

DAFTAR PUSTAKA

- Abduljabbar, T., Sharp, B., Reid, H., Befroeid, N., Peto, T. & Lengyel, I. (2019). Determination of Zn, Cu and Fe in Human Patients Serum using Micro-Sampling ICP-MS and Sample Dilution. *Talanta*, 204, 663-669.
- Adamus, J. P., Ruszczynska, A., & Tomasik, A. W. (2024). Molybdenum's Role as an Essential Element in Enzymes Catabolizing Redox Reactions: A Review. *Biomolecules*, 14(7), 869.
- Afify, A. E. M. R., El-Beltagi, H. S., El-Salam, S. M., & Omran, A. A. (2012). Effect of Soaking, Cooking, Germination and Fermentation Processing on Proximate Analysis and Mineral Content of Three White Sorghum Varieties (*Sorghum bicolor* L. Moench). *Not Bot Horti Agrobo*, 40(2), 92-98.
- Agustina, V. (2020). Penetapan Kadar Logam Berat Timbal (Pb) Pada Lip Liner Dengan Metode Inductively Coupled Plasma Mass Spectrometry (ICP-MS). *Jurnal Analis Farmasi*, 5(1), 38-43.
- Akcura, M., & Kokten, K. (2017). Variations in Grain Mineral Concentrations of Turkish Wheat Landraces Germplasm. *Qual. Assur. Saf. Crops Foods*, 9(2), 153-159.
- Alejandro, S., Holler, S., Meier, B., & Peiter, E. (2020). Manganese in Plants: From Acquisition to Subcellular Allocation. *Front. Plant Sci.*, 11.
- Ammendola, S., Ciavardelli, D., Consalvo, A., & Battistoni, A. (2020). Cobalt Can Fully Recover the Phenotypes Related to Zinc Deficiency in *Salmonella Typhimurium*. *Metallomics*, 12, 2021-2031.
- Andrie, B. M., & Novianty, A. (2021). Optimalisasi Pendapatan Petani Cabai Merah Dengan Diversifikasi Usahatani. *Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 7(1), 254-266.
- Anggreini, R. A., & Choiriyah, N. A. (2022). Pengaruh Proses Pengolahan terhadap Senyawa Bioaktif Sorgum dan Potensinya terhadap Kesehatan. *Jurnal Ilmu Pangan dan Hasil Pertanian*, 6(1), 25-41.
- Angraini, D. I., & Ayu, P. R. (2014). The Relationship between Nutritional Status and Immunonutrition Intake with Immunity Status. *Juke*, 4(8), 158-165.
- Asropi, A., Bintoro, N., Karyadi, J. N. W., Rahayoe, S., & Saputra, A. D. (2019). Kinetika Perubahan Sifat Fisik dan Kadar Tanin Biji Sorgum (*Sorghum Bicolor* L.) Selama Perendaman. *Agritech*, 39(3), 223-233.
- Asropi, Novitasari, E., & Novita, D. D. (2022). Physical Quality and Tannin Content of Sorghum (*Sorghum bicolor* L.) at Different Temperature and Soaking Immersion. *IOP Conf. Ser. Earth Environ. Sci.*

- Avif, A. N., & Dewi, A. O. T. (2022). Analisis Kandungan Zat Gizi, Fenol, Flavonoid, Fitat, dan Tanin pada Sorgum (*Sorghum bicolor* (L.) Moench). *Nutri-Sains: Jurnal Gizi, Pangan dan Aplikasinya*, 6(2), 65-74.
- Bansode, S. A., & Bhale, U. N. (2014). Potential of River Sedimentary Soil for Sorghum Plant Growth Improvement and AMF Incidence. *J. Flora & Fauna*, 20(2 Special Issue), 324-327.
- Batariuc, A., Cotovanu, I., & Mironeasa, S. (2023). Sorghum Flour Features Related to Dry Heat Treatment and Milling. *Foods*, 12(11).
- Batubara, S. F., Chairuman, N., Aryati, V., & Siagian, D. R. (2023). Effects of Micronutrients (Mn and Zn) Fertilizer on the Growth and Production of Sorghum (*Sorghum bicolor* L.). *Planta Tropika*, 11(2).
- Bilqis, N., Sulistiawati, E., & Rahman, M. N. (2022). Application of The Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) Method in Zinc Analysis. *Jurnal Sains Natural*, 12, 23-26.
- Bost, M., Houdart, S., Oberli, M., Kalonji, E., Huneau, J. F., & Margaritis, I. (2016). Dietary Copper and Human Health: Current Evidence and Unresolved Issues. *J Trace Elem Med Biol.*, 35, 107-115.
- Cabot, C., Martos, S., Llugany, M., Gallego, B., Tolra, R., & Poschenrieder, C. (2019). A Role for Zinc in Plant Defence Against Pathogens and Herbivores. *Front. Plant Sci.*, 10.
- Cavalcante, T. J., Castoldi, G., Rodrigues, C. R., Nogueira, M. M., & Albert, A. M. (2018). Macro and Micronutrients Uptake in Biomass Sorghum. *Pesqui. Agropecu. Trop.*, 48(4), 364-373.
- De Moraes Cardoso, L., Pinheiro, S. S., Martino, H. S. D., & Pinheiro-Sant'ana, H. M. (2017). Sorghum (*Sorghum bicolor* L.): Nutrients, Bioactive Compounds, and Potential Impact on Human Health. *Crit. Rev. Food Sci. Nutr.*, 57(2), 372-390.
- Derbew, H., & Moges, D. (2017). Effect of Germination Duration on Nutritional and Functional Properties of Sorghum (*Sorghum bicolor*): The Case of Girana and Miskr Varieties. *Ethiop. J. Sci. & Technol.*, 10(3), 165-180.
- Devi, N. K. Y., Yanti, N. L. G. P., & Prihatiningsih, D. (2023). Perbedaan Kadar Hemoglobin Sebelum dan Sesudah Pemberian Tablet Fe pada Ibu Hamil Trimester III. *Jurnal Riset Kesehatan Nasional*, 7(2), 140-149.
- Faqihuddin & Ubaydillah, M. I. (2021). Perbandingan Metode Destruksi Kering dan Destruksi Basah Instrumen Spektrofotometri Serapan Atom (SSA) Untuk Analisis Logam. *Prosiding Seminar Nasional Hasil Riset dan Pengabdian*.
- Fitrahtunnisa, Mardian, I., & Rahmatullalia. (2020). Performance and Utilization of Local Sorghum (*Sorghum bicolor* L.) in West Nusa Tenggara. *IOP Conf. Ser. Earth Environ. Sci.*, 484(1).

- Griffiths, D. W., & Moseley, G. (1980). The Effect of Diets Containing Field Beans of High or Low Polyphenolic Content on The Activity of Digestive Enzymes in The Intestines of Rats. *J. Sci. Food. Agric.*, 31, 255-259.
- Hacisalihoglu, G. (2020). Zinc (Zn): The Last Nutrient in The Alpha-betand Shadding Light on Zn Efficiency for the Future of Crop Production Under Suboptimal Zn. *Plants*, 9.
- Hidayah, N., & Rahayu, E. (2024). Profile of Amino Acids and Micronutrients of Sorghum Throughout Primary Postharvest Processing. *AIP Conf. Proc.*
- Kaplan, M. (2019). Assessment of Grain Minerals of Turkish Sorghum (*Sorghum bicolor* L.) Landraces by GT Biplot Analysis. *Qual. Assur. Saf. Crops Foods*, 11(5), 441-447.
- Karapantsios, T. D., Sakonidou, E. P., & Raphaelides, S. N. (2002). Water Dispersion Kinetics During Starch Gelatinization. *Carbohydr. Polym.*, 49(4), 479-490.
- Khalid, W., Ali, A., Arshad, M. S., Afzal, F., Akram, R., Siddeg, A., Kousar, S., Rahim, M. A., Aziz, A., Maqbool, Z., & Saeed, A. (2022). Nutrients and Bioactive Compounds of Sorghum bicolor L. Used Toprepare Functional Foods: A Review on The Efficacy Against Differentchronic Disorders. *Int. J. Food Prop.*, 25(1), 1045-1062.
- Khalifah, A., Saad, A. A., & Dalming, T. (2024). Analisis Kadar Logam Berat Timbal (Pb) Pada Kulit Dan Daging Buah Mangga Golek (*Mangifera Indica* L.) Di Sekitar Industri Semen Minasate'ne Dengan Metode ICP-MS. *Jurnal Farmasi Pelamonia*, 4(1), 7-11.
- Kim, J., Kim, D. G., & Ryu, K. H. (2023). Enhancing Response Surface Methodology through Coefficient Clipping Based on Prior Knowledge. *Processes*, 11, 3392.
- Kurniasari, R., Suwanto, & Sulistyono, E. (2023). Pertumbuhan dan Produksi Tanaman Sorgum (*Sorghum bicolor* (L.) Moench) Varietas Numbu dengan Pemupukan Organik yang Berbeda. *Bul. Agrohorti*, 11(1), 69-78.
- Lazarte, C. E., Carlsson, N. G., Almgren, A., Sandberg, A. S., & Granfeldt, Y. (2015). Phytate, Zinc, Iron, and Calcium Content of Common Bolivian Food, and Implication for Mineral Bioavailability. *J. Food Compost. Anal.*, 39, 111-119.
- Li, Z., Zhao, X., Zhang, X., & Liu, H. (2021). Bioactive Compounds and Biological Activities of Sorghum Grains. *NLM*, 10(11).
- Liu, Q., Luo, L., & Zheng, L. (2018). Lignins: Biosynthesis and Biological Functions in Plants. *Int. J. Mol. Sci.*, 19(2), 335.
- Luwihana, S. (1986). Permasalahan Asam Fitat dalam Makanan. *Agritech: Jurnal Fakultas Teknologi Pertanian UGM*, 6(1), 44-48.

- Mahapatra, A. P. K., Saraswat, R., Botre, M., Paul, B., & Prasad, N. (2020). Application of Response Surface Methodology (RSM) In Statistical Optimization and Pharmaceutical Characterization of a Patient Compliance Effervescent Tablet Formulation of an Antiepileptic Drug Levetiracetam. *Future J. Pharm. Sci.*, 6, 82.
- Maulia, P. H., & Farapti. (2019). Status Zinc dan Peran Suplementasi Zinc Terhadap Sistem Imun pada Pasien HIV/AIDS: A Systematic Review. *Media Gizi Indonesia*, 14(2), 115-122.
- Ma, Y., Lin, W., Ruan, Y., Lu, H., Fan, S., Chen, D., Huang, Y., Zhang, T., Pi, J., & Xu, J. F. (2022). Advances of Cobalt Nanomaterials as Anti-Infection Agents, Drug Carriers, and Immunomodulators for Potential Infectious Disease Treatment. *Pharmaceutics*, 14(11).
- Mazarakioti, E. C., Zotos, A., Thomatou, A. A., Kontogeorgos, A., Patakas, A., & Ladavos, A. (2022). Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), a Useful Tool in Authenticity of Agricultural Products' and Foods' Origin. *Foods*, 11(22).
- Myers, R. H., Montgomery, D. C., & Anderson-Cook, C. M. (2016). *Response Surface Methodology: Process and Product Optimization Using Designed Experiments*. John Wiley & Sons: Hoboken, NJ, USA, ISBN 1118916034.
- Nasir, N. M., Isa, Z. M., Ismail, N. H., Ismail, R., Tamil, A. M., Jaafar, M. H., Yassin, M. S. M., Abidin, N. Z., Razak, N. H. A., Zulkifli, A., & Yusof, K. H. (2024). A Cross-sectional Analysis of The PURE Study on Minerals Intake Among Malaysian Adult Population With Hypertension. *NLM*.
- Noer, Z. (1992). *Senyawa Anti Gizi*. Pusat Pangan Antar-Universitas, Pangan dan Gizi, UGM, Yogyakarta.
- Novotny, J. A. (2011). Molybdenum Nutriture in Humans. *J. Evid.-Based Complement. Altern. Med.*, 16, 164-168.
- Ozlu, H., Atasever, M. A., Gelen, S. U., & Atasever, M. (2012). Mineral Contents and Heavy Metal Contamination in Kashar Cheeses Consumed in Erzurum Province, Turkey. *J. Vet. Med.*, 18(2), 205-208.
- Paiva, C. L., Queiroz, V. A. V., Simeone, M. L. F., Schaffert, R. E., De Oliveira, A. C., & Da Silva, C. S. (2017). Mineral Content of Sorghum Genotypes and The Influence of Water Stress. *Food Chem.*, 214, 400-405.
- Pereira, L. M. S., Milan, T. M., & Tapia-Blácido, D. R. (2021). Using Response Surface Methodology (RSM) to Optimize 2G Bioethanol Production, A review. *Biomass Bioenergy*, 151, 106166.
- Pontieri, P., Troisi, J., Di Fiore, R., Di Maro, A., Bean, S. R., Tuinstra, M. R., Roemer, E., Boffa, A., Del Giudice, A., Pizzolante, A., Alifano, P., & Del Giudice, L. (2014). Mineral Contents in Grains of Seven Food-Grade Sorghum Hybrids Grown in a Mediterranean Environment. *Aus. J. Crop Sci.*, 8(11), 1550-1559.

- Ram, K. C., Sonam, S. K., Narendra, R. C., & Ganesh, V. K. (2020). Analysis of Genetic Diversity in Sorghum [*Sorghum bicolor* (L.)] Accessions of Maharashtra as Estimated by Simple Sequence Repeats (SSR). *Int J Curr Microbiol Appl Sci.*, 9(4), 934-944.
- Ratnawati, S. E., Ekantari, N., Pradipta, R. W., & Paramita, B. L. (2018). Aplikasi Response Surface Methodology (RSM) pada Optimasi Ekstraksi Kalsium Tulang Lele. *Jurnal Perikanan Universitas Gadjah Mada*, 20(1), 41-48.
- Rukihati. (2003). Perbandingan NAA Dengan ICP-MS untuk Analisis Unsur Kelumit dalam Berbagai Jenis Bahan. *Jurnal Sains Materi Indonesia*, 4(3), 39-45.
- Rukihati & Saryati. (2006). Analisis Cuplikan Lingkungan dan Bahan Geologi Dengan Inductively Coupled Plasma-Mass Spectrometry. *Jurnal Sains Materi Indonesia*, 8(1), 92-97.
- Samtiya, M., Aluko, R. E., & Dhewa, T. (2020). Sorghum Grain: Nutritional Composition, Phenolic Compounds, and Potential Impact on Human Health. *Food Res Int.*, 130, 108934.
- Sharma, N., Goyal, S. K., Alam, T., Fatma, S., Chaoruangrit, A., & Niranjana, A. (2018). Effect of High Pressure Soaking on Water Absorption, Gelatinization, and Biochemical Properties of Germinated and Non-Germinated Foxtail Millet Grains. *J. Cereal. Sci.*, 83, 162-170.
- Singh, V., & Eckhoff, S. R. (1996). Effect of Soak Time, Soak Temperature, and Lactic Acid on Germ Recovery Parameters. *Cereal Chem.*, 73(6), 716-720.
- Stroud, J. L., Zhao, F. J., McGrath, S. P., & Hart, D. (2009). Methods for The Analysis of Selenium and Other Minerals. *AACC*, 95-111.
- Studer, J. M., Schweer, W. P., Gabler, N. K., & Ross, J. W. (2022). Functions of Manganese in Reproduction. *Anim. Reprod. Sci.*, 238.
- Šumić, Z., Vakula, A., Tepić, A., Čakarević, J., Vitas, J., & Pavlić, B. (2016). Modeling and Optimization of Red Currants Vacuum Drying Process by Response Surface Methodology (RSM). *Food Chem*, 203, 465-475.
- Suratno, S., Wahono, S. K., Siswanta, D., & Aprilita, N. H. (2023). Development of Methylmercury Analysis by Ultra-High Performance Liquid Chromatography Coupled with ICP-MS and Its Application on Sharks' Meat Measurement. *Indones. J. Chem.*, 23(3), 823-830.
- Teixeira, F. F., Costa, F. M., De Oliveira Sábato, E., Leite, C. E. P., Meirelles, W. F., Guimarães, C. T., & Belicuas, S. N. (2013). Pré-melhoramento de Milho Quanto à Resistência a Enfezamentos. *Pesqui. Agropecu. Bras.*, 48(1), 51-58.
- Thakur, N. R., Gorthy, S., Vemula, A., Odeny, D. A., Ruperao, P., Sargar, P. R., Mehtre, S. P., Kalpande, H. V., & Habyarimana, E. (2024). Genome-

- wide Association Study and Expression of Candidate Genes for Fe and Zn Concentration in Sorghum Grains. *Sci. Rep.*, 14.
- Thielecke, F., Nugent, A., & Lecherf, J. (2020). Processing in The Food Chain: Do Cereals Have to be Processed to Add Value to The Human Diet?. *Nutr. Res. Rev.*, 34(2), 1-43.
- Von Elbe, J. H., & Schawartz, S. J. (1996). *Colorants Dalam Fennema*, O. R (Ed), "Food Chemistry", 3rd ed. Marcel Dekker, Inc., New York.
- Widowati, H., Sulistiani, W. S., & Sutanto, A. (2017). Pengaruh Proses Pengolahan Terhadap Kada Logam Berat dan Kadar Gizi pada Kacang Panjang. *Bioedukasi*, 8(2).
- Wijayati, P. D., Harianto, & Suryana, A. (2019). Permintaan Pangan Sumber Karbohidrat di Indonesia. *Analisis Kebijakan Pertanian*, 17(1), 13-26.
- Wong, Y., Tan, Y., Taufiq-Yap, Y., & Ramli, I. (2015). An Optimization Study for Transesterification of Palm Oil Using Response Surface Methodology (RSM). *Sains Malays*, 44, 281–290.
- World Health Organization. (2001). *Molybdenum in Drinking Water*.
- Xiong, Y., Zhang, P., Luo, J., Johnson, S., & Fang, Z. (2019). Effect of Processing on The Phenolic Contents, Antioxidant Activity and Volatile Compounds of Sorghum Grain Tea. *J. Cereal Sci.*, 85, 6-14.
- Yanuartono, Nururrozi, A., Indarjulianto, S., Purnamaningsih, H., & Raharjo, S. (2019). Metode Tradisional Pengolahan Bahan Pakan Untuk Menurunkan Kandungan Faktor Antinutrisi: Review Singkat. *Jurnal Ilmu Ternak*, 19(2), 97-107.
- Yunita & Sumiwi, S. A. (2018). Selenium dan Manfaatnya Untuk Kesehatan : Review Jurnal. *Farmaka*, 16(2), 412-418.
- Yusra, S., & Putri, S. (2022). Karakteristik Fisikokimia Tepung Sorgum (*Sorghum bicolor* L.) Varietas Lokal Merah dengan Fermentasi Spontan. *Jurnal Agroteknologi*, 16(2).
- Zheng, H., Dang, Y., & Sui, N. (2023). Sorghum: A Multipurpose Crop. *J. Agric. Food Chem.*, 71(46)