

DAFTAR PUSTAKA

- Abdian, M., H. Budiman, dan C. D. Iskandar. 2017. Gambaran histologis timus ayam kampung (*gallus gallus domesticus*) pada umur berbeda. *Jurnal Ilmiah Mahasiswa Veteriner*. 1(3):592–597. <https://doi.org/10.9870/g.lkj.11020338>
- Afiyah, D. ., Supriyoni, Sarbini, R. ., & Rosikhulhaj, I. N (2022). Pengaruh Substitusi Tepung Jerami Bawang Merah terhadap Performa Produksi Ayam Joper. *Prosiding Seminar Nasional Cendekia Peternakan 2022*, 38, 61–65.
- Arfanda, A. I., Suprijatna, E., & Isroli, I. (2019). Pengaruh frekuensi dan periode pemberian pakan terhadap bobot relatif organ limfoid ayam buras super. *Jurnal Sain Peternakan Indonesia*, 14(3), 306–311. <https://doi.org/1876570/psj.90874>
- Arizka, A. A., Daryatmo, J., Akbarrizki, M., & Fanani, F. A. (2022). Kandungan bakteri asam laktat dalam mikroorganisme lokal (mol) dari isi rumen domba. *Jurnal Penelitian Peternakan Terpadu*, 4(6), 1–6. <https://doi.org/96325r/7658978>
- Azizi, M. N., Loh, T. C., Foo, H. L., & Chung, E. L. T. (2021). Is palm kernel cake a suitable alternative feed ingredient for poultry. *Animals*, 11(2), 1–15. <https://doi.org/10.3390/ani11020338>
- Bogoslowski, A., Ren, J., & Quintard, C. (2025). Organoid models of lymphoid tissues. *Journal MDPI Figure 1*, 1–33. <https://doi.org/43q490/bgsi1154218>
- Ceccopieri, C., & Madej, J. P. (2024). Chicken secondary lymphoid tissues—structure and relevance in immunological Research. *MDPI Animals*. <https://doi.org/10.3390/ani14162439>
- Dako, S., & Ilham, F. (2021). Keragaman fenotipe dan gen sifat kualitatif diversity of fenotepe and gene to qualitative traits of kampung chickens. *Jambura Journal Of Animal Science*, 3(2), 87–95. <https://doi.org/8665090/lsp0987655>
- Feng, Y., Zeng, N., Bordbar, F., Lu, Z., & Gao, C. (2025). Dietary fermented mixed ingredient product enhances growth performance and intestinal stem cell-mediated epithelial regeneration through Wnt / β -catenin pathway in layer chicks. *Poultry Science*, 104(2), 104821.

<https://doi.org/10.1016/j.psj.2025.104821>

- Hartadi, H. S. (1980). Reksohadiprojo, dan AD Tillman, 1980. Tabel konsumsi pakan untuk Indonesia. Gajah Mada University Press, Yogyakarta. <https://doi.org/98.0954/jyg.13.99.0764>
- Harumdewi, E., Suthama, N., & Mangisah, I. (2018). Pengaruh pemberian pakan protein mikropartikel dan probiotik terhadap pencernaan lemak dan perlemakan daging pada ayam broiler. *Jurnal Sain Peternakan Indonesia*, *13*(3), 258–264. <https://doi.org/10.31186/jspi.id.13.3.258-264>.
- Hertamawati, R. T., Prasetyo, B., & Suryadi, U. (2022). Imunitas dan Profil Hematologi Ayam Persilangan pada Pemberian Protein Pakan dan Akses Kandang Pemeliharaan yang Berbeda. *Jurnal Ilmu Peternakan Dan Veteriner Tropis*, *12*(3), 232–237. <https://doi.org/10.46549/jipvet.v12i3.321>
- Hewajuli, D. A., & Dharmayanti, N. (2015). Peran sistem kekebalan non-spesifik dan spesifik pada unggas terhadap newcastle disease. *Wartazoa*, *25*(3), 135–146. <https://doi.org/10943/hwj.5612>
- Idowu, P. A., Mpofo, T. J., Magoro, A. M., Modiba, M. C., Nephawe, K. A., & Mtileni, B. (2025). Impact of probiotics on chicken gut microbiota , immunity , behavior , and productive performance a systematic review. *Frontiers in Animal Science, March*, 1–14. <https://doi.org/10.3389/fanim.2025.1562527>
- Iyayi, E. A., Agboola, A. F., & Baah, J. (2015). Nutritional value of palm kernel cake and meal for livestock and fish feeding: A review. *Tropical Animal Production Investigations*, *18*(1), 1–9. <https://doi.org/10.974/ihyd.8320191>
- Jamilah, N. S., & Mahfudz, L. D. (2013). Performa produksi dan ketahanan tubuh broiler yang diberi pakan step down dengan penambahan asam sitrat sebagai acidifier. *JITV*, *18*(4), 251–257. <https://doi.org/34.o390/pis11431338>
- Jusril Wina Ton1, Emma D. Wie Lawa, Maritje A. Hilakore1, E. J. L. L. (2023). Pengaruh lama waktu fermentasi terhadap kualitas fisik silase isi rumen sapi. *Jurnal Ilmiah Peternakan Terpadu*, *11*(November), 176–189. <https://doi.org/113.409/ilh68232>

- Katu, J. K., Tóth, T., Ásványi, B., & Hatvan, Z. (2025). Effect of fermented feed on growth performance and gut health of broilers. *Journal MDPI. A Review*. 1–23. <https://doi.org/10.3390/ani15131957>
- Kusuma, A. Y. (2021). Pengaruh fermentasi campuran bungkil inti sawit dan onggok (fbiso) sebagai pengganti jagung dalam pakan terhadap karakteristik vili usus ayam pedaging. *Jurnal Ilmu Ternak Universitas Padjadjaran*, 20(2), 126. <https://doi.org/10.24198/jit.v20i2.30899>
- Kusumawati, A., Febriany, R., Hananti, S., Dewi, M. S., & Istiyawati, N. (2017). Perkembangan embrio dan penentuan jenis kelamin doc (day-old chicken) ayam jawa super. *Jurnal Sain Veteriner*, 34(1), 29. <https://doi.org/10.22146/jsv.22811>
- Lestari, S. P., Sjojfan, O., Furqon, A., Nuningtyas, Y. F., & Natsir, M. H. (2022). The Effect of Feeding with Different Percentages of Energy on the Growth Performance of Jowo Super Chicken. *Jurnal Ilmu Peternakan*, 32(3), 388–397. <https://doi.org/10.21776/ub.jiip.2022.032.03.10>
- Li, L., Peng, K., Xue, M., Zhu, S., & Liu, J. (2022). An age effect of rumen microbiome in dairy buffaloes revealed by metagenomics. *MDPI*. 1–17. <https://doi.org/10.3390/microorganisms10081491>
- Liu, X., Zhang, F., Shan, H., Wang, S., & Chen, P. (2016). mRNA expression in different developmental stages of the chicken bursa of Fabricius. *Poultry Science*, 95(8), 1787–1794. <https://doi.org/10.3382/ps/pew102>
- Lilis, A., Marsudi, Kurnia, Faharia, A., dan Sri, M., (2023). Identifikasi Ayam Hutan (*Gallus-gallus*) Berdasarkan Karakteristik Kuantitatif di Kecamatan Alu, Campalagian dan Luyo, Kabupaten Polewali Mandar. *Jurnal Peternakan Indonesia*, 25(2), 156–164. <https://doi.org/10.25077/jpi.25.2.156-164.2023>
- Mart, Y., Altamirano, E., Ortega, V., & Paz, P. (2021). Effect of age on the immune and visceral organ weights and cecal traits in modern broilers. *MDPI Animals*. 1–14. <https://doi.org/10.3390/ani11030845>
- Nahrowi, N., Sumiati, S., & Subekti, S. (2023). Penggunaan bungkil inti sawit dalam pakan ayam dan pengaruhnya pada kualitas pelet dan performa broiler. *Jurnal Ilmu Nutrisi Dan Teknologi Pakan*, 22(3), 166–172. <https://doi.org/>

81.9075/ojs09236

- Nelly, R., Dian, S., Rudy, S., Riyanti, R. (2024). Pengaruh substitusi tepung daun singkong terfermentasi terhadap kualitas fisik daging dada ayam joper. *Jurnal Riset Dan Inovasi Peternakan*, 8(2), 324–332. <https://doi.org/10.23960/jrip.2024.8.2.324-332>
- Nurul A., Irwan M., N. P. (2025). Studi pembuatan mikroorganisme lokal (mol) sebagai starter untuk fermentasi pakan ternak sapi. *Jurnal Ilmu Dan Teknologi Peternakan Indonesia*, 11(1), 60–66. <https://doi.org/10.9034/jgip.2025.8.78.09-67>
- Nuryati T. 2019. Analisis performans ayam broiler pada kandang tertutup dan kandang terbuka. *Jurnal Peternakan Nusantara*. 5(2): 77–86.
- Oktaviani, I. (2017). Pengaruh penambahan lempuyang (zingiber zerumbet) pada campuran jamu dalam pakan terhadap kadar abu dan protein kasar daging ayam lokal. *Skripsi. Universitas Muhammadiyah Malang. Malang*. <https://doi.org/10.2354/opyp.2017.8.2.09874-13>
- Olukomaiya, O., Fernando, C., Mereddy, R., Li, X., & Sultanbawa, Y. (2019). Solid-state fermented plant protein sources in the diets of broiler chickens : A review. *Animal Nutrition*, 5(4), 319–330. <https://doi.org/10.1016/j.aninu.2019.05.005>
- Pasaribu T, E. . L., & Kompiang. (2019). Evaluation of the nutrient contents of palm kernel cake fermented by microbial cocktails as a potential feedstuff for poultry. *Journal of the Indonesian Tropical Animal Agriculture*. 60, 295–302. <https://doi.org/10.14710/jitaa.44.3.295-302>
- Peng, W., Talpur, M. Z., Zeng, Y., Xie, P., Li, J., Wang, S., & Wang, L. (2022). Influence of fermented feed additive on gut morphology , immune status , and microbiota in broilers. *BMC Veterinary Research*, 1–16. <https://doi.org/10.1186/s12917-022-03322-4>
- Rahmawati, N., Afrizal, M. D., Peternakan, P., Pertanian, F., Kadiri, U. I., Sersan, J., No, S., Kediri, K., & Timur, J. (2023). Efektifitas Kepadatan Kandang dan Periode Pemberian Ransum yang Berbeda terhadap Performa Produksi Ayam Jawa Super Fase Finisher. *Jurnal Ilmiah Ilmu-Ilmu Peternakan*, 26(2), 138–

149. <https://doi.org/10.22437/jiiip.v26i2>.
- Rani, M., Wichert, B. A., Wolf, P., & Liesegang, A. (2022). Heliyon Effect of a two-step fermentation method with rumen liquor on protein quality of wheat bran and rice bran to use as poultry feed. *Research article Heliyon*, 8(12), e11921. <https://doi.org/10.1016/j.heliyon.2022.e11921>
- Rauf, U., Ali, S., Sajid, M., Ahmad, A., Mahmood, W., & Abdullah, O. M. (2025). Nutritional Strategies to Enhance Immunity in Poultry : A Review of Feed Additives and Dietary Formulations. *Scholars Academic Journal of Biosciences*, 9515(2), 251–261. <https://doi.org/10.36347/sajb.2025.v13i02.006>
- Ryan Purade, Alfath Rusdhi, P. S. (2022). Pemanfaatan tepung daun sirsak (*annona muricata* l) sebagai feed additive terhadap performance ayam joper. *JITTU : Jurnal Ilmu Teknologi Ternak Unggul*. 1 (2). <https://ejournal.yana.or.id/index.php/jittu/index>
- Setyawan, L. A., & Sitanggang, M. (2017). Beternak ayam kampung joper (jowo super). *AgroMedia*. <https://doi.org/10.3027/sajb.2017.v0d202.0986>
- Simarmata, B. A. R. (2017). Penggunaan bungkil inti sawit yang difermentasi dengan cairan rumen kerbau dan *saccharomyces cereviceae* dalam ransum terhadap ukuran usus ayam broiler. Universitas Jambi. <https://doi.org/10.15347/any.2025.kit.074.116>
- Song, B., Tang, D., Yan, S., Fan, H., Li, G., Shahid, M. S., & Mahmood, T. (2021). Effects of age on immune function in broiler chickens. *Journal of Animal Science and Biotechnology*, 1, 1–12. <https://doi.org/10.1094/PHYTO-11-18-0443-RVW>
- Suprijatna, E. (2015). Strategi pengembangan ayam lokal berbasis sumber daya lokal dan berwawasan lingkungan. *Jurnal Nasional Unggas Lokal*. <https://doi.org/198.096/pkg9086-028-00821-6>
- Supriyanto, S., Pertiwi, N. C., & Pratami, P. Dela. (2020). Pengaruh Pemberian Ransum Pakan Lokal Terhadap Mortalitas Dan Morbiditas Ayam Kampung Super. *Jurnal Penelitian Peternakan Terpadu*, 2(2), 28–38.
- Tafsin, M., Hanafi, N. D., Kejora, E., & Yusraini, E. (2018). Nutrition quality of

- extraction mannan residue from palm kernel cake on broiler chicken. *IOP Conference Series: Earth and Environmental Science*, 122(1), 12114. <https://doi.org/10.3390/ani11020338>
- Thapa, S., Zhou, S., Hair, J. O., Nasr, K. Al, Ropelewski, A., & Li, H. (2023). Exploring the microbial diversity and characterization of cellulase and hemicellulase genes in goat rumen: a metagenomic approach. *BMC Biotechnology*, 1–16. <https://doi.org/10.1186/s12896-023-00821-6>
- Wang, J., Que, S., Liu, X., Jin, M., Xin, T.-R., Zou, Z., & Xia, B. (2021). Characteristic and expression of Hsp 70 and Hsp 90 genes from *Tyrophagus putrescentiae* and their response to thermal stress. *Scientific Reports*, 11(1), 11672. <https://doi.org/10.1186/s09616-931-05421-6>
- Wu, B., Cui, H., Peng, X., Fang, J., Cui, W., & Liu, X. (2016). Pathology of Bursae of Fabricius in Methionine-Deficient Broiler Chickens. *MDPI Nutrients*, 877–886. <https://doi.org/10.3390/nu5030877>
- Xu, F., Wu, H., Xie, J., Zeng, T., Hao, L., Xu, W., & Lu, L. (2023). The effects of fermented feed on the growth performance, antioxidant activity, immune function, intestinal digestive enzyme activity, morphology, and microflora of yellow-feather chickens. *MDPI*. 13 (22). <https://doi.org/10.3390/ani13223545>
- Zhu, X., Tao, L., Liu, H., & Yang, G. (2022). Effects of fermented feed on growth performance, immune organ indices, serum biochemical parameters, cecal odorous compound production, and the microbiota community in broilers. *Poultry Science*, 102(6), 102629. <https://doi.org/10.1016/j.psj.2023.102629>