

DAFTAR PUSTAKA

- Ahmed, J., Mulla, M., Al-Ruwaih, N., & Arfat, Y. A. (2019). Effect of High-pressure Treatment Prior to Enzymatic Hydrolysis on Rheological, Thermal, and Antioxidant Properties of Lentil Protein Isolate. *Legume Science*, 1(1), 1–13. <https://doi.org/10.1002/leg3.10>
- Ain, R. Q. (2022). *Karakterisasi Sifat Fungsional Isolat Protein Sorgum*.
- Annisa, S., Darmanto, Y. S., & Amalia, U. (2017). Pengaruh Perbedaan Spesies Ikan terhadap Hidrolisat Protein Ikan dengan Penambahan Enzim Papain (The Effect of Various Fish Species On Fish Protein Hydrolysate With The Addition of Papain Enzyme). *SAINTEK PERIKANAN : Indonesian Journal of Fisheries Science and Technology*, 13(1), 24. <https://doi.org/10.14710/ijfst.13.1.24-30>
- Aqla, S., & Siti, D. (2002). *Utilization of Sorghum Flour Substitution in Chicken Rendang Gyoza Skin*.
- Arif, A. (2020). *Sorgum : Benih Leluhur untuk Masa Depan* (C. Gautama & G. A. Putro (eds.)). PT Gramedia.
- Azrai, M., Pabendon, M. B., Aqil, M., Suarni., Arvan, R. Y., Zainuddin, B., & Andayani, N. N. (2021). *Teknologi Budidaya Tanaman Sorgum Unggul Bebas Limbah*.
- Babiker, E. E., & Kato, A. (1998). Improvement of the functional properties of sorghum protein by protein-polysaccharide and protein-protein complexes. *Nahrung - Food*, 42(5), 286–289. [https://doi.org/10.1002/\(sici\)1521-3803\(199810\)42:05<286::aid-food286>3.3.co;2-5](https://doi.org/10.1002/(sici)1521-3803(199810)42:05<286::aid-food286>3.3.co;2-5)
- Baharuddin, N. A., Halim, N. R. A., & Sarbon, N. M. (2016). Effect of Degree of Hydrolysis (DH) on the Functional Properties and Angiotensin I-Converting Enzyme (ACE) Inhibitory Activity of Eel (*Monopterus sp.*) Protein Hydrolysate. *International Food Research Journal*, 23(4), 1424–1431.
- Balitkabi. (2013). Inovasi Teknologi Dan Pengembangan Produk. In *J. Monograf Balitkabi* (Vol. 1, Issue 13).
- Balti, R., Bougatef, A., Ali, N. E. H., Zekri, D., Barkia, A., & Nasri, M. (2010). Influence of Degree of Hydrolysis on Functional Properties and Angiotensin I-Converting Enzyme-inhibitory Activity of Protein Hydrolysates from Cuttlefish (*Sepia officinalis*) by-products. *Journal of the Science of Food and Agriculture*, 90(12), 2006–2014. <https://doi.org/10.1002/jsfa.4045>
- Bean, S. R., Ioerger, B. P., Smith, B. M., & Blackwell, D. L. (2011). Sorghum Protein Structure and Chemistry: Implications for Nutrition and Functionality. *ACS Symposium Series*, 1089, 131–147. <https://doi.org/10.1021/bk-2011-1089.ch007>
- Bradauskiene, V., Vaiciulyte-Funk, L., Cernauskas, D., Dzingeleviciene, R., Lima, J. P. M., Bradauskaite, A., & Tita, M. A. (2022). The Efficacy of Plant Enzymes Bromelain and Papain as a Tool for Reducing Gluten Immunogenicity from Wheat Bran. *Processes*, 10(10). <https://doi.org/10.3390/pr10101948>

- Braspaiboon, S., Osiriphun, S., Peepathum, P., & Jirarattanarangsri, W. (2020). Comparison of the Effectiveness of Alkaline and Enzymatic Extraction and the Solubility of Proteins Extracted from Carbohydrate-digested Rice. *Heliyon*, 6(11), e05403. <https://doi.org/10.1016/j.heliyon.2020.e05403>
- Calderón-Chiu, C., Calderón-Santoyo, M., Barros-Castillo, J. C., Díaz, J. A., & Ragazzo-Sánchez, J. A. (2022). Structural Modification of Jackfruit Leaf Protein Concentrate by Enzymatic Hydrolysis and Their Effect on the Emulsifier Properties. *Colloids and Interfaces*, 6(4). <https://doi.org/10.3390/colloids6040052>
- Carvajal, A. K., & Mozuraityte, R. (2015). Fish Oils: Production and Properties. In *Encyclopedia of Food and Health* (1st ed.). Elsevier Ltd. <https://doi.org/10.1016/B978-0-12-384947-2.00294-4>
- Castro-Jácome, T. P., Alcántara-Quintana, L. E., & Tovar-Pérez, E. G. (2020). Optimization of Sorghum Kafirin Extraction Conditions and Identification of Potential Bioactive Peptides. *BioResearch Open Access*, 9(1), 198–208. <https://doi.org/10.1089/biores.2020.0013>
- Chakraborty, A. J., Mitra, S., Tallei, T. E., Tareq, A. M., Nainu, F., Ciccia, D., Dhama, K., Emran, T. Bin, Simal-Gandara, J., & Capasso, R. (2021). Bromelain a potential bioactive compound: A comprehensive overview from a pharmacological perspective. *Life*, 11(4), 1–26. <https://doi.org/10.3390/life11040317>
- Chalamaiah, M., Dinesh Kumar, B., Hemalatha, R., & Jyothirmayi, T. (2012). Fish protein hydrolysates: Proximate composition, amino acid composition, antioxidant activities and applications: A review. *Food Chemistry*, 135(4), 3020–3038. <https://doi.org/10.1016/j.foodchem.2012.06.100>
- Chang, C. Y., Jin, J. Der, Chang, H. L., Huang, K. C., Chiang, Y. F., & Hsia, S. M. (2020). Physicochemical and Antioxidative Characteristics of Potato Protein Isolate Hydrolysate. *Molecules*, 25(19). <https://doi.org/10.3390/molecules25194450>
- Cheetangdee, N. (2014). Effects of Rice Bran Protein Hydrolysates on the Physicochemical Stability of Oil-in-water Emulsions. *Journal of Oleo Science*, 63(12), 1231–1241. <https://doi.org/10.5650/jos.ess14030>
- Cui, Q., Sun, Y., Zhou, Z., Cheng, J., & Guo, M. (2021). Effects of enzymatic hydrolysis on physicochemical properties and solubility and bitterness of milk protein hydrolysates. *Foods*, 10(10). <https://doi.org/10.3390/foods10102462>
- Das, A., Nayak, Y., & Dash, S. (2021). Fish protein hydrolysate production, treatment methods and current potential uses: A review. *International Journal of Fisheries and Aquatic Studies*, 9(2), 195–200. <https://doi.org/10.22271/fish.2021.v9.i2c.2452>
- de Mesa-Stonestreet, N. J. (2011). Processing and Characterization of Sorghum Protein Concentrates Using Extrusion-enzyme Liquefaction. *ProQuest Dissertations and Theses*, 167. https://krex.k-state.edu/dspace/bitstream/handle/2097/11994/NormellJhoeStonestreet2011.pdf?sequence=3%0Ahttp://search.proquest.com/docview/894256360?accountid=14553%5Cnhttp://openurl.library.uiuc.edu/sfxlcl3?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:ke

- de Mesa-Stonestreet, N. J., Alavi, S., & Bean, S. R. (2010). Sorghum Proteins: The Concentration, Isolation, Modification, and Food Applications of Kafirins. *Journal of Food Science*, 75(5). <https://doi.org/10.1111/j.1750-3841.2010.01623.x>
- Dong, H., Liu, J., Zeng, X., Bai, W., & Yu, L. (2020). Enzymatic hydrolysis pretreatment for enhancing the protein solubility and physicochemical quality of Cordyceps militaris chicken soup. *Food Science and Nutrition*, 8(5), 2436–2444. <https://doi.org/10.1002/fsn3.1533>
- Duodu, K. G., Taylor, J. R. N., Belton, P. S., & Hamaker, B. R. (2003). Factors Affecting Sorghum Protein Digestibility. *Journal of Cereal Science*, 38(2), 117–131. [https://doi.org/10.1016/S0733-5210\(03\)00016-X](https://doi.org/10.1016/S0733-5210(03)00016-X)
- Firdauza, A. P. (2022). *Karakterisasi Sifat Fisikokimia dan Komposisi Asam Amino Isolat Protein Sorgum (Sorghum Bicolor (L.) Moench) Hasil Ekstraksi Metode Enzimatis Menggunakan α-Amilase*.
- Garba, U., & Kaur, S. (2014). Protein isolates : production, functional properties and application. *International Journal of Current Research and Review*, 06(03), 35–45.
- García Arteaga, V., Apéstegui Guardia, M., Muranyi, I., Eisner, P., & Schweiggert-Weisz, U. (2020). Effect of enzymatic hydrolysis on molecular weight distribution, techno-functional properties and sensory perception of pea protein isolates. *Innovative Food Science and Emerging Technologies*, 65(February), 102449. <https://doi.org/10.1016/j.ifset.2020.102449>
- González, A., Nobre, C., Simões, L. S., Cruz, M., Loredo, A., Rodríguez-Jasso, R. M., Contreras, J., Texeira, J., & Belmares, R. (2021). Evaluation of Functional and Nutritional Potential of a Protein Concentrate from Pleurotus ostreatus Mushroom. *Food Chemistry*, 346(July 2020). <https://doi.org/10.1016/j.foodchem.2020.128884>
- Gunawan, S., Sijid, S., & Hafsan. (2017). Sorgum untuk Indonesia Swasembada Pangan (Sebuah Review). *Biology for Life*, November, 49–54.
- Guo, X., Zhang, J., Ma, Y., & Tian, S. (2012). Optimization of Limited Hydrolysis of Proteins in Rice Residue and Characterization of the Functional Properties of the Products. *Journal of Food Processing and Preservation*, 37(3), 245–253. <https://doi.org/10.1111/j.1745-4549.2011.00641.x>
- Hai, T. D. (2020). Hydrolysis Methods for Protein Extraction from Seafood. *American Journal of Biomedical Science & Research*, 11(2), 222–224. <https://doi.org/10.34297/ajbsr.2020.11.001630>
- Hapsari, A. W. (2009). *Studi Sifat Fisikokimia, Fungsional Protein, dan Kapasitas Antioksidan pada Konsentrat Protein Kecambah Kacang Komak (Lablab purpureus (L.) Sweet)*. Institut Pertanian Bogor.
- Haslaniza, H., Maskat, M. Y., Wan Aida, W. M., & Mamot, S. (2010). The Effects of Enzyme Concentration, Temperature and Incubation Time on Nitrogen Content and Degree of Hydrolysis of Protein Precipitate from Cockle (*Anadara granosa*) Meat Wash Water. *International Food Research Journal*, 17(1), 147–152.
- Hidayat, M., Prahestuti, S., Wargasetia, T., Nugraha, K., Soemardji, A., Rahmawati, S., Suliska, N., & Hasan, K. (2019). Green Peas Protein

- Hydrolyzed by Bromelain in Simple Procedure to Improve Kidney Function in Cisplatin-induced Rats. *Journal of Reports in Pharmaceutical Sciences*, 8(1), 68–77. https://doi.org/10.4103/jrptps.jrptps_15_17
- Hu, R., Xu, J., Qi, G., Wang, W., Sun, X. S., & Li, Y. (2022). Antioxidative Hydrolysates from Corn Gluten Meal May Effectively Reduce Lipid Oxidation and Inhibit HepG2 Cancer Cell Growth. *Journal of Agriculture and Food Research*, 7, 100252. <https://doi.org/10.1016/j.jafr.2021.100252>
- Joye, I. (2019). Protein Digestibility of Cereal Products. *Foods*, 8(6), 1–14. <https://doi.org/10.3390/foods8060199>
- Kampen, W. H. (1995). Recovery od Proteinn, Protein Isolate and/or Strach from Cereal Grains.
- Kanetro, B. (2017). Teknologi Pengolahan dan Pangan Fungsional Kacang-Kacangan. In *Suparyanto dan Rosad* (Vol. 5, Issue 3).
- Kerr, W. L., Kerr, W. L., Ward, C. D. W., Mcwatters, K. H., & Resurreccion, A. V. A. (2017). *Effect of Milling and Particle Size on Functionality and Physicochemical Properties of Cowpea Flour Effect of Milling and Particle Size on Functionality and Physicochemical*. 77(August), 213–219.
- Khan, S., Memon, A., Ghangro, A., & Nabi, G. (2015). Characterization of Wheat protein (Albumin) in different varieties of wheat cultivated in Sindh through SDS-PAGE Electrophoresis. *Sindh University Research Journal (Science Series)*, 47(2), 361–365.
- Khoddami, A., Messina, V., Vadabalija Venkata, K., Farahnaky, A., Blanchard, C. L., & Roberts, T. H. (2021). Sorghum in foods: Functionality and potential in innovative products. *Critical Reviews in Food Science and Nutrition*, 0(0), 1–17. <https://doi.org/10.1080/10408398.2021.1960793>
- Kong, X., Zhou, H., & Qian, H. (2007). Enzymatic preparation and functional properties of wheat gluten hydrolysates. *Food Chemistry*, 101(2), 615–620. <https://doi.org/10.1016/j.foodchem.2006.01.057>
- Koopman, R., Crombach, N., Gijsen, A. P., Walrand, S., Fauquant, J., Kies, A. K., Lemosquet, S., Saris, W. H. M., Boirie, Y., & Van Loon, L. J. C. (2009). Ingestion of a protein hydrolysate is accompanied by an accelerated in vivo digestion and absorption rate when compared with its intact protein. *American Journal of Clinical Nutrition*, 90(1), 106–115. <https://doi.org/10.3945/ajcn.2009.27474>
- Kristinsson, H. G., & Rasco, B. A. (2000). Biochemical and functional properties of Atlantic salmon (*Salmo salar*) muscle proteins hydrolyzed with various alkaline proteases. *Journal of Agricultural and Food Chemistry*, 48(3), 657–666. <https://doi.org/10.1021/jf990447v>
- Kulamarva, A. G., Sosle, V. R., & Raghavan, G. S. V. (2009). Nutritional and Rheological Properties of Sorghum. *International Journal of Food Properties*, 12(1), 55–69. <https://doi.org/10.1080/10942910802252148>
- Kumar, M., Tomar, M., Punia, S., Dhakane-Lad, J., Dhumal, S., Changan, S., Senapathy, M., Berwal, M. K., Sampathrajan, V., Sayed, A. A. S., Chandran, D., Pandiselvam, R., Rais, N., Mahato, D. K., Udikeri, S. S., Satankar, V., Anitha, T., Reetu, Radha, ... Kennedy, J. F. (2022). Plant-based proteins and their multifaceted industrial applications. *Lwt*, 154(October 2021), 112620.

- <https://doi.org/10.1016/j.lwt.2021.112620>
- Kunst, T. (2002). Protein Modification to Optimize Functionality Protein Hydrolysates. *Handbook of Food Enzymology*. <https://doi.org/10.1201/9780203910450.ch17>
- Kusumah, S. H., Andoyo, R., & Rialita, T. (2020). Protein isolation techniques of beans using different methods: A review. *IOP Conference Series: Earth and Environmental Science*, 443(1). <https://doi.org/10.1088/1755-1315/443/1/012053>
- Kusumah, Slamet Hadi, Andoyo, R., & Rialita, T. (2021). Isolasi Protein Kacang Merah Dan Kacang Hijau Menggunakan Metode Asam Basa Dikombinasikan Dengan Proses Enzimatis. *Jurnal Teknologi Dan Industri Pangan*, 32(1), 157–168. <https://doi.org/10.6066/jtip.2021.32.2.157>
- Li, L., Zhang, J., Zhang, R., Zhang, N., Wei, Z., Liu, G., Pasha, R. H., Khan, M. A., & Saif-Ur-Rehman. (2022). Study on the Extracting Technology for Antioxidant Oligopeptides from Donkey Meat by Two-Step Enzymatic Hydrolysis. *Pakistan Journal of Zoology*, 54(3), 1063–1070. <https://doi.org/10.17582/journal.pjz/20200506020526>
- Liang, G., Chen, W., Qie, X., Zeng, M., Qin, F., He, Z., & Chen, J. (2020). Modification of soy protein isolates using combined pre-heat treatment and controlled enzymatic hydrolysis for improving foaming properties. *Food Hydrocolloids*, 105(February), 105764. <https://doi.org/10.1016/j.foodhyd.2020.105764>
- Machsun, I. R., & Zulaika, E. (2017). Profil Protein Bakteri Ureolitik. *Jurnal Sains Dan Seni ITS*, 6(2), 2–4. <https://doi.org/10.12962/j23373520.v6i2.25813>
- Masri, M. (2014). Isolate The Bromelain Enzyme from Pineapple Weevil (*Ananas comosus*) and Measure The Protein and Enzyme Activity of Bromelain with Gelatin Substrate. *Jurnal Biogenesis*, 2(2), 119–125. <http://journal.uin-alauddin.ac.id/index.php/biogenesis/article/view/457>
- Mirzaee, H., Ahmadi Gavighi, H., Nikoo, M., Udenigwe, C. C., & Khodaiyan, F. (2023). Relation of amino acid composition, hydrophobicity, and molecular weight with antidiabetic, antihypertensive, and antioxidant properties of mixtures of corn gluten and soy protein hydrolysates. *Food Science and Nutrition*, 11(3), 1257–1271. <https://doi.org/10.1002/fsn3.3160>
- Morais, H. A., Silvestre, M. P. C., Silva, V. D. M., Silva, M. R., Simões e Silva, A. C., & Silveira, J. N. (2013). Correlation between the degree of hydrolysis and the peptide profile of whey protein concentrate hydrolysates: Effect of the enzyme type and reaction time. *American Journal of Food Technology*, 8(1), 1–16. <https://doi.org/10.3923/ajft.2013.1.16>
- Mufa, L. A. (2014). *Peptida Pengikat Kalsium Hasil Hidrolisis Isolat Protein Tepung Kacang Komak (Lablab purpureus (L) sweet) dengan Enzim Bromelin, Pankreatin, dan Pepsin*. Universitas Islam Negeri Syarif Hidayatullah.
- Muhamyankaka, V., Shoemaker, C. F., Nalwoga, M., & Zhang, X. M. (2013). Physicochemical Properties of Hydrolysates from Enzymatic Hydrolysis of Pumpkin (*Cucurbita moschata*) Protein Meal. *International Food Research Journal*, 20(5), 2227–2240.

- Muller, H. (1978). *Process for Recovering Dextrose and Dextrans from Protein-Containing Starch Products.* <https://www.freepatentsonline.com/4069103.html>
- Musigakun, P., & Thongngam, M. (2007). Characteristics and Functional Properties of Sorghum Protein (Kafirin). *Nat. Sci.*, 41, 313–318. <http://www.thaiscience.info/Journals/Article/TKJN/10471506.pdf>
- Nasri, M. (2017). Protein Hydrolysates and Biopeptides: Production, Biological Activities, and Applications in Foods and Health Benefits. A Review. In *Advances in Food and Nutrition Research* (1st ed., Vol. 81). Elsevier Inc. <https://doi.org/10.1016/bs.afnr.2016.10.003>
- Ordóñez, C., Benítez, C., & González, J. L. (2008). Amino Acid Production from a Sunflower Wholemeal Protein Concentrate. *Bioresource Technology*, 99(11), 4749–4754. <https://doi.org/10.1016/j.biortech.2007.09.061>
- Ospina-Quiroga, J. L., García-Moreno, P. J., Guadix, A., Guadix, E. M., Almécija-Rodríguez, M. del C., & Pérez-Gálvez, R. (2022). Evaluation of Plant Protein Hydrolysates as Natural Antioxidants in Fish Oil-In-Water Emulsions. *Antioxidants*, 11(8). <https://doi.org/10.3390/antiox11081612>
- Palupi, N. W., Windrati, W. S., & , T. (2011). the Effect of Enzymatic Hydrolysis on the Properties of Protein Hydrolysate From Paddy Mushroom. *MAKARA of Technology Series*, 14(2). <https://doi.org/10.7454/mst.v14i2.695>
- Permana, M. L. A. (2020). *Karakteristik Peptida Bioaktif Antikolesterol dari Hidrolisat Protein Kedelai Hasil Hidrolisis Bromelin* [Universitas Islam Negeri Syarif Hidayatullah]. <https://all3dp.com/2/fused-deposition-modeling-fdm-3d-printing-simply-explained/>
- Plessis, J. du. (2008). Sorghum production. In *Sorghum Production Guide*. Department of Agriculture Republic of South Africa.
- Rahayuningtyas, A., & Kuala, S. I. (2016). Pengaruh Suhu Dan Kelembaban Udara Pada Proses Pengeringan Singkong (Studi Kasus : Pengering Tipe Rak). *ETHOS (Jurnal Penelitian Dan Pengabdian)*, 99. <https://doi.org/10.29313/ethos.v0i0.1663>
- Rani, K., Rana, R., & Datt, S. (2012). Review on latest overview of proteases. *International Journal of Current Life Sciences*, February.
- Ratnavathi, C. V., & Komala, V. V. (2016). Sorghum Grain Quality. In *Sorghum Biochemistry: An Industrial Perspective*. <https://doi.org/10.1016/B978-0-12-803157-5.00001-0>
- Restiani, R. (2017). Hidrolisis Secara Enzimatis Protein Bungkil Biji Nyamplung (*Calophyllum inophyllum*) Menggunakan Bromelain. *Biota : Jurnal Ilmiah Ilmu-Ilmu Hayati*, 1(3), 103–110. <https://doi.org/10.24002/biota.v1i3.1226>
- Rosdianti, I. (2008). *Pemanfaatan Enzim Papain dalam Produksi Hidrolisat Protein dari Limbah Industri Minyak Kelapa*. Institut Pertanian Bogor.
- Rosida, D. F., Priyanto, A. D., & Trisna, A. Y. (2022). *Effect of Hydrolysis Time and Bromelain Enzyme Concentration on Protein Levels Of Apple Snail (*Pila ampullaceal*) Hydrolyzate*. 2022, 341–346. <https://doi.org/10.11594/nstp.2022.2452>
- Sá, A. G. A., Moreno, Y. M. F., & Carciofi, B. A. M. (2019). Food processing for the improvement of plant proteins digestibility. *Critical Reviews in Food*

- Science and Nutrition*, 0(0), 1–20.
<https://doi.org/10.1080/10408398.2019.1688249>
- Salwanee, S., Wan Aida, . M, Mamot, S., Maskat, M. Y., & Ibrahim, S. (2013). Effects of Enzyme Concentration, Temperature, pH and Time on the Degree of Hydrolysis of Protein Extract from Viscera of Tuna (*Euthynnus affinis*) by Using Alcalase (Kesan Kepekatan Enzim, Suhu, pH dan Masa ke atas Darjah Hidrolisis Ekstrak Protein daripad. *Sains Malaysiana*, 42(3), 279–287.
- Schlegel, K., Sontheimer, K., Hickisch, A., Wani, A. A., Eisner, P., & Schweiggert-Weisz, U. (2019). Enzymatic Hydrolysis of Lupin Protein Isolates—Changes in the Molecular Weight Distribution, Technofunctional Characteristics, and Sensory Attributes. *Food Science and Nutrition*, 7(8), 2747–2759.
<https://doi.org/10.1002/fsn3.1139>
- Selamassakul, O., Laohakunjit, N., Kerdchoechuen, O., & Ratanakhanokchai, K. (2016). A Novel Multi-biofunctional Protein from Brown Rice Hydrolysed by Endo/endo-exoproteases. *Food and Function*, 7(6), 2635–2644.
<https://doi.org/10.1039/c5fo01344e>
- Selamassakul, O., Laohakunjit, N., Kerdchoechuen, O., Yang, L., & Maier, C. S. (2018). Isolation and Characterisation of Antioxidative Peptides from Bromelain-hydrolysed Brown Rice Protein by Proteomic Technique. *Process Biochemistry*, 70, 179–187. <https://doi.org/10.1016/j.procbio.2018.03.024>
- Serna-Saldivar, S. O., & Espinosa-Ramírez, J. (2018). Grain Structure and Grain Chemical Composition. In *Sorghum and Millets: Chemistry, Technology, and Nutritional Attributes* (Issue 1982). <https://doi.org/10.1016/B978-0-12-811527-5.00005-8>
- Shahi, Z., Sayyed-Alangi, Zahra, S., & Najafian, L. (2020). Effects of Enzyme Type and Process Time on Hydrolysis Degree, Electrophoresis Bands and Antioxidant Properties of Hydrolyzed Proteins Derived from Defatted Bunium persicum Bioss. Press Cake. *Heliyon*, 6(2).
<https://doi.org/10.1016/j.heliyon.2020.e03365>
- Shevkani, K., Singh, N., Kaur, A., & Rana, J. C. (2015). Structural and Functional Characterization of Kidney Bean and Field Pea Protein Isolates : A Comparative Study. *Food Hydrocolloids*, 43, 679–689.
<https://doi.org/10.1016/j.foodhyd.2014.07.024>
- Suarni, S. (2017). Peranan Sifat Fisikokimia Sorgum dalam Diversifikasi Pangan dan Industri serta Prospek Pengembangannya. *Jurnal Penelitian Dan Pengembangan Pertanian*, 35(3), 99.
<https://doi.org/10.21082/jp3.v35n3.2016.p99-110>
- Sulaiman, S. A., Kassum, A. L., & Sanusi, S. N. (2020). Proximate analysis and mineral compositions of different cereal grain varieties available in Kano state , Nigeria. *International Journal of Food Science and Nutrition ISSN:*, 5(2), 108–112. www.foodsciencejournal.com
- Sun, C., Shan, Y., Tang, X., Han, D., Wu, X., Wu, H., & Hosseininezhad, M. (2021). Effects of Enzymatic Hydrolysis on Physicochemical Property and Antioxidant Activity of Mulberry (*Morus atropurpurea Roxb.*) Leaf Protein. *Food Science and Nutrition*, 9(10), 5379–5390.
<https://doi.org/10.1002/fsn3.2474>

- Suprijadi. (2012). *Karakterisasi Sifak Fisik dan Kimia Tepung Sorgum (Sorghum bicolor L.) Rendah Tanin*. Institut Pertanian Bogor.
- Susanty, A., & Kusumaningrum, I. (2021). Pengaruh Waktu Hidrolisis terhadap Karakteristik Hidrolisat Protein Ikan Toman (*Channa micropeltes*) Asal Das Kalimantan Timur. *Riset Teknologi Industri*, 15(2), 463–475.
- Susila, B. A. (2012). Keunggulan Mutu Gizi dan Sifat Fungsional Sorgum (*Sorghum vulgare*). *Balai Besar Litbang Pascapanen Pertanian*, 527–534.
- Taha, F. S., Ibrahim, M. A., & El-Zanaty, E. A. (2002). Optimum Conditions for Enzymatic Degradation of Some Oilseed Proteins. *Grasas y Aceites*, 53(3), 267–272. <https://doi.org/10.3989/gya.2002.v53.i3.316>
- Tang, S., Hettiarachchy, N. S., Eswaranandam, S., & Crandall, P. (2003). Protein extraction from heat-stabilized defatted rice bran: II. The role of amylase, celluclast, and viscozyme. *Journal of Food Science*, 68(2), 471–475. <https://doi.org/10.1111/j.1365-2621.2003.tb05696.x>
- Tavano, O. L. (2013). Protein Hydrolysis Using Proteases: an Important Tool for Food Biotechnology. *Journal of Molecular Catalysis B: Enzymatic*, 90, 1–11. <https://doi.org/10.1016/j.molcatb.2013.01.011>
- Totos, R. G. (2020). *Isolasi dan Karakterisasi Fungsional Protein Sorgum (Sorghum bicolor (L. Moench) Sebagai Produk Samping Ekstraksi Pati Metode Penggilingan Basah*.
- Troller, J., & Christian, J. (1978). *Water Activity and Food*. Academy Press.
- Utami, T., Kusuma, E. N., Satiti, R., Rahayu, E. S., & Cahyanto, M. N. (2019). Hydrolyses of Meat and Soybean Proteins Using Crude Bromelain to Produce Halal Peptone as a Complex Nitrogen Source for the Growth of Lactic Acid Bacteria. *International Food Research Journal*, 26(1), 117–122.
- Vioque, J., Sánchez-vioque, R., Clemente, A., Pedroche, J., & Millán, F. (2000). *Rapeseed* 114. 4, 447–450.
- Vogelsang-O'Dwyer, M., Sahin, A. W., Bot, F., O'Mahony, J. A., Bez, J., Arendt, E. K., & Zannini, E. (2022). Enzymatic Hydrolysis of Lentil Protein Concentrate for Modification of Physicochemical and Techno-functional Properties. *European Food Research and Technology*, 249(3), 573–586. <https://doi.org/10.1007/s00217-022-04152-2>
- Wahyuni, I. (2016). *Aktivitas Antioksidan Hidrolisat Protein PRF (Protein Rich Flour) Koro Pedang (*Canavalia ensiformis* L.) Hasil Hidrolisis Menggunakan Protease Biduri (*Calotropis gigantea*)*. Universitas Jember.
- Wahyuningsih, K., Rismayani, L., Purwani, E. Y., & Herawati, I. (2019). The Effect of Milling Method on Protein Profile in Sorghum (*Sorghum bicolor* L.) KD-4 Variety. *Agrointek*, 13(2), 109–120. <https://doi.org/10.21107/agrointek.v13i2.5034>
- Wijeratnam, S. W. (2015). Pineapple. *Encyclopedia of Food and Health*, 380–384. <https://doi.org/10.1016/B978-0-12-384947-2.00547-X>
- Wulandari, E., Rahimah, S., & Totos, R. G. (2021). Isolasi Protein Sorgum Sebagai Produk Samping Ekstraksi Pati Menggunakan Metode Penggilingan Basah. *Jurnal Pangan Dan Agroindustri*, 9(3), 148–154. <https://doi.org/10.21776/ub.jpa.2021.009.03.2>
- Wulandari, E., Sihombing, F. S. P., Sukarminah, E., & Sunyoto, M. (2019).

- Karakterisasi Sifat Fungsional Isolat Protein Biji Sorgum Merah (Sorghum bicolor (L.) Moench) Varietas Lokal Bandung. *Chimica et Natura Acta*, 7(1), 14. <https://doi.org/10.24198/cna.v7.n1.19683>
- Yousif, N. E., & El Tinay, A. H. (2001). Effect of fermentation on sorghum protein fractions and in vitro protein digestibility. *Plant Foods for Human Nutrition*, 56(2), 175–182. <https://doi.org/10.1023/A:1011140602122>
- Zarei, M., Amirkolaei, A. K., Trushenski, J. T., Sealey, W. M., Schwarz, M. H., & Ovissipour, R. (2022). Sorghum as a Potential Valuable Aquafeed Ingredient: Nutritional Quality and Digestibility. *Agriculture (Switzerland)*, 12(5), 1–17. <https://doi.org/10.3390/agriculture12050669>