

## DAFTAR PUSTAKA

- Abd, El-Hack., M. E. Shafi, M. E. Alghamdi, W. Y. Abdelnour, S. A. Shehata, A. M. Noreldin, A. E. Ashour, E. A. Swelum, A. A. Al-sagan, A. A. Alkhateeb, M. Taha, A. E. Abdel-moneim, A. M. E. Tufarelli, and Ragni, M. 2020. Black soldier fly (*Hermetia illucens*) meal as a promising feed ingredient for poultry: A comprehensive review. *Agriculture*. 10:1-31.
- Adedokun, S. A., & O. Adeola. 2013. Calcium and phosphorus digestibility: Metabolic limits. *J. Appl. Poultry Res.* 22(3): 600-608.
- Al-Obaidi, F. A., & S. M. J. Al-Shadeedi. 2016. Comparison study of egg morphology, component and chemical composition of mallard duck and domestic peking duck. *Journal of Bio Innovation*, 5(4): 555-562.
- Alves-Bezerra, M., & D. E. Cohen. 2017. Triglyceride metabolism in the liver. *Comp. Physiol.* 8(1): 1.
- Alvarez, L. 2012. The role of black soldier fly, *Hermetia illucens* (L.) (Diptera: Stratiomyidae) in sustainable waste management in Northern Climates. Dissertations. University of Windsor, Windsor.
- Amoako, D., & J. M. Awika. 2016. Polyphenol interaction with food carbohydrates and consequences on availability of dietary glucose. *Curr. Opinion in Food Sci.* 8: 14-18.
- Arango Gutierrez, G. P., R. A. Vergara Ruiz, and H. Mejia Velez. 2004. Compositional, microbiological and protein digestibility analysis of larval meal of *Hermetia illucens* (Diptera:Stratiomyidae) Angelopolis-Antioquia,Revista – J. Nac. Agron. Medellin. 57(2): 2491-2499.
- Badan Pusat Statistik. 2021. Populasi itik menurut provinsi (ekor) 2020-2022. Direktorat Jenderal Peternakan dan Kesehatan Hewan. Jakarta.
- Badan Pusat Statistik. 2021. Populasi itik menurut provinsi (ton) 2020-2022. Direktorat Jenderal Peternakan dan Kesehatan Hewan. Jakarta.
- Banaszkiewicz, T. 2011. Nutritional value of soybean meal. *Soybean and nutrition*. 12: 1-20.
- Barragan-Fonseca, K.B., M. Dicke, and J. J. van Loon. 2017. Nutritional value of the black soldier fly (*Hermetia illucens* L.) and its suitability as animal feed—a review. *J. Insects Food Feed.* 3: 105–120.
- Basmacioğlu, H. and M. Ergül. 2005. Research on the factors affecting cholesterol content and some other characteristics of eggs in laying hens the effects of genotype and rearing system. *Turkish J. Vet. Anim. Sci.* 29(1): 157-164.
- Batara, V., A. M. Tasse, dan A. Napirah. 2017. Efek pemberian minyak kelapa sawit terproteksi dalam ransum terhadap kadar glukosa dalam darah ayam kampung super. *Jurnal Ilmu dan Teknologi Peternakan Tropis*. 4(1): 44–48.

- Bohn, L., A. S. Meyer and S. K. Rasmussen. 2008. Phytate: impact on environment and human nutrition. A challenge for molecular breeding. *J. Zhejiang University Sci. B* 9: 165-191.
- Bosch, D.J., Q.A. Van Dalen, V.E. Mul, G.A. Hospers, J.T. 2014 Plukker Increased risk of thromboembolism in esophageal cancer patients treated with neoadjuvant chemoradiotherapy. *J. Amer. Surgery*. 208(2): 215-221.
- Bovera, F., R. Loponte, M. E. Pero, M. I. Cutrignelli, S. Calabrò, N. Musco, & G. Moniello. 2018. Laying performance, blood profiles, nutrient digestibility and inner organs traits of hens fed an insect meal from (*Hermetia illucens*) larvae. *Res. Vet. Sci*. 120: 86-93.
- Brown, W. V. 2007. High-density lipoprotein and transport of cholesterol and triglyceride in blood. *J. Clin Lipidology*. 1(1): 7-19.
- Chadd, S. 2007. Future trends and developments in poultry nutrition. In *Proceedings of the Poultry in the 21st century: Avian influenza and beyond*. In *Proceedings of the International Poultry Conference*, Bangkok, Thailand (pp. 5-7).
- Chiu, S., P. T. Williams, and R. M. Krauss. 2017. Effects of a very high saturated fat diet on LDL particles in adults with atherogenic dyslipidemia: A randomized controlled trial. *PloS one*. 12(2): e0170664.
- Christian, I. H. Djunaidi, dan M. H. Natsir. 2016. Pengaruh penambahan tepung kemangi (*Ocimum basilicum*) sebagai aditif pakan terhadap penampilan produksi itik pedaging. *Jurnal Ternak Tropika*. 17(2):34-41.
- Cho, H. M., S.S. Wickramasuriya, S. P. Macelline, J. S. Hong, B. Lee, and J. M. Heo. 2020. Evaluation of crude protein levels in White Pekin duck diet for 21 days after hatching. *J. Anim. Sci. Tech*. 62(5): 628.
- Cickova, H., M. Kozanek, and P. Taka. 2015. Growth and survival of blowfly *Lucilia sericata* larvae under simulated wound conditions: implications for maggot debridement therapy. *Med Vet Entomol*. 29: 416-424.
- Colpo, A. 2005. LDL Cholesterol: "Bad" Cholesterol or Bad Science. *J. Amer. Phys. Surg*. 10(3): 83.
- Crosbie, M., C. Zhu, A. K. Shoveller, and L. A. Huber. 2020. Standardized ileal digestible amino acids and net energy contents in full fat and defatted black soldier fly larvae meals (*Hermetia illucens*) fed to growing pigs. *Translational Anim. Sci*. 4(3):1-10.
- Dabbou, S., A. Lauwaerts, I. Ferrocino, I. Biasato, F. Sirri, M. Zampiga, and A. Schiavone. 2021. Modified black soldier fly larva fat in broiler diet: Effects on performance, carcass traits, blood parameters, histomorphological features and gut microbiota. *Animals*. 11(6): 1837.
- Dabbou, S., F. Gai, I. Biasato, M. T. Capucchio, E. Biasibetti, D. Dezzutto, and A. Schiavone. 2018. Black soldier fly defatted meal as a dietary protein source for broiler chickens: Effects on growth performance,

- blood traits, gut morphology and histological features. *J. Anim. Sci. Biotech.* 9: 1-10.
- Dakuyo, V. 1992. Production d'Asticots Rapport de stage. *Ec. Nat. Elev. et Sante Anim, Burkina Faso*.
- Dörper, A., T. Veldkamp, and M. Dicke. 2021. Use of black soldier fly and house fly in feed to promote sustainable poultry production. *J. Ins. Food and Feed.* 7(5): 761-780.
- Etim, N. N., M. E. Williams, U. Akpabio and E. E. Offiong. 2014. Haematological parameters and factors affecting their values. *Agri. Sci.* 2(1): 37-47.
- Evans, E.W., G. G. Beach, J. Wunderlich and B. G. Harmon. 1994. Isolation of antimicrobial peptides from avian heterophils. *J. Leukoc. Biol.* 56, 661–665.
- Farrugia, A. 2010. Albumin usage in clinical medicine: tradition or therapeutic?. *Trans. Med. Rev.* 24(1): 53-63.
- Fasakin, E. A., A. M. Balogun and O. O. Ajayi. 2003. Evaluation of full-fat and defatted maggot meals in the feeding of clariid catfish *Clarias gariepinus* fingerlings. *Aqua. Res.* 34(9): 733-738.
- Finke, M. D. 2013. Complete nutrient content of four species of feeder insects. *Zoo Biol.* 32(1): 27-36.
- Fouad, A. M., D. Ruan, S. Wang, W. Chen, W. Xia, and C. Zheng. 2018. Nutritional requirements of meat-type and egg-type ducks: what do we know?. *J. Anim. Sci. Biotech.* 9(1): 1-11.
- Frasiska, N., E. Suprijatna and S. Susanti. (2018). Blood Mineral Response of Local Duck Fed the Diet Containing Seaweed *Gracilaria* sp. Waste and Additives Multienzyme. *Anim. Prod.* 19(3): 189-196.
- Gariglio, M., S. Dabbou, M. Crispo, I. Biasato, F. Gai, L. Gasco, and A. Schiavone. 2019. Effects of the dietary inclusion of partially defatted black soldier fly (*Hermetia illucens*) meal on the blood chemistry and tissue (Spleen, Liver, Thymus, and Bursa of Fabricius) histology of muscovy ducks (*Cairina moschata domestica*). *Animals.* 9(6): 307.
- Goff, J. P. 2018. Invited review: Mineral absorption mechanisms, mineral interactions that affect acid–base and antioxidant status, and diet considerations to improve mineral status. *J. Dairy Sci.* 101(4): 2763-2813.
- Garrett, R. H., and C. M. Grisham. 2013. *Biochemistry* 5<sup>th</sup> edition. Cengage Learning.
- Grossule, V., and M. C. Lavagnolo. 2020. The treatment of leachate using Black Soldier Fly (BSF) larvae: Adaptability and resource recovery testing. *J. Environ. Manage.* 253: 109707.
- Hatting, M., C. D. Tavares, K. Sharabi, A. K. Rines, and P. Puigserver. 2018. Insulin regulation of gluconeogenesis. *Annals of the New York Academy of Sciences.* 1411(1): 21-35.
- Hassan, Ghazwan M. 2017. Protein estimating in imported poultry feed mixture and soybean meal to Iraq. *Amer. Sci. Res. J. Eng. Tech. Sci.* 28(1): 49-53.

- Hertz, L., L. Peng and G. A. Dienel. 2007. Energy metabolism in astrocytes: high rate of oxidative metabolism and spatiotemporal dependence on glycolysis/glycogenolysis. *Journal of Cerebral Blood Flow & Metabolism*. 27(2): 219-249.
- Hossain, M. E., M. A. Hoque, E. Giorgi, G. Fournié, G. B. Das and J. Henning. 2021. Impact of improved small-scale livestock farming on human nutrition. *Sci. Rep.* 11:1–11.
- Hunter, J. E. 2001. Studies on effects of dietary fatty acids as related to their position on triglycerides. *Lipids*, 36(7): 655-668.
- Hülshoff, A., T. Schricker, H. Elgendy, R. Hatzakorizan, and R. Lattermann. 2013. Albumin synthesis in surgical patients. *Nutrition*, 29(5): 703-707.
- Irawan, A. C., D. A. Astuti, I. W. T. Wibawan and W. Hermana. 2019. Impact of the feeding with the black soldier fly (*Hermetia illucens*) on egg physical quality, egg chemical quality and lipid metabolism of laying hens. *J. Phys. : Conference Series* 1351(1), p. 012081. IOP Publishing.
- Ketaren, P. P., and L. H. Prasetyo. 2002. Effect of restricted feeding on productivity of Mojosari x Alabio cross-bred layer ducks (MA): 2. Second phase of laying from 44-67 weeks old. *Jurnal Ilmu Ternak dan Veteriner*. 7(2): 76-83.
- Khoirul, A., and E. M. Lubis. 2017. Penambahan jus daun sirih (*Piper betle Linn*) pada ransum ayam petelur terhadap penurunan kolesterol telur. *AVES: Jurnal Ilmu Peternakan*. 11(1): 7-7.
- Khusro, M., N. R. Andrew and A. Nicholas. 2012. Insects as poultry feed: a scoping study for poultry production systems in Australia. *Worlds Poult. Sci. J.* 68: 435–446.
- Kim, Y. B., D. H. Kim, S. B. Jeong, J. W. Lee, T. H. Kim, H. G. Lee, and K. W. Lee. 2020. Black soldier fly larvae oil as an alternative fat source in broiler nutrition. *Poult. Sci.* 99(6): 3133-3143.
- Kiran, S., Bhutta, A. M., Khan, B. A., Durrani, S., Ali, M., & Iqbal, F. 2012. Effect of age and gender on some blood biochemical parameters of apparently healthy small ruminants from Southern Punjab in Pakistan. *Asian Pacific J. Trop. Biomed.* 2(4): 304-306.
- Konietzny, U., & Greiner, R. 2003. PHYTIC ACID | Nutritional Impact. *Encyclopedia of Food Sciences and Nutrition*. 4555–4563.
- Kroeckel, S., A.G.E. Harjes, I. Roth, H. Katz, S. Wuertz, A. Susenbeth, and C. Schulz. 2012. When a turbot catches a fly: evaluation of a pre-pupae meal of the black soldier fly (*Hermetia illucens*) as fish meal substitute – Growth performance and chitin degradation in juvenile turbot (*Psetta maxima*). *Aquaculture and Fisheries Management*. 364-365: 345-352.
- Lamy, E., S. van Harten, E. Sales-Baptista, M. M. M. Guerra, and A. M. de Almeida. 2012. Factors influencing livestock productivity. *Environmental stress and amelioration in livestock production*. 19-51.

- Lichtenstein, A. H., and P. J. Jones. 2012. Lipids: absorption and transport. *Present knowledge in nutrition*. 118-131.
- Listyowati, A. A., Sumaryanto, R. Pujiyono, C. Muzdoffar. 2020. Performans itik pedaging magelang umur 2-6 minggu pada pemberian tepung ampas tahu fermentasi. *Prosiding Seminar Nasional Polbangtan Yogyakarta Magelang 2020*. Yogyakarta.
- Liu, X., X. Chen, H. Wang, Q. Yang, K. Ur Rehman, W. Li, M. Cai, Q. Li, L. Mazza, J. Zhang, Z. Yu and L. Zheng. 2017. Dynamic changes of nutrient composition throughout the entire life cycle of black soldier fly. *PLoS ONE*. 12(8): 1–21.
- Loponte, R., S. Nizza, F. Bovera, N. De Riu, K. Fliegerova, P. Lombardi and G. Moniello. 2017. Growth performance, blood profiles and carcass traits of Barbary partridge (*Alectoris barbara*) fed two different insect larvae meals (*Tenebrio molitor* and *Hermetia illucens*). *Res. Vet. Sci*. 115: 183-188.
- Makkar, H.P.S., G. Tran, V. Heuzé, and P. Ankers. 2014. State-of-the-art on use of insects as animal feed. *Anim. Feed Sci. Tech.*, Vol. 197:1-33.
- Mat, K., K. A. Kari, N. D. Rusli, M. M. Rahman, H. C. Harun, S. M. Al-Amsyar and A. M. Hassan. 2022. Effects of the inclusion of black soldier fly larvae (*Hermetia illucens*) meal on growth performance and blood plasma constituents in broiler chicken (*Gallus gallus domesticus*) production. *Saudi J. Bio. Sci*. 29(2): 809-815.
- Mayer, Jorg and T. M. Donnely. 2012. *Clinical Veterinary Advisor (Birds and Exotic Pets)*. Els Health Sci.
- Muhlisin, M., D. S. Kim, Y. R. Song, H. R. Kim, H. J. Kwon, B. K. An, and S. K. Lee. 2013. Comparison of meat characteristics between Korean native duck and imported commercial duck raised under identical rearing and feeding condition. *Food Sci. Anim. Res*. 33(1): 89-95.
- Mutucumarana, R. K., V. Ravindran, G. Ravindran, and A. J. Cowieson. 2014. Influence of dietary calcium concentration on the digestion of nutrients along the intestinal tract of broiler chickens. *J. Poult. Sci*. 51(4): 392-401.
- Mwaniki, Z., M. Neijat and E. Kiarie. 2018. Egg production and quality responses of adding up to 7.5% defatted black soldier fly larvae meal in a corn–soybean meal diet fed to Shaver White Leghorns from wk 19 to 27 of age. *Poult. Sci*. 97: 2829–2835.
- Nelson, L., and M. M. Cox. 2017. *Lehninger Principles of Biochemistry* 7th edition. Mcmillan Learning.
- Newton, G. L., C.V. Booram, R.W. Barker, and O.M. Hale. 1977. Dried *Hermetia illucens* larvae meal as a supplement for swine. *J. Anim. Sci*. 44-3: 395-400.
- Oguezi, V. U., F. C. Ibekwe and E. O. Ngbede. 2022. Analysis of calcium and phosphorus (calcium-phosphorous ratio) by spectrophotometric techniques of some commonly eaten roots/tubers species in Nigeria. *J. Niger. Chem. Soc*. 47(1).



- Pangaribuan, M. K., M. Hartono, F. Fathul and P. E. Santosa. 2022. Pengaruh suplementasi tepung maggot Black Soldier Fly (BSF) terhadap total protein plasma dan glukosa darah ayam joper betina. *J. Res. Innov. Anim.* 6(4): 398-406.
- Pirvutoiu, I., and A. Popescu. 2013. Research on Consumer Behaviour in Bucharest Poultry Meat Market. *Scientific Papers: Animal Science & Biotechnologies/Lucrari Stiintifice: Zootehnie si Biotehnologii.* 46(1).
- Popa, R. and T. Green. 2012. *DipTerra LCC e-Book 'Biology and Ecology of the Black Soldier Fly'*. DipTerra LCC.
- Purba, M., dan L. H. Prasetyo. 2014. Respon pertumbuhan dan produksi karkas itik pedaging EPMP terhadap perbedaan kandungan serat kasar dan protein dalam pakan. *Jurnal Ilmu Ternak dan Veteriner*, 19(3): 220-230.
- Purwantono, I. and Suwandi, S., 2019. Rencana Bisnis Kuliner Bebek Blengong di Jakarta. *Journal of Entrepreneurship, Management and Industry (JEMI)*, 2(2), pp.109-114.
- Putra, Y., dan A. Ariesmayana. 2020. Efektifitas penguraian sampah organik menggunakan Maggot (BSF) di pasar Rau Trade Center. *Jurnal Lingkungan dan Sumberdaya Alam.* 3(1): 11-24.
- Rambet, V., J. F. Umboh, Y. L. R. Tulung dan Y. H. S. Kowel. 2016. Kecernaan protein dan energi ransum broiler yang menggunakan tepung maggot (*Hermetia illucens*) sebagai pengganti tepung ikan. *J Zootec.* 36:13-22.
- Ramos-elorduy, J., E. A. Gonza, A. R. Hernandez and J. M. Pino. 2002. Use of *Tenebrio molitor* (Coleoptera: Tenebrionidae) to Recycle Organic Wastes and as Feed for Broiler Chickens. *J. Econ. Entomol.* 95: 214–220.
- Ramprabhu, R., M. Chellapandian, S. Balachandran, and J. J. Rajeswar. 2010. Influence of age and sex on blood parameters of Kanni goats in Tamil Nadu. *Indian J. Small Ruminants.* 16(2): 249-251.
- Ravindran, V., and R. Blair. 1993. Feed resources for poultry production in Asia and the Pacific. III. Animal protein sources. *World's Poultry Sci. J.* 49(3): 219-235.
- Ravindran, V. 2013. Alternative feedstuffs for use in poultry feed formulations. *Poult. Dev. Rev.* 70– 75.
- Rauw, W. M., and L. Gomez-Raya. 2015. Genotype by environment interaction and breeding for robustness in livestock. *Frontiers in genetics*, 6, 310.
- Regar, M. N., B. Tulung, J. J. M. R. Londok, S. A. E. Moningkey, and Y. R. L. Tulung. 2019. Blood lipid profile of broiler chicken as affected by a combination of feed restriction and different crude fiber sources. In *IOP Conference Series: Earth and Environmental Science*. Institute of Physics Publishing. 387:1-4.
- Ridwan, M., R. Sari, R. D. Andika, A. A. Candra, and G. G. Maradon. 2019. Usaha Budidaya Itik Pedaging Jenis Hibrida dan Peking. *Jurnal Peternakan Terapan.* 8-10.

- Rothschild, M. A., M. Oratz, J. Mongelli, L. Fishman and S. S. Schreiber. 1969. Amino acid regulation of albumin synthesis. *J. Nutr.* 98(4): 395-403.
- Rothschild, M. A., M. Oratz, J. Mongelli, L. Fishman and S. S. Schreiber. 1977. Albumin synthesis. *Albumin: Structure, Function and Uses*, 227-253.
- Schiavone, A., M. De Marco, S. Martínez, S. Dabbou, M. Renna, J. Madrid and L. Gasco. 2017. Nutritional value of a partially defatted and a highly defatted black soldier fly larvae (*Hermetia illucens* L.) meal for broiler chickens: apparent nutrient digestibility, apparent metabolizable energy and apparent ileal amino acid digestibility. *J. Anim. Sci. Biotech.* 8, 1-9.
- Schiavone, A., S. Dabbou, M. Petracci, M. Zampiga, F. Sirri, I. Biasato and L. Gasco. 2019. Black soldier fly defatted meal as a dietary protein source for broiler chickens: Effects on carcass traits, breast meat quality and safety. *Animal*. 13(10): 2397-2405.
- Schoeneck, M., and D. Iggman. 2021. The effects of foods on LDL cholesterol levels: A systematic review of the accumulated evidence from systematic reviews and meta-analyses of randomized controlled trials. *Nutrition, Metabolism and Cardiovascular Diseases*. 31(5): 1325-1338.
- Shaker, J. L., and L. Deftos. 2023. Calcium and phosphate homeostasis. *Endotext*.
- Shokrollahi, B., Z. Yavari and A. H. Kordestani. 2014. Effects of dietary medium-chain fatty acids on performance, carcass characteristics, and some serum parameters of broiler chickens. *Brit. Poult. Sci.* 55(5): 662-667.
- Sinha, S. 2017. Changes in serum biochemical constituents of Pati ducks (*Anas platyrhynchos domesticus*). *Phar. Innov. J.* 6(3): 223-225.
- Siri-Tarino, P. W., Q. Sun, F. B. Hu, and R. M. Krauss. 2010. Saturated fatty acids and risk of coronary heart disease: modulation by replacement nutrients. *Current atherosclerosis reports*, 12, 384-390.
- Soetemans, L., M. Uyttebroek and L. Bastiaens. 2020. Characteristics of chitin extracted from black soldier fly in different life stages. *Inter. J. Biol. Macromol.* 165: 3206-3214.
- St-Hilaire, S., K. Cranfill, M.A. McGuire, E.E. Mosley, J.K. Tomberlin, L. Newton, W. Sealey, C. Sheppard, and S. Irving. 2007. Fish offal recycling by the black soldier fly produces a foodstuff high in omega-3 fatty acids. *J. World Aquacult. Soc.* 38: 309-313.
- Synowiecki, J., and N. A. Al-Khateeb. 2003. Production, properties, and some new applications of chitin and its derivatives.
- Tangendjaja, B. (2022). Quality control of feed ingredients for aquaculture. In *Feed and feeding practices in aquaculture*. Woodhead Publishing. pp. 165-194
- Wahyu, J. 1992. Ilmu Nutrisi Unggas. Yogyakarta. Gadjah Mada University Press.

- Wang, H. H., G. Garruti, M. Liu, P. Portincasa, and D. Q. Wang. 2018. Cholesterol and lipoprotein metabolism and atherosclerosis: recent advances in reverse cholesterol transport. *Annals of Hepatology* 16(1): 27-42.
- Widodo. 2006. Pengantar Ilmu Nutrisi Ternak. Fakultas Peternakan. Universitas Muhammadiyah Malang. Malang.
- Williamson, G. 2013. Possible effects of dietary polyphenols on sugar absorption and digestion. *Molecular nutrition & food research*. 57(1): 48-57.
- Yang, X., B. Zhang, Y. Guo, P. Jiao and F. Long. 2010. Effects of dietary lipids and *Clostridium butyricum* on fat deposition and meat quality of broiler chickens. *Poultry Science*. 89(2): 254-260.
- Zhang, Y., Z. B. Guo, M. Xie, Z. Zhang and S. Hou. 2017. Genetic parameters for residual feed intake in a random population of Pekin duck. *Asian-Australasian J. Anim. Sci.* 30(2): 167.
- Zhang, Y., X. Yang, X. Zhang, Q. Xu, X. Yu, C. Xue, and Y. Liu. 2018. Effects of medium-chain fatty acids on high-density-lipoprotein in rats fed with high fat diet. *Wei Sheng Yan Jiu. J. Hygiene Res.* 47(1): 123-127.