/10.1016/j.tifs.2018.02.019>

- Li, P., Li, Y., Wang, L., Zhang, H., Qi, X., & Qian, H. (2020). Study on Water Absorption Kinetics of Black Beans During Soaking. *Journal of Food Engineering*, 283(110030), 1–8. <https://doi.org/10.1016/j.jfoodeng.2020.110030>
- Liener, I. E., & Thompson, R. M. (1980). In Vitro and In Vivo Studies on the Digestibility of the Major Storage Protein of the Navy Bean (*Phaseolus vulgaris*). *Qualitas Plantarum Plant Foods for Human Nutrition*, 30(1), 13–25. <https://doi.org/10.1007/BF01112101>
- Linsberger-Martin, G., Weiglhofer, K., Thi Phuong, T. P., & Berghofer, E. (2013). High Hydrostatic Pressure Influences Antinutritional Factors and In Vitro Protein Digestibility of Split Peas and Whole White Beans. *LWT - Food Science and Technology*, 51, 331–336. <https://doi.org/10.1016/j.lwt.2012.11.008>
- Marcus, J. B. (2019). Culinary Considerations for the Aging. In *Aging, Nutrition and Taste* (pp. 297–337). Elsevier. <https://doi.org/10.1016/B978-0-12-813527-3.00009-0>
- Mikac, U., Sepe, A., & Serša, I. (2015). MR Microscopy for Noninvasive Detection of Water Distribution During Soaking and Cooking in the Common Bean. *Magnetic Resonance Imaging*, 33(3), 336–345. <https://doi.org/10.1016/j.mri.2014.12.001>
- Mohamed, Abou-Arab, Gibriel, Rasmy, & Abu-Salem. (2011). Effect of Legume Processing Treatments Individually or in Combination on Their Phytic Acid Content. *African Journal of Food Science and Technology*, 2(2), 036–046.
- Moon, H. D., Lee, H.-B., Lee, E., & Park, H.-Y. (2020). The Effects of Gelatinized Wheat Starch and High Salt Diet on Gut Microbiota and Metabolic Disorder. *Nutrients*, 12(2), 1–14. <https://doi.org/10.3390/nu12020301>
- Nagessa, W. B., Chambal, B., & Macuamule, C. (2023). Effects of Processing Methods on Phytate and Tannin Content of Black Small Common Beans (*Phaseolus vulgaris* L.) Cultivated in Mozambique. *Cogent Food & Agriculture*, 9(2), 1–15. <https://doi.org/10.1080/23311932.2023.2289713>

- Naozuka, J., & Oliveira, P. V. (2012). Cooking Effects on Iron and Proteins Content of Beans (*Phaseolus vulgaris* L.) by GF AAS and MALDI-TOF MS. *Journal of the Brazilian Chemical Society*, 23(1), 156–162. <https://doi.org/10.1590/S0103-50532012000100022>
- Nasar-Abbas, S. M., Plummer, J. A., Siddique, K. H. M., White, P., Harris, D., & Dods, K. (2008). Cooking Quality of Faba Bean After Storage at High Temperature and the Role of Lignins and Other Phenolics in Bean Hardening. *LWT - Food Science and Technology*, 41(7), 1260–1267. <https://doi.org/10.1016/j.lwt.2007.07.017>
- Nissar, J., Ahad, Naik, H., & Hussain, S. (2017). A Review Phytic Acid: As Antinutrient or Nutraceutical. *Journal of Pharmacognosy and Phytochemistry*, 6(6), 1554–1560.
- Njoroge, D. M., Kinyanjui, P. K., Chigwedere, C. M., Christiaens, S., Makokha, A. O., Sila, D. N., & Hendrickx, M. E. (2016). Mechanistic Insight Into Common Bean Pectic Polysaccharide Changes During Storage, Soaking and Thermal Treatment in Relation to the Hard-to-Cook Defect. *Food Research International*, 81, 39–49. <https://doi.org/10.1016/j.foodres.2015.12.024>
- Njoroge, D. M., Kinyanjui, P. K., Christiaens, S., Shpigelman, A., Makokha, Anselimo. O., Sila, D. N., & Hendrickx, M. E. (2015). Effect of Storage Conditions on Pectic Polysaccharides in Common Beans (*Phaseolus vulgaris*) in Relation to the Hard-to-Cook Defect. *Food Research International*, 76, 105–113. <https://doi.org/10.1016/j.foodres.2015.03.005>
- Noviani, B. (2021). *Ilmu Boga Dasar Pengolahan Makanan: Metode Dasar Memasak*. Bogor: Guepedia.
- Ojo, Ade-Omowaye, & Ngoddy. (2018). Processing Effects of Soaking and Hydrothermal Methods on the Components and In Vitro Protein Digestibility of *Canavalia ensiformis*. *International Food Research Journal*, 25(2), 720–729.

- Ojo, M. A. (2021). Phytic Acid in Legumes: A Review of Nutritional Importance and Hydrothermal Processing Effect on Underutilised Species. *Food Research*, 5(3), 22–28. [https://doi.org/10.26656/fr.2017.5\(3\).325](https://doi.org/10.26656/fr.2017.5(3).325)
- Ojo, M. A., Ade-Omoway, B. I., & Ngoddy, P. O. (2017). Impact of Hydrothermal Techniques on the Chemical Components of *Mallotus subulatus*. *Pakistan Journal of Nutrition*, 16(11), 813–825. <https://doi.org/10.3923/pjn.2017.813.825>
- Ojo, M. A., Ade-Omowaye, B. I., & Ngoddy, P. O. (2016). Mineral Elements in *Canavalia ensiformis*: Influence of Hydrothermal Processing Techniques. *Annals. Food Science and Technology*, 17(2), 548–555.
- Ojo, M. A., & Ade-Omowaye, B. I. O. (2019). Effects of Soaking Followed by Hydrothermal Processing on Proximate Composition and Mineral Elements of *Cassia hirsutta*: An Underutilised Hard-to-Cook Legume. *Pakistan Journal of Nutrition*, 18, 761–769. <https://doi.org/10.3923/pjn.2019.761.769>
- Okolie, N. P., & Ugochukwu, E. N. (1989). Cyanide Contents of Some Nigerian Legumes and the Effect of Simple Processing. *Food Chemistry*, 32(3), 209–216. [https://doi.org/10.1016/0308-8146\(89\)90049-6](https://doi.org/10.1016/0308-8146(89)90049-6)
- Oliveira, A. P. D., Mateó, B. D. S. O., Fioroto, A. M., Oliveira, P. V. D., & Naozuka, J. (2018). Effect of Cooking on the Bioaccessibility of Essential Elements in Different Varieties of Beans (*Phaseolus vulgaris* L.). *Journal of Food Composition and Analysis*, 67, 135–140. <https://doi.org/10.1016/j.jfca.2018.01.012>
- Perera, D., Devkota, L., Garnier, G., Panozzo, J., & Dhital, S. (2023). Hard-to-Cook Phenomenon in Common Legumes: Chemistry, Mechanisms and Utilisation. *Food Chemistry*, 415(135743), 1–15. <https://doi.org/10.1016/j.foodchem.2023.135743>
- Prattley, C. A., Stanley, D. W., Smith, T. K., & Voort, F. R. (1982). Protein-Phytate Interaction in Soybeans. III. The Effect of Protein-Phytate Complexes on Zinc Bioavailability. *Journal of Food Biochemistry*, 6(4), 273–282. <https://doi.org/10.1111/j.1745-4514.1982.tb00307.x>

- Purwandari, F. A., Fogliano, V., De Ruijter, N. C. A., & Capuano, E. (2023). Chemical and Microstructural Characterization of Easy- and Hard-to-Cook Jack Bean (*Canavalia ensiformis* (L.) DC.) Collections. *LWT*, 189, 115451. <https://doi.org/10.1016/j.lwt.2023.115451>
- Purwandari, F. A., Gahari, R. S., Fogliano, V., & Capuano, E. (2024). Freeze-Thaw Procedure as an Alternative Method to Reduce the Cooking Time of Jack Bean (*Canavalia ensiformis* (L.) DC) While Retaining Its Nutritional Quality. *LWT*, 201(116227), 1–8. <https://doi.org/10.1016/j.lwt.2024.116227>
- Purwandari, F. A., Westerbos, C., Lee, K., Fogliano, V., & Capuano, E. (2023). Proximate Composition, Microstructure, and Protein and starch Digestibility of Seven Collections of Jack Bean (*Canavalia ensiformis*) with Different Optimal Cooking Times. *Food Research International*, 170(112956), 1–9. <https://doi.org/10.1016/j.foodres.2023.112956>
- Puspitojati, E., Indrati, R., Cahyanto, M. N., & Marsono, Y. (2019). Jack Bean as Tempe Ingredients: The Safety Study and Fate of Protein Against Gastrointestinal Enzymes. *IOP Conference Series: Earth and Environmental Science*, 346(012070), 1–8. <https://doi.org/10.1088/1755-1315/346/1/012070>
- Püssa, T. (2015). Nutritional and Toxicological Aspects of the Chemical Changes of Food Components and Nutrients During Freezing. In P. C. K. Cheung & B. M. Mehta, *Handbook of Food Chemistry* (pp. 867–896). Berlin: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-36605-5_2
- Reddy, N. R., Sathe, S. K., & Salunkhe, D. K. (1982). Phytates in Legumes and Cereals. In *Advances in Food Research* (Vol. 28, pp. 1–92). Boca Raton: Elsevier. [https://doi.org/10.1016/S0065-2628\(08\)60110-X](https://doi.org/10.1016/S0065-2628(08)60110-X)
- Sangani, Patel, Bhattacharya, & Antala. (2014). Optimization of Enzymatic Hydrolysis of Pigeon Pea for Cooking Quality of Dhal. *Int J Agric & Biol Eng*, 7(5), 123–132.
- Schollenberger, M., Sommerfeld, V., Hartung, J., & Rodehutscord, M. (2022). Storage Duration and Conditions Change the Phytate Content and Phytase



Activity of Wheat Grains. *JSFA Reports*, 2(3), 100–106.
<https://doi.org/10.1002/jsf2.31>

Sharma, A., & Kapoor, A. C. (1996). Levels of Antinutritional Factors in Pearl Millet as Affected by Processing Treatments and Various Types of Fermentation. *Plant Foods for Human Nutrition*, 49(3), 241–252.
<https://doi.org/10.1007/BF01093221>

Siddhuraju, P., & Becker, K. (2001). Effect of Various Domestic Processing Methods on Antinutrients and In Vitro Protein and Starch Digestibility of Two Indigenous Varieties of Indian Tribal Pulse, *Mucuna pruriens* Var. *Utilis*. *Journal of Agricultural and Food Chemistry*, 49(6), 3058–3067.
<https://doi.org/10.1021/jf001453q>

Siddhuraju, P., Osoniyi, O., Makkar, H. P. S., & Becker, K. (2002). Effect of Soaking and Ionising Radiation on Various Antinutritional Factors of Seeds from Different Species of an Unconventional Legume, *Sesbania* and a Common Legume, Green Gram (*Vigna radiata*). *Food Chemistry*, 79(3), 273–281. [https://doi.org/10.1016/S0308-8146\(02\)00140-1](https://doi.org/10.1016/S0308-8146(02)00140-1)

Siddiq, & Uebersax. (2022). Overview, Production and Postharvest Technologies. In *Dry Beans and Pulses: Production, Processing, and Nutrition* (2nd ed.). New York: John Wiley & Sons.

Sinha, K., & Khare, V. (2017). Review on: Antinutritional Factors in Vegetable Crops. *The Pharma Innovation*, 6(12), 353–358.

Sinha, & Kawatra. (2003). Effect of Processing on Phytic Acid and Polyphenol Contents of Cowpeas [*Vigna unguiculata* (L) Walp]. *Plant Foods for Human Nutrition*, 58, 1–8.

Soetan, & Oyewole. (2009). The Need for Adequate Processing to Reduce the Antinutritional Factors in Plants Used as Human Foods and Animal Feeds: A Review. *African Journal of Food Science*, 3(9), 223–232.

Sofi, P. A., Mir, R. R., Zargar, S. M., Rani, S., Fatima, S., Shafi, S., & Zaffar, A. (2022). What Makes the Beans (*Phaseolus vulgaris* L.) Soft: Insights Into the Delayed Cooking and Hard to Cook Trait. *Proceedings of the Indian*



National Science Academy, 88(2), 142–159.
<https://doi.org/10.1007/s43538-022-00075-4>

Sreerama, Y. N., Sashikala, V. B., Pratape, V. M., & Singh, V. (2012). Nutrients and Antinutrients in Cowpea and Horse Gram Flours in Comparison to Chickpea Flour: Evaluation of Their Flour Functionality. *Food Chemistry*, 131(2), 462–468. <https://doi.org/10.1016/j.foodchem.2011.09.008>

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>

Sutedja, A. M., Trisnawati, C. Y., Wang, R., & Sugianti, C. (2022). Boiling Time Variation Through Functional Characteristics of Boiled Red Kidney Beans. *E3S Web of Conferences*, 344(04004), 1–10.
<https://doi.org/10.1051/e3sconf/202234404004>

Suvarna, G., & Sharma, B. B. (2018). Concanavalin - A Potential Glycoprotein. *Journal of Proteins and Proteomics*, 9(2), 77–90.

Tirta, E. B. E. (2024, September 9). *RI Doyan Gorengan Tempe-Tahu, Tapi Sayang Impor Kedelai Sampai 90%*. CNBC Indonesia.
<https://www.cnbcindonesia.com/research/20240909105957-128-570226/ri-doyan-gorengan-tempe-tahu-tapi-sayang-impor-kedelai-sampai-90>

Udensi, Ekwu, & Isinguzo. (2007). Antinutrient Factors of Vegetable Cowpea (*Sesquipedalis*) Seeds During Thermal Processing. *Pakistan Journal of Nutrition*, 6(2), 194–197. <https://doi.org/10.3923/pjn.2007.194.197>

Vadivel, V., & Janardhanan, K. (2004). The Nutritional and Antinutritional Attributes of Sword Bean [*Canavalia gladiata* (Jacq.) DC.]: An Under-Utilized Tribal Pulse from South India. *International Journal of Food Science & Technology*, 39(9), 917–926. <https://doi.org/10.1111/j.1365-2621.2004.00851.x>

Van Der Poel, A. F. B. (1990). Effect of Processing on Antinutritional Factors and Protein Nutritional Value of Dry Beans (*Phaseolus vulgaris* L.): A Review.

Animal Feed Science and Technology, 29(3–4), 179–208.

[https://doi.org/10.1016/0377-8401\(90\)90027-6](https://doi.org/10.1016/0377-8401(90)90027-6)

Wahome, S. W., Githiri, M. S., Kinyanjui, P. K., Toili, M. E. M., & Angenon, G. (2023). Genome-Wide Association Study of Variation in Cooking Time Among Common Bean (*Phaseolus vulgaris* L.) Accessions Using Diversity Arrays Technology Markers. *Legume Science*, 5(e184), 1–11. <https://doi.org/10.1002/leg3.184>

Wainaina, I., Wafula, E., Sila, D., Kyomugasho, C., Grauwet, T., Van Loey, A., & Hendrickx, M. (2021). Thermal Treatment of Common Beans (*Phaseolus vulgaris* L.): Factors Determining Cooking Time and Its Consequences for Sensory and Nutritional Quality. *Comprehensive Reviews in Food Science and Food Safety*, 1–29. <https://doi.org/10.1111/1541-4337.12770>

Walters, C. (2005). Dying while Dry: Kinetics and Mechanisms of Deterioration in Desiccated Organisms. *Integrative and Comparative Biology*, 45(5), 751–758. <https://doi.org/10.1093/icb/45.5.751>

Wang, N., Hou, A., Santos, J., & Maximiuk, L. (2017). Effects of Cultivar, Growing Location, and Year on Physicochemical and Cooking Characteristics of Dry Beans (*Phaseolus vulgaris*). *Cereal Chemistry*, 94(1), 128–134. <https://doi.org/10.1094/CCHEM-04-16-0124-FI>

Williams, H. J., & Edwards, T. G. (1980). Estimation of Cyanide with Alkaline Picrate. *Journal of the Science of Food and Agriculture*, 31(1), 15–22. <https://doi.org/10.1002/jsfa.2740310104>

Xu, B., & Chang, S. K. C. (2009). Phytochemical Profiles and Health-Promoting Effects of Cool-Season Food Legumes as Influenced by Thermal Processing. *Journal of Agricultural and Food Chemistry*, 57(22), 10718–10731. <https://doi.org/10.1021/jf902594m>

Zagrobelny, M., Bak, S., Rasmussen, A. V., Jørgensen, B., Naumann, C. M., & Lindberg Møller, B. (2004). Cyanogenic Glucosides and Plant-Insect Interactions. *Phytochemistry*, 65(3), 293–306. <https://doi.org/10.1016/j.phytochem.2003.10.016>



UNIVERSITAS
GADJAH MADA

Efek Pembekuan dan Suhu Pemasakan terhadap Lama Pemasakan, Kadar Gizi, dan Anti Gizi Koro Pedang

Putih (*Canavalia ensiformis* (L.) DC.)

Clara Patricia, Dr. Fiametta Ayu Purwandari, S.T.P., M.Sc.; Dr. Ir. Muhammad Nur Cahyanto, M.Sc.

Universitas Gadjah Mada, 2025 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Zahir, M., Fogliano, V., & Capuano, E. (2020). Effect of Soybean Processing on

Cell Wall Porosity and Protein Digestibility. *Food & Function*, 11, 285–296.

<https://doi.org/10.1039/C9FO02167A>