

DAFTAR PUSTAKA

1. Gulis G, Zidkova R, Meier Z. Changes in disease burden and epidemiological transitions. *Sci Rep* [Internet]. 2025;15:1–8. Available from: <https://www.nature.com/articles/s41598-025-94050-w>
2. Rachmawati R, Salimar S, Sudikno S, Irawan IR, Sari YD. Faktor Sosiodemografi Yang Berhubungan Dengan Overweight Dan Obesitas Pada Balita Di Indonesia, Perbandingan Perdesaan Dan Perkotaan. *Penelit Gizi dan Makanan (The Journal Nutrition Food* [Internet]. 2022;45:23–34. Available from: <https://pgm.persagi.org/index.php/pgm/article/view/687>
3. Makmun A, Karim M, Bamahry A, Vitayani S, Purnama ID. Kejadian Obesitas Pada Pasien Yang Berobat Di Rumah Sakit Ibnu Sina. *Wind Heal J Kesehat* [Internet]. 2023;6:218–26. Available from: <https://jurnal.fkmumi.ac.id/index.php/woh/article/download/767/242/>
4. Tim Lobstein, Hannah Brinsden MN. World Obesity Federation. *World Obesity Atlas*. 022_WEB.pdf [Internet]. 2022;1–289. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2023>
5. Kementerian Kesehatan Republik Indonesia. *Laporan Riset Kesehatan Dasar 2007* [Internet]. kemenkes RI; 2007. Available from: <https://layanandata.kemkes.go.id/katalog-data/riskesda/ketersediaan-data/riskesda-2007>
6. Kementerian Kesehatan Republik Indonesia. *Laporan Riset Kesehatan Dasar 2013* [Internet]. kemenkes RI. 2013. Available from: <https://layanandata.kemkes.go.id/katalog-data/riskesda/ketersediaan-data/riskesda-2013>
7. Rikesdas. *Laporan Riset Kesehatan Dasar 2018*. Kementerian Kesehatan Republik Indonesia. 2018.
8. Kemenkes BKKP. *Survei Kesehatan Indonesia (SKI)*. 2023.
9. Unicef. *Analisis Lanskap Kelebihan Berat Badan dan Obesitas di Indonesia* [Internet]. Unicef. 2019. p. 6. Available from: [https://www.unicef.org/indonesia/media/16691/file/Ringkasan untuk Pemangku Kebijakan.pdf](https://www.unicef.org/indonesia/media/16691/file/Ringkasan%20untuk%20Pemangku%20Kebijakan.pdf)
10. Badan Penelitian dan Pengembangan Kesehatan. *Laporan Provinsi Sumatera Barat Riskesda 2018* [Internet]. Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan (LPB). 2019. Available from: <https://repository.badankebijakan.kemkes.go.id/id/eprint/3906/>
11. Negrea MO, Neamtu B, Dobrotă I, Sofariu CR, Crisan RM, Ciprian BI, et al. Causative mechanisms of childhood and adolescent obesity leading to adult cardiometabolic disease: A literature review. *Appl Sci* [Internet]. 2021;11.

12. Salim BRK, Wihandani DM, Dewi NNA. Obesitas sebagai faktor risiko terjadinya peningkatan kadar trigliserida dalam darah: tinjauan pustaka. *Intisari Sains Medis*. 2021;12:519–23.
13. Prihaningtyas RA, Widjaja NA, Hanindita MH, Irawan R. Diet dan Sindrom Metabolik pada Remaja Obesitas. *Amerta Nutr*. 2020;4:191.
14. Alshuweishi Y, Almufarrih AA, Abudawood A, Alfayez D, Alkhowaiter AY. Patterns of Lipid Abnormalities in Obesity: A Comparative Analysis in Normoglycemic and Prediabetic Obese Individuals. *MDPI Pers Med*. 2024;14:1–15.
15. Nurhidayati N, Irawan IR, Sudikno S. Hubungan Obesitas Dengan Profil Lipid Pada Remaja Di Indonesia. *Penelit Gizi dan Makanan (The Journal Nutrition Food Res [Internet]*. 2022;45:35–46. Available from: <https://www.pgm.persagi.org/index.php/pgm/article/view/688>
16. Giudetti AM. Editorial: Lipid metabolism in obesity. *Front Physiol [Internet]*. 2023;14:1–3. Available from: <https://www.frontiersin.org/journals/physiology/articles/10.3389/fphys.2023.1268288/full>
17. Almunawar Muhammad F. Pengaruh Pemberian Produk Pangan Fungsional Black Rice Crunch terhadap Profil Lipid Darah Tikus (*Rattus norvegicus* Berkenhout, 1769) Obesitas [Internet]. repository ugm. 2023. Available from: <https://etd.repository.ugm.ac.id/penelitian/detail/227717>
18. Victoria Obayomi O, Folakemi Olaniran A, Olugbemiga Owa S. Unveiling the role of functional foods with emphasis on prebiotics and probiotics in human health: A review. *Journal Functional Foods [Internet]*. 2024;119:106337. Available from: <https://doi.org/10.1016/j.jff.2024.106337>
19. Fekete M, Lehoczki A, Kryczyk-Poprawa A, Zábó V, Varga JT, Bálint M, et al. Functional Foods in Modern Nutrition Science: Mechanisms, Evidence, and Public Health Implications. *Nutrients [Internet]*. 2025;17:1–35. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12251440/>
20. Malalantang SS, Telleng MM, Waani MR, Kumajas NJ, Rumerung SN. Analisis produktivitas dan kapasitas tampung beberapa varietas sorgum yang ditanam di areal perkebunan kelapa. *Fak Peternak Univ Sam Ratulangi Manad*. 2024;44:313–8.
21. Shanalin J, Chandirakala R, Boopathi NM, Chandrakumar K, Giridhari VVA, Sivakumar S. Unveiling the nutraceutical properties and functional attributes of sorghum-Comprehensive review Shanalin. *Horiz e-Publishing Gr*. 2022;12:1–15.
22. Waddell IS, Orfila C. Dietary fiber in the prevention of obesity and obesity-related chronic diseases: From epidemiological evidence to potential molecular mechanisms. *Crit Rev Food Sci Nutr [Internet]*. 2023;63:8752–67.

Available from: <https://doi.org/10.1080/10408398.2022.2061909>

23. Azzahra R. Sorgum: kandungan gizi dan manfaatnya bagi kesehatan. IPB Digitani [Internet]. 2024; Available from: <https://digitani.ipb.ac.id/sorgum-kandungan-gizi-dan-manfaatnya-bagi-kesehatan/>
24. Helmizar H, Yuswita E, Putra AE. Analysis of the Nutrients and Microbiological Characteristics of the Indonesian Dadih As a Food Supplementation. *Glob J Health Sci* [Internet]. 2019;11:155. Available from: <https://www.ccsenet.org/journal/index.php/gjhs/article/view/0/37909>
25. Haliman C, Alfinnia S. Gut Microbiota, Prebiotics, Probiotics, and Synbiotics in Management of Obesity. *Journal Media Gizi Kesmas* [Internet]. 2021;10:149–56.
26. Wulandari F, Rustanti N, Pramono A. The Effects of Fermented Buffalo Milk (Dadih) Fortified with Red Dragon Fruit and Selenium on Adiponectin and Tumor Necrosis Factor-Alpha Levels in Obese Rats. *Med Lab Technol J*. 2025;11:45–58.
27. Cerdó T, García-Santos JA, Bermúdez MG, Campoy C. The Role of Probiotics and Prebiotics in the Prevention and Treatment of Obesity. *MDPI Nutr*. 2019;11:1–31.
28. Dharmayanti MR. Variasi Rasio Penggunaan Mocaf dan Tepung Edamen Pada Pembuatan Pie [Internet]. Universitas Jember; 2017. p. 76. Available from: <http://repository.unej.ac.id/bitstream/handle/123456789/95823/MeithaRizqiDharmayanti131710101098.pdf%20sdh.pdf?sequence=1&isAllowed=y>
29. Alimah S. Pengaruh substitusi tepung ampas tape ketan dan jumlah shortening terhadap hasil jadi pie. *e-journal Boga*. 2017;5:109–16.
30. Jani M. Obesity : Recent Advances and Future Perspectives. *MDPI Biomed* [Internet]. 2025;13:1–7. Available from: https://www.mdpi.com/2227-9059/13/2/368?utm_source
31. Kementerian Kesehatan RI. Pedoman Nasional Pelayanan Klinis Tata Laksana Obesitas Dewasa. In: Menteri Kesehatan Republik Indonesia [Internet]. 2025. p. 1–76. Available from: [https://keslan.kemkes.go.id/unduhan/KMK No. HK.01.07-MENKES-509-2025.pdf](https://keslan.kemkes.go.id/unduhan/KMK%20No.%20HK.01.07-MENKES-509-2025.pdf)
32. Ridlo IA, Ridwanah AA, Yoto M, Laksono AD. Intervensi Berbasis Komunitas: Sebuah Pengantar [Internet]. 2019. 1–18 p. Available from: <https://doi.org/10.31227/osf.io/2fpjz>
33. Sherwood L. Fisiologi Manusia dari Sistem ke Sel. (Y. Nella, Ed.), *Human Physiology: From Cells to System* (pp. 1–870). EGC. *Human Physiology: From Cells to System*. 2011. 1–870 p.

34. Soegondo S, Sudoyo A., B Setiyohadi, I Alwi, Simadibrata M. Sindroma Metabolik. Buku Ilmu. International Journal of Obesity. Jakarta: Departemen Ilmu Penyakit Dalam Fakultas Kedokteran Universitas Indonesia; 2009. 1865 p.
35. Hein C, Eraldo L Batista. Obesity and cumulative inflammatory burden: a valuable risk assessment parameter In Caring for dental patients. J Evidence-Based Dent Pract Spec Issue-Annual Rep Dent Hyg. 2014;45:17–26.
36. Kumar V, Abbas AK, Aster JC. Robbins and Cotran Pathologic Basis of Disease. Elsevier; 2014. 1800 p.
37. Dr. Irwan SKM.M.Kes. Epidemiologi Penyakit Tidak Menular [Internet]. CV. Absolute Media; 2016. 1–88 p. Available from: <https://repository.ung.ac.id/karyailmiah/show/1783/irwan-buku-epidemiologi-penyakit-tidak-menular.html>
38. Brod M, Højbjerg L, Pfeiffer KM, Sayner R, Meincke HH, Patrick DL. Development of the weight-related sign and symptom measure. J Patient-Reported Outcomes [Internet]. 2018;2. Available from: <https://link.springer.com/content/pdf/10.1186/s41687-018-0042-9.pdf>
39. Haam JH, Kim BT, Kim EM, Kwon H, Kang JH, Park JH, et al. Diagnosis of Obesity: 2022 Update of Clinical Practice Guidelines for Obesity by the Korean Society for the Study of Obesity. Journal Obesity Metab Syndr. 2023;32:121–9.
40. Kielczewska, Aleksandra, Szcześniak, Grzegorz, Kielczewska, Anna. Primary and Secondary Prevention of Obesity. J Educ Heal Sport [Internet]. 2025;77:1–13. Available from: <https://apcz.umk.pl/JEHS/article/view/56843>
41. Ningrum TP, Kusumawati A, Kadarullah O, Luthfi M. Efek Herbal Pada Profil Lipid : Kajian Kandungan Dan Mekanisme Kerjanya. J Implementa Husada [Internet]. 2025;6:12–23. Available from: <https://jurnal.umsu.ac.id/index.php/JIH/article/view/21645>
42. Indogen. Kit Metabolisme Lipid dari Merk Elabscience. Indogen Advancing Life Science [Internet]. 2021; Available from: <https://indogen.id/kit-metabolisme-lipid-dari-merk-elabscience/#>
43. Senduk B, Bodhi W, Kepel BJ. Gambaran Profil Lipid Pada Remaja Obes di Kota Bitung. J e-Biomedik [Internet]. 2016;4:122–7. Available from: <https://ejournal.unsrat.ac.id/v3/index.php/ebiomedik/article/view/10847#:~:text=Prevalensi obesitas yang terus meningkat,kadar trigliserida diatas nilai normal.>
44. Marks BD, Allan MD, Collen MS. Biokimia Kedokteran Dasar Sebuah Pendekatan Klinis [Internet]. Alih bahasa Brahm U.Pendit. EGC. 2000. Available from: https://repository.um-surabaya.ac.id/2754/3/BAB_2.pdf

45. Sutedjo A. *Mengenal Penyakit Melalui Hasil Pemeriksaan Laboratorium Edisi Revisi*. Yogyakarta: Amara Books. 2007. 235 p.
46. Soeharto I. *Serangan Jantung dan Stroke Hubungannya Dengan Lemak dan Kolesterol*. 2004. xiii–477.
47. Feigold K, Ahmed S, Anawalt B. *Obesity and Dyslipidemia*. Vol. 25, NCBI Bookshelf. A service of the National Library of Medicine, National Institutes of Health. 2023. 947–955 p.
48. Ischak NI, Salimi YK, Botutihe. *Biokimia Dasar*. UNG Press. 2017. 112 p.
49. Utama RD, Indasah. *Kolestrol dan Penanganannya*. 2021. 1–30 p.
50. Putri SR, Isti D. *Obesitas sebagai Faktor Resiko Peningkatan Kadar Trigliserida*. J Major. 2015;4:78–82.
51. Rahmawati Y, Dwi Ramadanty D, Rahmawati F, Perwitasari E. *Hiperkolesterolemia Pada Pasien Lanjut Usia: Studi Kasus Puskesmas Seyegan*. J Kesehat Tambusai. 2022;3:157–63.
52. Maghfiroh RM, Hariani D, Khaleyla F. *Efektivitas Ekstrak Daun Pepaya Jepang (Cnidoscolus aconitifolius) terhadap Kadar Kolesterol dan Histologi Aorta Mencit Hiperkolesterolemia Effectiveness of Cnidoscolus aconitifolius Leaves Extract on Cholesterol Levels and Aortic Histology in Hyperchol*. LenteraBio Berk Ilm Biol. 2022;11:89–100.
53. Putri MA, Alioes Y, Rusjdi SR. *Hubungan Derajat Obesitas dengan Kadar LDL pada Mahasiswa Fakultas Kedokteran Universitas Andalas Angkatan 2016*. Jurnal Ilmu Kesehatan Indonesia. 2022;2:42–50.
54. Moraes EG, Generoso G, Bensenor IM, Santos RD, Santos IS, Goulart AC, et al. *Association of obesity and LDL subfractions evaluated by body mass index, waist circumference, and diabetes status: the ELSA-Brasil study*. Diabetol Metab Syndr. 2025;17:1–9.
55. Van JP, Sharma S. *Low HDL Cholesterol*. Vol. 14, NCBI Bookshelf. A service of the National Library of Medicine, National Institutes of Health. 2025. 15–16 p.
56. Stadler JT, Marsche G. *Obesity-related changes in high-density lipoprotein metabolism and function*. Int J Mol Sci. 2020;21:1–28.
57. Putri ANFZ. *Bertani Sorgum untuk Wilayah yang Kekeringan [Internet]*. Jakarta:Elementa Agro Lestari. 2022. Available from: <https://bintangpusnas.perpusnas.go.id/konten/BK37076/bertani-sorgum-untuk-wilayah-yang-kekeringan#>

58. Wishnu JSA, Darmanti S, Saptaningsih E. Pertumbuhan Vegetatif Tanaman Sorgum (*Sorghum bicolor* L. Moench) var. Suri 4 Dengan Perlakuan Nanosilika. *Bul Anat dan Fisiol*. 2024;9:186–92.
59. Erni Sofia Murtini. Sorgum dan Pemanfaatannya dalam Industri Pangan. 2020. 1–112 p.
60. Aryani NF, Khotimah K, Tajuddin FN, Khairunnisa AI, Magfira N, Aminuddin NW. Budidaya Tanaman Sorgum (*Sorghum bicolor* (L.) Moench). Balai Penelitian Tanaman Serealia. 2022.
61. Lina EC, Murtius WS. Sosialisasi Potensi Beberapa Varietas Sorgum Sebagai Bahan Baku Makanan Olahan. *War Pengabdi Andalas*. 2020;27:165–72.
62. Ratnavathi C V., Komala V. Sorghum Grain Quality. *Sorghum Biochemistry: An Industrial Perspective*. 2016. 1–61 p.
63. Sukarminah E, Wulandari E, Lembong E. Tepung Sorgum Sebagai Pangan Fungsional Produk Sinbiotik. *J Pengabdi Kpd Masy*. 2017;1:329–31.
64. Setyanti F, Pranata FS, Purwijantiningsih LME. Kualitas Muffin Dengan Kombinasi Tepung Sorgum (*Sorghum Bicolor*) Dan Tepung Terigu (*Triticum Aestivum*) Disusun Oleh : Fransiska Setyanti Universitas Atma Jaya Yogyakarta Program Studi Biologi. *J Teknobiologi*. 2015;1–18.
65. Noerhartati E. Bahan Pangan Alternatif Sorgum (*Sorghum* Sp) Biji, Tepung, Aneka Cookies dan Gula Cair Batang Sorgum. *Uwks Press*; 2019.
66. Lestari EG. Kandungan Nutrisi dan Gizi pada Sorgum untuk Mendukung Ketahanan Pangan. *Pus Ris Tanam Pangan*. 2025;1:11–4.
67. Singh V, Moreau RA, Hicks KB. Yield and Phytosterol Composition of Oil Extracted from Grain Sorghum and Its Wet-Milled Fractions. *Cereal Chem*. 2003;50:126–9.
68. Khalid W, Ali A, Arshad MS, Afzal F, Siddeeg A, Kousar S, et al. Nutrients and bioactive compounds of *Sorghum bicolor* L . used to prepare functional foods : a review on the efficacy against different chronic disorders. *Int J Food Prop* [Internet]. 2022;25:1045–62. Available from: <https://doi.org/10.1080/10942912.2022.2071293>
69. Mukai Y, Kataoka S, Sato S. Sorghum (*Sorghum bicolor*) Extract Affects Plasma Lipid Metabolism and Hepatic Macrophage Infiltration in Diabetic Rats. *Curr Nutr Food Sci*. 2020;824–32.
70. Lee HS, Santana ÁL, Peterson J, Yucel U, Perumal R, Leon J De, et al. Anti-Adipogenic Activity of High-Phenolic Sorghum Brans in Pre-Adipocytes. *MDPI Nutr*. 2022;14:1–17.

71. de Sousa AR, de Castro Moreira ME, Toledo RCL, dos Anjos Benjamin L, Queiroz VAV, Veloso MP, et al. Extruded sorghum (*Sorghum bicolor* L.) reduces metabolic risk of hepatic steatosis in obese rats consuming a high fat diet. *Food Res Int* [Internet]. 2018;112:48–55. Available from: <https://doi.org/10.1016/j.foodres.2018.06.004>
72. Aluko OO, Ajayi OB. Investigation of antilipidemic efficacy of condensed tannins from three varieties of *Sorghum bicolor* seeds on high-fat diet-induced obese rats. *Comp Clin Path* [Internet]. 2023;32:847–58. Available from: <https://doi.org/10.1007/s00580-023-03494-x>
73. Shen RL, Zhang WL, Dong JL, Ren GX, Chen M. Sorghum resistant starch reduces adiposity in high-fat diet-induced overweight and obese rats via mechanisms involving adipokines and intestinal flora. *Food Agric Immunol* [Internet]. 2015;26:120–30. Available from: <http://dx.doi.org/10.1080/09540105.2013.876976>
74. Fadhlurrohman I, Dzilali MS, Maharani C, Rosihan P. Diversifikasi Produk Dadih yang Dibuat dari Berbagai Jenis Bakteri dan Lama Waktu Inkubasi. 2024;643–50.
75. Purwati E, Aritonan SN, Melia S, Juliyarsi I, Purwanto H. Manfaat Probiotik Bakteri Asam Laktat Dadih Menunjang Kesehatan Masyarakat. Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK) Universitas Andalas; 2016. v–60.
76. Purwati E. Diversifikasi Produk Dadih Halal Asal Susu Kerbau Sumatera Barat Menunjang Kesehatan Dan Ekonomi Rakyat. 2017;1–13.
77. Pramana A, Yudhistira B, Jayalaksamana M, Kurnia D, Husnayain N, Pramitasari R. Dadih, traditional fermented buffalo milk: a comprehensive review of the aspects of gastronomy, health benefits, and product development. *J Ethn Foods*. 2025;12:1–17.
78. Usmiati S, Risfaheri. Pengembangan Dadih Sebagai Pangan Fungsional Probiotik Asli Sumatera Barat. *J Litbang Pert*. 2012;32:20–9.
79. Rahmi F, Ridhana F, Muzaifa M. Karakterisasi dan identifikasi bakteri asam laktat proteolitik asal ikan depik (*Rasbora tawarensis*) fermentasi. *Jurnal Agrotek*. 2023;17:529–36.
80. Arnold M, Rajagukguk YV, Gramza-Michałowska A. Characterization of dadih: Traditional fermented buffalo milk of minangkabau. *Beverages*. 2021;7.
81. Putri Nasution Maulida, Pradana Gilang Tengku, Rusdhi Alfath, Siswoyo Purwo PA. Potensi isolat bakteri asam laktat dari ileum *Gallus gallus* sebagai probiotik pakan fermentasi unggas. *Semin Soc Sci Eng Hum Scenar* 2023. 2023;20–8.

82. Li X, Li W, Zhao L, Li Y, He W, Ding K. Characterization and Assessment of Native Lactic Acid Bacteria from Broiler Intestines for Potential Probiotic Properties. *MDPI Microorg Artic.* 2024;12:749.
83. Nuraida L, Winarti S, Prangdimurti E. Evaluasi in vitro terhadap kemampuan isolat bakteri asam laktat asal air susu ibu untuk mengasimilasi kolesterol dan mendekongugasi garam empedu. *Teknol dan Ind Pangan.* 2011;xxii.
84. Amelia R, Philip K, Pratama YE, Purwati E. Characterization and probiotic potential of lactic acid bacteria isolated from dadiah sampled in West Sumatra. *Food Sci Technol.* 2021;2061:746–52.
85. Li H, Liu F, Lu J, Shi J, Guan J, Yan, et al. Probiotic Mixture of *Lactobacillus plantarum* Strains Improves Lipid Metabolism and Gut Microbiota Structure in High Fat Diet-Fed Mice. *Front Microbiol.* 2020;11:1–17.
86. Pato U, Ali M, Parlindungan AK. Taurocholate Deconjugation and Cholesterol Binding by Indigenous Dadih Lactic Acid Bacteria. *Hayati J Biosci.* 2005;12:103–7.
87. Yao Y, Hong Q, Ding S, Cui J, Li W, Zhang J, et al. Meta-analysis of the effects of probiotics on hyperlipidemia Yuanyue. *Curr Res Food Sci J.* 2024;9:1–12.
88. Passos GAL, Moraes ÉA, Lopes-Junior LC. Consumption of sorghum-based products and their impact on blood glucose and satiety in adult patients: A protocol for systematic review and meta-analysis. *PLoS One [Internet].* 2025;20:1–10. Available from: <https://doi.org/10.1371/journal.pone.0330998>
89. Rajeswari NKI, Saputra IPA, Setyawan EI. Pemanfaatan Sereal Sorghum (*Sorghum bicolor* L.) Sebagai Imunonutrisi Dalam Upaya Meningkatkan Sistem Imun Tubuh. *Pros Work Dan Semin Nas Farm 2023.* 2023;2:557–68.
90. Stefoska-Needham A, Beck E, Curtin SKJ, Tapsell LC. Sorghum : an underutilized cereal whole grain with the potential to assist in the prevention of chronic disease. *Part Med Heal Sci Commons, Soc Behav Sci Commons.* 2015;1:1–46.
91. Frankowski J, Zielinska A, Labudda M, Kluz MI. Health-Promoting Properties of Sorghum Bioactive Compounds — A Comprehensive Bibliometric Analysis. *MDPI Nutr.* 2025;17:1–15.
92. Fernando B, Abdulraheem RA, Kariyawasam KP, Samarasinghe AS, Barnes H. Sorghum and Sorghum-Based Products: Nutritional Composition, Prebiotic Potential and Health Benefits in Gut Microbiota Interactions. 2025;10:1–16.
93. Kumari T, Bag KK, Das AB, Deka SC. Synergistic role of prebiotics and probiotics in gut microbiome health : Mechanisms and clinical applications. *Food Bioeng.* 2024;407–24.

94. Gisslen W. Professional Cooking Edisi 7th. John Wiley and Sons Inc; 2012. xi–1052.
95. Herbert AE, Walkden M. Hearse Pies and Pastry Coffins: Material Cultures of Food, Preservation, and Death in the Early Modern British World. *Glob Food Hist* [Internet]. 2023;9:242–69. Available from: <https://doi.org/10.1080/20549547.2023.2252665>
96. Maitre I, Guerin B, Piva G, Symoneaux R, Dufrechou M. Assessing the culinary qualities of a shortcrust pastry food model : Impact of the chemical and functional characteristics of legume flours. *Int J Gastron Food Sci* [Internet]. 2025;41:1–11. Available from: <https://www.sciencedirect.com/science/article/pii/S1878450X25001209>
97. Badan Standardisasi Nasional. Sni 2973:2022. 2022.
98. Misra NN, Tiwari BK. Biscuits. *Bak Prod Sci Technol*. 2014;585–99.
99. Oktafa H, Permadi MD, Agustianto. Studi Komparasi Data Uji Sensoris Makanandengan Preference Test (Hedonik dan MutuHedonik), antara Algoritma Naïve Bayes Classifierdan Radial Basis Function Network. *Semin Nas Has Penelit*. 2017;978–602.
100. Setyaningsih D, Apriyantono A, Puspitasari M. Analisis sensori untuk industri pangan dan agro. 2010.
101. Tarwendah IP. Comparative Study of Sensory Attributes and Brand Awareness in Food Product : A Review. *FTP Univ Brawijaya Malang*. 2017;5:66–73.
102. Heymann H, Machado B, Torri L, Robinson AL. How many judges should one use for sensory descriptive analysis? *J Sens Stud*. 2012;27:111–22.
103. Chambers E. Consensus Methods for Descriptive Analysis [Internet]. Developing Qualitative Descriptions. John Wiley & Sons Ltd; 2018. 213–236 p. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118991657.ch6>
104. Rachmawati L, Mexitalia M, Muniroh M, Afifah DN, Pramono A. Effects of Sorghum Cookies (Sorghum Bicolor L. Moench) on Fasting Glacuse.pdf. *J Gizi Indones* [Internet]. 2022;10:181–8. Available from: <https://ejournal.undip.ac.id/index.php/jgi/article/view/45447>
105. Farrah SD, Emilia E, Mutiara E, Purba R, Ingtyas FT. Analysis Of Nutritional Content And Antioxidant Activity In Sorghum Flour (Sorghum bicolor, L.) Substitution Cookies. *Sport Nutr J*. 2022;4:20–8.
106. Raj R, Singh SP, Murarka S. Study the Functional and Nutritional Assessment of Sorghum (Sorghum bicolor L.) Based Muffins. *Curr J Appl Sci Technol* Vol. 2023;42:28–36.

107. Chumairo Z, Rosida DF, Rahmawati. Buckwheat-Sorghum Biscuits: A Proportional Study of Antioxidant, Physicochemical, and Organoleptic Activities. *Phys Sci Life Sci Eng*. 2024;2:1–17.
108. Zahra RS, Fauziyah A, Ilmi IMB. Sorghum Flour and Coconut Flour Snack Bars as Functional Foods for Type 2 Diabetes Mellitus. *Amerta Nutr*. 2025;9:278–90.
109. Probosari E, Dewi SN, Alfadila TI, Handayani EN, Rizkita MS, Candra A, et al. Sorghum-Soybean Flour Enteral Formula Reduces Blood Glucose, Cholesterol, Triglycerides, LDL, and Increases HDL and Albumin in Hyperglycemic Rats. *Mol Cell Biomed Sci* [Internet]. 2025;9:13. Available
110. Hayati M, Nuryanto H. Substituting Dadih as a Yogurt Substitute in Making Yogurt Sorbet. *J Manner*. 2024;3:148–55.
111. Makwana S, Prajapati JB, Pipaliya R, Hati S. Effects of probiotic fermented milk on management of obesity studied in high - fat - diet induced obese rat model. *Food Prod Process Nutr* [Internet]. 2023;1–18. Available from: <https://doi.org/10.1186/s43014-023-00112-1>
112. Galindev U, Erdenebold U, Batnasan G, Ganzorig O, Batdorj B. Anti-obesity effects of potential probiotic *Lactobacillus* strains isolated from Mongolian fermented dairy products in high-fat diet-induced obese rodent model [Internet]. Vol. 55, *Brazilian Journal of Microbiology*. 2024. p. 2501–9. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11405555/>
113. Iswahyudi I, Arindani SM, Muhdar IN. Pemanfaatan Tepung Biji Labu Kuning Dalam Pembuatan Pie Susu Sebagai Alternatif Camilan Sumber Zink. Vol. 15, *Jurnal Teknologi dan Industri Pertanian Indonesia*. 2022. p. 47–56.
114. Usman M. Pengujian Daya Terima (Uji Hedonik) Pada Empat Merek Produk Yoghurt Yang Dijual Pada Pasar Modren (Supermarket) Di Kecamatan Medan Kota [Internet]. Vol. 2, *Jurnal Agroindustri Pangan*. 2023. p. 1–16.
115. Sman RGM van der, Renzetti S. Understanding functionality of sucrose in biscuits for reformulation purposes. *Crit Rev Food Sci Nutr* [Internet]. 2019;8398. Available from: <https://doi.org/10.1080/10408398.2018.1442315>
116. Bolger L, Bria B, Civile GV, Ginn B, Giuliano P, Hallien C, et al. *Sensory Lexicon Unabridged Definition and References*. First Edit. World Coffee Research; 2016.
117. DLG Expert report 1/2017. Panel training on odour and aroma perception for sensory analysis. Competence. 2017. 1–24 p.
118. Cox DF, Gomez KA, Gomez AA. Statistical Procedures for Agricultural Research. Vol. 80, *Journal of the American Statistical Association*. 1985. p. 486.

119. Mamat H, Hill SE. Effect of fat types on the structural and textural properties of dough and semi-sweet biscuit. *Food Technol Bioprocess Program*. 2014;51:1998–2005.
120. Adzqia F, Suwonsichon S, Thongngam M. Effects of White Sorghum Flour Levels on Physicochemical and Sensory Characteristics of Gluten-Free Bread. *MDPI Foods*. 2023;12:1–17.
121. Lamusu D. Uji Organoleptik Jalangkote Ubi Jalar Ungu (Ipomoea Batatas L) Sebagai Upaya Diversifikasi Pangan Organoleptic Test Jalangkote Ubi Jalar Purple (Ipomoea Batatas L) As Food Diversification Effort. *J Pengolah Pangan*. 2018;3:9–15.
122. Syifahaque A nida, Atmaka W. Pengaruh Substitusi Tepung Sorgum Terhadap Karakteristik Kimia, Fisika, Dan Organoleptik Cookies Dengan Alpukat Sebagai Substitusi Lemak. *J Teknol Has Pertan*. 2023;15:119–33.
123. Triwahyuni A, Puspitasari D, Solichah KM. Daya Terima Dan Analisis Kandungan Serat Pada Brownies Panggang Berbahan Dasar Tepung Sorgum Dan Tepung Kacang Merah. *J Teknol Pangan dan Ilmu Pertan*. 2025;07:69–80.
124. Rahmadhanimara R, Purwinarti T, Made W. Sensory Marketing: Aroma Dan Cita Rasa Terhadap Pembentukan Persepsi Konsumen. *Epigram*. 2022;19:162–73.
125. Chen S, Wang L, Ni D, Lin L, Wang H, Xu Y. Characterization of Aroma Compounds in Cooked Sorghum. *MDPI Foods*. 2021;26:1–18.
126. Ratnasari D, Yunianta. Pengaruh tepung kacang hijau, tepung labu kuning, margarin terhadap fisikokimia dan organoleptik biskuit. *J Pangan dan Agroindustr*. 2015;3:1652–61.
127. Gunawan MIF, Riandani AP, Saleh ERM, Rodianawati I. Teknik Evaluasi Sensori Produk Pangan. 2024. 1–153 p.
128. Colonies TB, Bakteri TK, Laktat BA. Pengaruh Suhu dan Lama Penyimpanan Terhadap Sifat Kimia, Total Koloni Bakteri dan Organoleptik Dadih. *J Bioslogos*. 2023;13:192–212.
129. Prabawa S, Zoelnanda A, Anam C, . S. Evaluasi Kualitas Sensoris dan Fisikokimia Mi Basah Sorgum (*Sorghum bicolor* L. Moench) sebagai Pangan Fungsional. *J Teknol Has Pertan*. 2023;16:13.
130. Kusumaningrum AE, Tamaroh S, Fitri IA. Sifat Fisik, Aktivitas Antioksidan dan Tingkat Kesukaan Snack Bar Berbahan Baku Tepung Komposit Sorgum, Kacang Hijau dan Uwi Ungu. *Jornal Teknologi dan pangan unisri*. 2025;10:63–77.

131. Husain H, Wahyun S, Faradilla RF. [Physical Characteristics of Various Gluten-Free Substitute Flours. *Journal Sains dan Teknologi Pangan*. 2025;10:8397–407.
132. Rosida DF, Putri NA, Oktafiani M. Karakteristik cookies tepung kimpul termodifikasi (*Xanthosoma sagittifolium*) dengan penambahan tapioka. *Jurnal Teknol Ind Pertan Agrouintek*. 2020;14.
133. Setiarto RHB, Widhyastuti N, Saskiawan I. Characteristics of the amylograph of fermented sorghum flour and its application in sorghum cake and cookies. *J Din Penelit Ind*. 2017;28:10–9.
134. Adedara OA, Taylor JRN. Roles of protein , starch and sugar in the texture of sorghum biscuits. *Food Sci Technol [Internet]*. 2021;136:110323. Available from: <https://doi.org/10.1016/j.lwt.2020.110323>
135. Rahmina F, Sa'diah I, Ramdini NA. Analisis Sensorik dan Preferensi Konsumen terhadap Cuanki Instan Berbagai Merek Komersial. 2025;2:33–9.
136. Akbar M, Amanah AS. Development Of Betawi Gambang Bread Products With The Addition Of Sorghum Flour And Red Spinach As A Means Of Utilizing Local Food Ingredients. *J Manaj Ind Jasa Makanan dan Gizi*. 2026;5:27–31.
137. Fikriyah YU, Nasution RS. Analisis Kadar Air dan Kadar Abu Pada Teh Hitam yang Dijual di Pasaran Dengan Menggunakan Metode Gravimetri. *Amina*. 2021;3:50–4.
138. Rahmawati YD, Wahyani AD. Sifat Kimia Cookies Dengan Substitusi Tepung Sorgum. *J Teknol Agro-Industri*. 2021;8:42–54.
139. Hasanah T, Harahap DA, Rizqi ER. Formulasi biskuit mocaf dengan dadih kerbau sebagai makanan selingan ibu hamil. *J Kesehat Terpadu (Integrated Heal Journal)*. 2024;3:607–14.
140. Umiyati R, Affandi AR, Tari AIN. Analisis Pangan. Semarang: Program Studi Teknologi Pangan UPGRIIS dan Teknologi Hasil Pertanian UNIVET; 2024. 1–25 p.
141. Enita EG, Purwidiani N, Huda I, Dewi P, Miranti MG. Pembuatan Kulit Pie Berbahan Dasar Tepung Porang. *J Inov Ilmu Pendidik*. 2024;2:148–65.
142. Mesa-stonestreet NJ De, Alavi S, Bean SR. Sorghum Proteins : The Concentration , Isolation , Modification , and Food Applications of Kafirins. *J Food Sci*. 2010;75.
143. Rahayu RL, Mubarak AZ, Istianah N. karakteristik fisikokimia cookies dengan variasi tepung sorgum dan pati jagung serta variasi margarin dan whey. *J Pangan dan Agroindustr*. 2021;9:89–99.

144. Perhimpunan Dokter Spesialis Penyakit Dalam Indonesia. Konsensus tata laksana multidisiplin Obesitas Pada Dewasa. 2025. 1=118.
145. Frydrych A, Kulita K, Jurowski K, Piekoszewski W. Lipids in Clinical Nutrition and Health : Narrative Review and Dietary Recommendations. MDPI Foods. 2025;1–25.
146. Firdaus T, Atmadja A, Fikrinnisa R. Formulasi biskuit tinggi protein berbasis tepung sorghum dengan penambahan tepung kacang merah sebagai PMT untuk balita. J SAGO gizi dan Kesehat. 2024;5:437–45.
147. Yosephin B. Tuntunan Praktis Menghitung Kebutuhan Gizi [Internet]. Penerbit Andi. 2018. 202p p. Available from: <https://pustaka.pekanbaru.go.id/inlislite3/opac/detail-opac?id=28395>
148. Syefani TA, Nuraeni A. Modifikasi Pancake Mocaf dengan Penambahan Kacang Merah dan Hati Ayam untuk Pencegahan Anemia. Pontianak Nutr J. 2024;7:550–7.
149. Ebookpangan.com. Serat makanan dan kesehatan. 2006.
150. Saloko S, Nofrida R, Triutami RA. Potensi ubi jalar kuning dan sorgum sebagai sumber protein dan antioksidan pada kue lumpur. Pros Saintek. 2022;4:23–4.
151. Wahyani AD, Rahmawati YD. Analisis Kandungan Serat Pangan dan Zat Besi Pada Cookies Substitusi Tepung Sorghum Sebagai Makanan Alternatif Bagi Remaja Putri Anemia. J Kesehat Masy STIKES Cendekia Utama Kudus. 2021;227–37.
152. BPOM. Peraturan Badan Pengawas Obat Dan Makanan Nomor 1 Tahun 2022 Tentang Pengawasan Klaim Pada Label Dan Iklan Pangan Olahan [Internet]. Vol. 11, Peraturan BPOM. 2022. p. 1–90.
153. Codex Alimentarius Commission. Guidelines for use of nutrition and health claims (CAC/GL 23-1997) [Internet]. 1997.
154. Tremblay A, Clinchamps M, Pereira B, Courteix D, Lesourd B, Chapier R, et al. Dietary fibres and the management of obesity and metabolic syndrome: The resolve study [Internet]. Vol. 12, Nutrients. 2020. p. 1–20. Available from: <https://pubmed.ncbi.nlm.nih.gov/32977595/>
155. Fadlilah AR, Lestari K. Review: peran antioksidan dalam imunitas tubuh. Farmaka. 2023;21:171–8.
156. Mohamed HI, Fawzi EM, Basit A, Sofy MR. Sorghum : Nutritional Factors , Bioactive Compounds , Pharmaceutical and Application in Food Systems : A Review. Phyt Int J Exp Bot. 2022;91:1303–22.

157. Baliyan S, Mukherjee R, Priyadarshini A, Vibhuti A, Gupta A, Pandey RP, et al. Determination of Antioxidants by DPPH Radical Scavenging Activity and Quantitative Phytochemical Analysis of *Ficus religiosa*. MDPI Mol. 2022;27:1–19.
158. Dlamini NR, Taylor JRN, Rooney LW. The effect of sorghum type and processing on the antioxidant properties of African sorghum-based foods. Food Chem. 2007;105:1412–9.
159. Wulansari D, Chairul. Penapisan Aktivitas Antioksidan Dan Beberapa Tumbuhan Obat Indonesia Menggunakan Radikal 2,2-Diphenyl-1 Picrylhydrazyl (DPPH) Antioxidant. Maj Obat Tradis. 2011;16:22–5.
160. Zulfahmidah, Fajriansyah, Makmun A, Rasfahyana. Hubungan Obesitas dan Stress Oksidatif. UMI Med J. 2021;6:62–9.
161. Amin S, Assafa Z. Peran Senyawa Polifenol dalam Mekanisme Antioksidan : Tinjauan dari Aspek Kimia Medisinal. J Ilm Ilmu Kesehat. 2025;3:822–32.
162. Panche AN, Diwan AD, Chandra SR. Flavonoids: an overview. Journal Nutrition Sci. 2016;5:1–15.
163. Ramírez-Moreno E, Arias-Rico J, Jiménez-Sánchez RC, Estrada-Luna D, Jiménez-Orsorio AS, Zafra-Rojas QY. Role of Bioactive Compounds in Obesity : Metabolic Mechanism Focused on Inflammation. MDPI Foods. 2022;11:1–23.
164. Ayu I, Juliyarsi I. Sensory Preference , Nutrients Content of Dadih Vla , and Lactic Acid Bacteria Assessments of Dadih. IJASEIT. 2021;10–3.
165. Sionek B, Szydłowska, Aleksandra skowska MT, Koło'zyn-Krajewska D. The Impact of Physicochemical Conditions on Lactic Acid Bacteria Survival in Food Products. MDPI Ferment. 2024;100:1–17.
166. Jian Z, Zeng L, Xu T, Sun S, Yan S, Zhao S, et al. The intestinal microbiome associated with lipid metabolism and obesity in humans and animals. J Appl Microbiol. 2022;133:2915–30.
167. Ruiz L, Margolles A, Sánchez B. Bile resistance mechanisms in *Lactobacillus* and *Bifidobacterium*. Front Mictobiology. 2013;4:1–8.
168. Pawlos M, Szajnar K, Znamirowska-piotrowska A. Probiotic Sheep Milk : Physicochemical Properties of Fermented Milk and Viability of Bacteria Under Simulated Gastrointestinal Conditions. MDPI Nutr. 2025;17:1–26.
169. Weyh C, Peeling P, Castell L. The Role of Minerals in the Optimal Functioning of the Immune System. MDPI Nutr. 2022;11:1–15.

170. Piuri G, Zocchi M, Porta M Della, Ficara V, Manoni M, Zuccotti GV, et al. Magnesium in Obesity, Metabolic Syndrome, and Type 2 Diabetes. *MDPI Nutr.* 2021;2:1–16.
171. Zhang F, Ye J, Zhu X, Wang L, Gao P, Shu G. Anti-Obesity Effects of Dietary Calcium: The Evidence and Possible Mechanisms. *MDPI Mol Sci.* 2019;20:1–14.
172. Olechnowicz J, Tinkov A, Skalny A, Suliburska J. Zinc status is associated with inflammation, oxidative stress, lipid, and glucose metabolism. *J Physiol Sci.* 2018;68:19–31.
173. Cai X, Li X, Fan W, Yu W, Wang S, Li Z, et al. Potassium and Obesity / Metabolic Syndrome : A Systematic Review and Meta-Analysis of the Epidemiological Evidence. *MDPI Nutr.* 2016;8:1–11.
174. Tal B, Sack J, Yaron M, Shefer G, Buch A, Haim L Ben, et al. Increment in Dietary Potassium Predicts Weight Loss in the Treatment of the Metabolic Syndrome. *MDPI Nutr.* 2019;11:1–11.
175. Hilton C, Sabaratnam R, Drakesmith H, Karpe F. Adipocyte and Cell Biology Iron , glucose and fat metabolism and obesity : an intertwined relationship. *Int J Obes.* 2023;47:554–63.
176. Nastain MAF, Kadir S, Nurfadillah AR. Analisis Kandungan Gizi Dan Uji Organoleptik Kue Kering Berbasis Sorghum Sebagai Solusi Pemberian Makanan Tambahan Bagi Balita Nutritional. *Paluwala J Ilmu Kesehat.* 2025;274–9.
177. Ramadhani M, Fadli AI, Yulia R, Fevria R. Pengaruh Penambahan Gula Pasir pada Yoghurt Susu Sapi. *Pros SEMNAS.* 2022;431–6.
178. Verawati. Pengaruh Substitusi Tepung Kacang Merah Terhadap Kualitas Kulit Pie. 2015.
179. Mariani, Sachriani, Dahlia M, Riyanto W. Analisis Kualitas Organoleptik dan Kimia Pada Kue Kering Substitusi Tepung Biji Labu Kuning Sebagai Alternatif Jajanan Tinggi Nutrisi. *J Rev Pendidik dan Pengajaran.* 2025;8:7158–64.
180. Hillman PF, Titisari GL, Syafrizayanti. Harnessing Indigenous Fermentation: Probiotic Lactic Acid Bacteria from West Sumatera's Dadih. *J Ris Kim.* 2025;16.
181. He Y, Wang B, Wen L. Effects of dietary fiber on human health. *Food Sci Hum Wellness.* 2022;11:1–10.

