



## DAFTAR PUSTAKA

- Aberra, M., Zemen, W., and Yosef, T.G. 2012. Assessment of the prevailing handling and quality of eggs from scavenging indigenous Chickens reared in different agro-ecological zone of Ethiopia. *Research Journal of Poultry Science.* 5(4-6):64-70. <https://doi.org/10.5455/jeos.20130104091334>.
- Abeyrathne, E. D. N. S., Lee, H. Y., and Ahn, D. U. 2013. Egg white proteins and their potential use in food processing or as nutraceutical and pharmaceutical agents—a review. *Poultry Science.* 92(12), 3292–3299.
- Achmad, G. 2005. *Karakteristik Penampilan Pola Warna Bulu, Kulit, Sisik Kaki, dan Paruh Ayam Pelung di Garut dan Ayam Sentul di Ciamis.* Bogor: Balai Pengkajian dan Pengembangan Teknologi Pertanian.
- Aendo, P., Netvichian, R., Viriyarampa, S., Songserm, T., and Tulayakul, P. 2018. Comparison of Zinc, Lead, Cadmium, Cobalt, Manganese, Iron, Chromium and Copper in Duck Eggs from Three Duck Farm Systems in Central and Western, Thailand. *Ecotoxicology Environmental Safety.* 161: 691–698.
- Alabi, O.J., Ng’ambi, J.W., and Norris, D. 2012. Effect of egg weight on physical egg parameters and hatchability of indigenous Venda chickens. *Asian Journal of Animal Veterinary Advances.* 7: 166–172. <https://doi.org/10.3923/ajava.2012.166.172>.
- Alleoni, A. C. C., and Antunes, A. J. 2004. Albumen foam stability and s-ovalbumin contents in eggs coated with whey protein concentrate. *Revista Brasileira de Ciência Avícola,* 6(2), 105–110.
- Amuzu-Aweh, E. N., Bovenhuis, H., De Koning, D. J., and Bijma, P. 2015. Predicting heterosis for egg production traits in crossbred offspring of individual White Leghorn sires using genome-wide SNP data. *Genetics Selection Evolution.* 47(1), 1–8. <https://doi.org/10.1186/s12711-015-0088-6>.
- Azizah, N., Betty A. N., and Stevia T. R. 2012. *Telur.* UNY. Yogyakarta.
- Badan Standarisasi Nasional (BSN). 2008. *Telur Ayam Konsumsi.* SNI 3926:2008. BSN, Jakarta.
- Bain, M.M. 2005. Recent advances in the assessment of egg shell quality and their future application. *World's Poult. Sci. J.* 61: 268-277. <https://doi.org/10.1079/WPS200459>.
- Bausek, N., Waclawek, M., Schneider, W. J., and Wohlrab, F. 2000. The major chicken egg envelope protein ZP1 is different from ZPB and is synthesized in the liver. *Journal of Biological Chemistry,* 275(37), 28866–28872.
- Bhattacharya, T. K., Chatterjee, R. N., Dange, M., and Bhanja, S. K. 2019. Polymorphisms in GnRHI and GnRHII genes and their association with egg production and egg quality traits in chicken. *British Poultry Science.* 60(3), 187–194. <https://doi.org/10.1080/00071668.2019.1575505>.
- Bourin, M., Gautron, J., Berge, M., Attucci, S., Le Blay, G., Labas, V., Nys, Y., and Rehault-Godbert, S., 2011. Antimicrobial potential of egg yolk ovoinhibitor, a multidomain kazal-like inhibitor of chicken egg. *Journal*



- Agriculture Food Chemistry.* 59, 12368–12374. <https://doi.org/10.1021/jf203339t>.
- BPS. 2019. *STATISTIK INDONESIA 2019 Statistical Yearbook of Indonesia 2019* (S. P. dan K. Statistik, ed.). Jakarta: Badan Pusat Statistik
- Cahyono B. 2011. *Ayam Buras Pedaging*. Jakarta: Penebar Swadaya.
- Coutts, J. A., and Wilson, G. C. (Eds.). 200. *Optimum egg quality: A practical approach*. 5M Publishing
- Creswell, D.C and Gunawan, B. 1982. *Ayam-ayam lokal di Indonesia: Sifat-sifat produksi pada lingkungan yang baik*. Laporan No. 2. Balai Penelitian Ternak. Bogor. Indonesia. Pp 9-14.
- Damayanti, P.A. 2020. Asosiasi Polimorfisme Gen Chicken Growth Hormone(cGH) terhadap Pertumbuhan Ayam F4 Golden Kamper (*Gallus gallus Linnaeus, 1758*). Skripsi. Fakultas Biologi. Universitas Gadjah Mada. Yogyakarta
- Daryono, B.S., Roosdianto, I., H.T.S.S.G. Saragih. 2010. Pewarisan Karakter Fenotip Ayam Hasil Persilangan Ayam Pelung dengan Ayam Cemani. *Jurnal Veteriner Indonesia*. 11(4): 257-263.
- Dent, D. 2000. Insect Pest Management 2 ed. CABI Publishing. USA: 148.
- Devik, S and Reddy, P.M. 2005. A study on comparative performance of 3-way strain crosses. *Indian Journal of Animal Research*. 39:147-148.
- Dirgahayu, F. I., Septinova, D., and Nova, K. 2016. Comparison between Quality External Egg of Isa Brown and Lohmann Brown Strain. *Jurnal Ilmiah Peternakan Terpadu*. 4(1), 1–5. <http://dx.doi.org/10.23960/jipt.v4i1.p%25p>.
- Direktorat Jenderal Peternakan dan Kesehatan Hewan. 2018. *Statistik Peternakan dan Kesehatan Hewan 2018/Livestock and Animal Health Statistics 2018*. Jakarta: Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI Statistik.
- Doerge R. W. and Zeng Z.B. 2015. Handout: *Introduction to Quantitative Trait Locus*. Summer Institute in Statistical Genetics.
- Eddin, A. S., Ibrahim, S. A., and Tahergorabi, R. 2019. Egg quality and safety with an overview of edible coating application for egg preservation. *Food Chemistry*. 296, 29–39. <https://doi.org/10.1016/j.foodchem.2019.05.182>.
- Ensminger. M. E., Oldfield, J.E., and Heinemann, W.W. 1992. *Feeds and Nutrition*. 2nd Edition. Ensminger Publishing Company, California, USA.
- Ernanto, A. 2017. Asosiasi Polimorfisme Gen *PRL* dan *IGF-1* terhadap Produktivitas Telur Ayam (*Gallus gallus domesticus*, Linnaeus 1758) F1 hasil persilangan Ayam Pelung dan Layer. Tesis. Fakultas Biologi. Universitas Gadjah Mada. Yogyakarta.
- Farooq, M., Mian, M. A., Ali, M., Durrani, F. R., Asquar, A. and Muqarrab, A. K. 2001. Egg traits of Fayomi bird under subtropical conditions. *Sarad J. Agric.* 17:141-145. 4
- Farooq, K. A. M., Durrani, F. R., Sarbil, K., and Chaud, N. 2003. Predicting egg weight, shell weight, shell thickness and hatching chick weight of Japanese quails using various egg traits as regressors. *Int. J. Poult. Sci.* 2:164-167. <https://doi.org/10.3923/ijps.2003.164.167>.



- Firmansyah, G.I. 2021. Karakter Fenotipik dan Polimorfisme Gen TYRP1 pada Ayam Hibrida F4 Golden Kamper (*Gallus gallus domesticus Linnaeus, 1758*). *Skripsi*. Fakultas Biologi Universitas Gadjah Mada. Yogyakarta.
- Gao, D., Qiu, N., Liu, Y., and Ma, M. 2017. Comparative Proteome Analysis of Egg Yolk Plasma Proteins during Storage. *Journal of the Science of Food and Agriculture* 97 (8): 2392–2400. doi:10.1002/jsfa.8052.
- Gertler, A., and Ben-Valid, I. 1980. Stoichiometry of Interaction of Chicken Ovoinhibitor with Pancreatic Trypsin, Chymotrypsin and Elastase I. *European Journal of Biochemistry* 110 (2): 571–577.
- Gast, R. K., and Holt, P. S. 2001. Assessing the frequency and consequences of *Salmonella enteritidis* deposition on the egg yolk membrane. *Poultry Science*. 80(7), 997–1002.
- Gunawan, B., and Sartika, T. 2001. Persilangan ayam pelung jantan x kampung betina hasil seleksi generasi kedua (G2). *Jurnal Ilmu Ternak Dan Veteriner*. 6(1), 21–27
- Gunawan. 2010. *Menentukan kualitas telur dan pengawetan telur*. <http://peterunkhair.blogspot.com/2010/12/menentukan-kualitas-telur.html>. Diakses pada tanggal 20 November 2021.
- Habibah, I. 2018. Karakter Fenotip, Koefisien Inbreeding, dan Polimorfisme Gen *MCIR* Intron 4 pada Ayam (*Gallus gallus (Linnaeus, 1758)*) Hibrida Golden Kamper. *Skripsi*. Fakultas Biologi. Universitas Gadjah Mada.
- Habiburahman, R., Darwati, S., Sumantri, C., and Rukmiasih. 2020. Produksi Telur dan Kualitas Telur Ayam IPB D-1 G7 serta Pendugaan Nilai Ripitabilitasnya. *Jurnal Ilmu Produksi Dan Teknologi Hasil Peternakan*. 08(30), 97–101. <https://doi.org/10.29244/jipthp.8.2.97-101>
- Hanusová, E., Hrnčár, C., Hanus, A., and Oravcová, M. 2015. Effect of breed on some parameters of egg quality in laying hens. *Acta Fytotechnol Zootechnol*. 18:20-24. <https://doi.org/10.15414/afz.2015.18.01.12-24>.
- Hardianto, Suarjana, I.G.K, and Rudyanto, M.D. 2012. Pengaruh Suhu dan Lama Penyimpanan Terhadap Kualitas Telur Ayam Kampung Ditinjau dari Angka Lempeng Total Bakteri. *Indonesia Medicus Veterinus*. 1(1):72-73.
- He, N., Yakiyama, M., Fujii, H., Banno, Y., and Yamamoto, K. 2003. Genomic structure and expression analysis of the gene encoding a silkworm basic Kunitz-type chymotrypsin inhibitor. *Biochim. Biophys. Acta-Gene Struct. Exp*, 1628 (1), 71–77.
- Hutt, F.B. 1949. *Genetic of the Fowl*. Mc – Grow – Hill Book Company Inc New York. Taronto, London.
- Huyghebaert, G., Daeseleire, E., Grijspeerdt, K., and Van Renterghem, R. 2002. The de- position profile of oxy-carotenoids, fat and PCBs in egg yolk. *Archiv fur Geflugelkunde*, 66(5), 216–223.
- Huang, T., Ma, J., Gong, Y., and Feng, Y. 2019. Polymorphisms in the ovoinhibitor gene (*OIH*) and their association with egg quality of Xinhua E-strain chickens. *British Poultry Science*, 60(2), 88–93. <https://doi.org/10.1080/00071668.2018.1564240>
- Iskandar, S., Setioko, A.R., Sopiyana, S., Saepudin, Y., Suharto and Dirdjopratono, W. 2004. Keberadaan dan karakter ayam Pelung, Kedu dan Sentul di lokasi



asal. *Pros. Seminar Nasional Klinik Teknologi Pertanian sebagai Basis Pertumbuhan Usaha Agribisnis menuju Petani Nelayan Mandiri*. Manado, 9 – 10 Juni 2004. Puslitbang Sosial Ekonomi Pertanian, Bogor. Hal: 1021 – 1033.

- Iskandar, S., Resnawati, H., and Pasaribu, T. 2003. Growth and carcass responses of three lines of local chickens and its crossing to dietary lysine and methionine. *Proc. The 3rd International Seminar on Tropical Animal Production*. Yogyakarta, October 15 – 16, 2002. Faculty of Animal Science Gajah Mada University. Hal: 351 – 357.
- Iqbal, J., Mukhtar, N., Rehman, Z. U., Khan, S. H., Ahmad, T., Anjum, M. S., and Umar, S. 2017. Effects of egg weight on the egg quality, chick quality, and broiler performance at the later stages of production (week 60) in broiler breeders. *Journal of Applied Poultry Research*. 26(2), 183–191. <https://doi.org/10.3382/japr/pfw061>.
- Irmawati. 2016. *Genetika Populasi Ikan*. Penerbit ANDI. Yogyakarta, hal. 82-83.
- Isidahomen, C.E., Njidda, A.A., and Olatunji, E.A. 2013. Egg Quality Traits of Indigenous and Exotic Chickens as Influenced by Specific Genes. *Journal of Biology, Agriculture and Healthcare*. 3(1):53-58.
- Iskandar, S., Desmayati, Z., Sastrodihardjo, S., Sartika, T., Setiadi, P., and Susanti, T. 1998. Respon Pertumbuhan Ayam Kampung Dan Ayam Silangan - Pelung Terhadap Ransum Berbeda Kandungan Protein. *Jurnal Ilmu Ternak Dan Veteriner*. 3(1), 8–14.
- Iskandar, S. 2005. Pertumbuhan dan perkembangan karkas ayam silangan Kedu x Arab pada dua sistem pemberian ransum. *Jurnal Ilmu Ternak dan Veteriner*. 10(4): 253 – 259.
- Iskandar, S. 2006. Ayam silangan Pelung-Kampung: Tingkat protein ransum untuk produksi daging umur 12 minggu. *Wartazoa*. 16(2): 65 – 71.
- Iskandar, S. 2010. Native chicken: Small scale enterprise and conservation in Indonesia. *International Workshop on The Utilization of Native Animals in Building Rural Enterprise in Warm Climate Zones*. 19 – 23 July 2010 at the Philippines Carabao Center, Monoz City, Nueva Ecija, Philippines.
- Jacob, J. B., Miles, R. D., and Mather, F. B. 2011. Egg quality. In *International Journal of Food Sciences and Nutrition*. <https://doi.org/10.3109/09637486109142615>.
- Jaelani, A., and Zakir, M. 2016. Kualitas eksterior dan interior telur komersil pada beberapa peternakan di kabupaten Tanah Laut. *Prosiding Hasil-Hasil Penelitian Tahun 2016*, (2002), 1–12.
- Jindal, V. K., and Sritham, E. 2003. *Detecting eggshell cracks by acoustic impulse response and artificial neural networks*. 2003 ASAE Annual Meeting (pp. 1). American Society of Agricultural and Biological Engineers.
- Kajela, Y., Baerjee, S., and Taye, M. 2019. Some internal and external egg quality characteristics of local and exotic chickens reared in Yirgalem and Hawassa towns, Ethiopia. *International Journal of Livestock Production*. 10(5), 135–142. <https://doi.org/10.5897/ijlp2018.0547>.
- Karoui, R., Kemps, B., Bamelis, F., De Ketelaere, B., Decuypere, E., and De Baerdemaeker, J. 2006. Methods to evaluate egg freshness in research and



- industry: A review. *European Food Research and Technology*, 222(5–6), 727–732.
- Karve, R., Liu, W., Willet, S.G., Torii, K.U., and Shpak, E. D. 2011. The Presence of Multiple Introns Is Essential for ERECTA Expression in Arabidopsis. *Rna-A Publication of the Rna Society*. 17 (10): 1907–1921. doi:10.1261/rna.2825811.
- Kilatsih, R., Perdamaian, A. B. I., Joko, T., Purwanto, S. H., and Daryono, B. S. 2020. Effect Analysis of Prolactin (PRL) Gene Polymorphisms on Chicken Egg Productivity (*Gallus gallus domesticus*) BC 1 from Crossbreeding between Pelung and Layer Chicken. *Iranian Journal of Applied Animal Science*. 10(4), 717–726.
- Kinoshita, K., Shimogiri, T., Okamoto, S., Yoshizawa, K., Mannen, H., Ibrahim, H.R., Cheng, H.H., and Maeda, Y. 2004. Linkage mapping of chicken ovoinhibitor and ovomucoid genes to chromosome 13. *Animal Genetics*. 35, 356–358. <https://doi.org/10.1111/j.1365-2052.2004.01159.x>.
- Kontecka, H., Nowaczewski, S., Sierszula, M. M., and Witkiewicz, K. 2012. Analysis of changes in egg quality of broiler breeders during the first reproduction period. *Annals of Animal Science*. 12(4), 609–620. <https://doi.org/10.2478/v10220-012-0051-1>.
- Kostaman, T., and Sopiyan, S. 2016. The Differences in Egg Quality of White Leghorn and Naked Neck Chicken. *International Seminar on Livestock Production and Veterinary Technology*. 2007. 365–369. <https://doi.org/10.14334/proc.intsem.lpvt-2016-p.365-369>.
- Kulibaba, R. A., and Podstreshnyi, A. P. 2012. Prolactin and Growth Hormone Gene Polymorphisms in Chicken Lines of Ukrainian Selection. *Cytology and Genetics*, 46: 390–395.
- Laskowski, M. and Kato, I. 2003. Protein inhibitors of proteinases. *Annu. Rev. Biochem.* 49, 593–626. <https://doi.org/10.1146/annurev.bi.49.070180.003113>.
- Lesmana, I. 2016. Asosiasi Polimorfisme Promoter Gen FSHR dengan Perkembangan Folikel Ovarium Ayam Hibrida [*Gallus gallus gallus* (Linnaeus, 1758)] Hasil Persilangan ♀ Ras Petelur dengan ♂ Pelung. *Tesis*. Fakultas Biologi. Universitas Gadjah Mada. Hal: 31-45.
- Li-Chan, E. C. Y., & Kim, H.-O. 2008. *Structure and chemical composition of eggs*. In Y. Mine (Ed.). Egg bioscience and biotechnology (pp. 1–96). Hoboken, NJ: John Wiley & Sons.
- Li, L., Li, D., Liu, L., Li, S., Feng, Y., Peng, X., and Gong, Y. 2015. Endothelin Receptor B2 (EDNRB2) Gene Is Associated with Spot Plumage Pattern in Domestic Ducks (*Anas Platyrhynchos*). *PloS One*. 10 (5): e0125883. doi:10.1371/journal.pone.0125883.
- Lin, X. J., Zhang, R., Jiang, S., Elmashad, H. M., and Mitloehner, F. 2016. Nutrient flow and distribution in conventional cage, enriched colony, and aviary layer houses. *Poult Sci*. 95: 213-224. <https://doi.org/10.3382/ps/pev307>.
- Liu, W.H., Means, G.E., and Feeney, R.E. 1971. The inhibitory properties of avian ovoinhibitors against proteolytic enzymes. *BBA - Protein Struct*. 229, 176–185. [https://doi.org/10.1016/0005-2795\(71\)90331-X](https://doi.org/10.1016/0005-2795(71)90331-X).



- Liu, Z., Zheng, Q., Zhang, X., and Lu, L. 2013. Microarray analysis of genes involved with shell strength in layer shell gland at the early stage of active calcification. *Asian- Australasian Journal of Animal Sciences.* 26(5), 609.
- Liu, Z., Yang, N., Yan, Y., Li, G., Liu, A., Wu, G., and Sun, C. 2019. Genome-wide association analysis of egg production performance in chickens across the whole laying period. *BMC Genetics.* 20(67), 1–9. <https://doi.org/10.1186/s12863-019-0771-7>.
- Lohmann T. 2016. *Lohmann Brown-Classic.* Diunduh dari: <http://www.ltz.de/en/Layers/alternative-housing/lohmann-brown-classic.php>.
- Mann, K., Maček, B., and Olsen, J. V. 2006. Proteomic analysis of the acid-soluble organic matrix of the chicken calcified eggshell layer. *Proteomics,* 6(13), 3801–3810.
- Martos, G., Lopez-Fandino, R., and Molina, E. 2013. Immunoreactivity of Hen Egg Allergens: Influence on in Vitro Gastrointestinal Digestion of the Presence of Other Egg White Proteins and of Egg Yolk. *Food Chemistry,* 136 (2): 775–781. doi:10.1016/j.foodchem.2012.07.106.
- Messens, W., Grijspeerdt, K., and Herman, L. 2005. Eggshell characteristics and penetration by *Salmonella enterica* serovar Enteritidis through the production period of a layer flock. *British Poultry Science.* 46(6), 694–700.
- Mertens, K., Bamelis, F., Kemps, B., Kamers, B., Verhoelst, E., De Ketelaere, B., and De Baerdemaeker, J. 2006. Monitoring of eggshell breakage and eggshell strength in different production chains of consumption eggs. *Poultry Science.* 85(9), 1670–1677.
- Mine, Y., and D'Silva, I. 2008. *Bioactive components in egg white.* In Y. Mine (Ed.). Egg bioscience and biotechnology (pp. 141–184). Hoboken, NJ: John Wiley & Sons.
- Myers, R. L., Airey, D. C., Manier, D.H., Shelton, R.C., and Sanders-Bush, E. 2007. Polymorphisms in the Regulatory Region of the Human Serotonin 5-HT2A Receptor Gene (HTR2A) Influence Gene Expression. *Biological Psychiatry.* 61 (2): 167–173. doi:10.1016/j.biopsych.2005.12.018.
- Nagpal, K., Watanabe, K. S. B., Tsao, P., and Tsokos, G. C. 2014. Transcription Factor Ikaros Represses Protein Phosphatase 2A (PP2A) Expression through an Intronic Binding Site. *Journal of Biological Chemistry.* 289 (20): 13751–13757. doi:10.1074/jbc.M114.558197.
- Nataamijaya, A. G. 2005. Karakteristik penam-pilan pola warna bulu, kulit, sisik kaki, dan paruh pada ayam pelung di Garut dan ayam sentul di Ciamis. *Buletin. Plasma Nutfah.* 11(1):1-5.
- Nataamijaya, A.G. 2010. Pengembangan potensi ayam lokal untuk menunjang peningkatan kesejahteraan petani. *Jurnal Litbang Pertanian.* 29(4): 131 – 138.
- North, M.O. and Bell, D. 1990. *Commercial chicken production manual.* United States of America (US): Incorporate.
- Novak, C., and Scheideler, S. E. 2001. Long-term effects of feeding flaxseed-based diets. 1. Egg production parameters, components, and eggshell quality in two strains of laying hens. *Poultry Science.* 80(10), 1480–1489.



- Odabaşı, A. Z., Miles, R. D., Balaban, M. O., and Portier, K. M. 2007. Changes in brown eggshell color as the hen ages. *Poultry Science*, 86(2), 356–363.
- Padhi, M.K., Chatterjee, R.N., Haunshi, S., Rajkumar, U. 2013. Effect of age on egg quality in chicken. *Indian Journal of Poultry Science*. 48(1):122-125.
- Patnala R., Judith C., and Jyotsna B. 2013. Candidate gene association studies: A comprehensive guide to useful in silico tools. *BMC Genetics*. 14, 39-45.
- Pelicia, K., Garcia, E.A., Faitarone, A.B.G., Silva, A.P., Berto, D.A., Molino, A.B., and Vercese, F. 2009. Calcium and Available Phosphorus Levels for Laying Hens in Second Production Cycle. *Brazilian Journal of Poultry Science*. 11(1):39-49. <https://doi.org/10.1590/S1516-635X2009000100007>.
- Pelu, A., Tupan, J. M., and Paillin, D. B. 2016. Optimasi Penentuan Campuran Pakan Ayam Ras Petelur dengan Menggunakan Metode Goal Programming pada Peternakan Bhumyamca Unggas. *Arika*. 10(2). Retrieved from <https://ojs3.unpatti.ac.id/index.php/arika/article/view/433>.
- Petibon, C., Parenteau, J., Catala, M., and Elela, S.A. 2016. Introns Regulate the Production of Ribosomal Proteins by Modulating Splicing of Duplicated Ribosomal Protein Genes. *Nucleic Acids Research*. 44 (8): 3878–3891. doi:10.1093/nar/gkw140.
- PT. Japfa Comfeed. 2018. *Broiler Starter BR I Crumble*. Diakses 02 Februari 2021, <https://www.japfacomfeed.co.id/id/product-and-services/product-detail/broiler-starterbr-i-crumble>.
- Rasyaf M. 1999. *Beternak Ayam Pedaging Edisi Revisi*. Jakarta. PT. Penebar Swadaya.
- Ribaut J.M. and Ragot M. 2007. Marker-assisted selection to improve drought adaptation in maize: the backcross approach, perspectives, limitations, and alternatives. *Journal of Experimental Botany*. 58: 351-360.
- Roberts, J. R. 2004. Factors affecting egg internal quality and egg shell quality in laying hens. *The Journal of Poultry Science*, 41(3), 161–177.
- Sax, K. 1923. The association of size differences with seed-coat pattern and pigmentation in Phaseolus vulgaris. *Genetics*. 8: 522-560.
- Saxena, I., and Tayyab, S. 1997. Protein Proteinase Inhibitors from Avian Egg Whites. *Cellular and Molecular Life Sciences*, 53 (1): 13–23.
- Sandelin, A., Alkema, W., Engstrom, P., Wasserman, W.W., and Lenhard, B. 2004. JASPAR: An Open-Access Database for Eukaryotic Transcription Factor Binding Profiles. *Nucleic Acids Research*. 32: D91–D94. doi:10.1093/nar/gkh012.
- Sayed, M. A. M., Abouelezz, F. M. K., and Abdel-wahab, A. A. M. 2017. Analysis of Sperm Motility, Velocity and Morphometry of Three Egyptian Indigenous Chicken Strains. *Egyptian Poultry Science Journal*. 37(4), 1173–1185. <https://doi.org/10.21608/epsj.2017.5605>.
- Scanes, C. G., Brant, G., and Ensminger, M.E. 2004. *Poultry Science*. Fourth Edition. Food Products Press. An Imprint of the Haworth Press, Inc. New York.
- Scott, M. J., Huckaby, C.S., Kato, I., Kohr, W.J., Laskowski I M., Tsai JR., M. J., and O'malley B. W. 1987. Ovoinhibitor Introns Specify Functional



- Domains as in the Related and Linked Ovomucoid Gene. *Journal of Biological Chemistry*, 262 (12): 5899–5907.
- Shechter, Y., Burstein, Y., and Gertler, A. 1977. Effect of oxidation of methionine residues in chicken ovoinhibitor on its inhibitory activities against trypsin, chymotrypsin, and elastase. *Biochemistry* 16, 992–997. <https://doi.org/10.1021/bi00624a029>.
- Shi, S. R., Wang, K. H., Dou, T. C., and Yang, H. M. 2009. Egg weight affects some quality traits of chicken eggs. *Journal of Food, Agriculture and Environment*. 7(2), 432–434.
- Simanjuntak, D.S, Siahaan, M.S., Laniarti, D., Oentoeng, J., Pohan, S.A.S., dan Fua, A. 1994. *Mengenal Ternak Indonesia: Ternak Unggas*. Direktorat Bina Produksi Direktorat Jenderal Peternakan Departemen Pertanian. hlm. 7 – 20.
- Simoni, M., Nieschlag, E., and Gromoll, J. 2002. Isoforms and single nucleotide polymorphism of the FSH receptor gene: Implications for human reproduction. *Human Reproduction Update*. 8(5), 413–421. <https://doi.org/10.1093/humupd/8.5.413>.
- Simrinder, S.S., Jeong, D.K., and Sharma, N. 2013. Marker assisted selection – applications and evaluation for commercial poultry breeding. *Korean Journal of Poultry Science*. 40(3):223–34. doi: 10.5536/KJPS.2013.40.3.223.
- Singh U.A., Kumari M. and Iyengar S. 2018. Method for improving the quality of genomic DNA obtained from minute quantities of tissue and blood samples using Chelex 100 resin. *Biol. Proc. Online*. 20, 12-21
- Słowińska, M., Liszewska, E., Nynca, J., Bukowska, J., Hejmej, A., Bilińska, B., Szubstarski, J., Kozłowski, K., Jankowski, J., and Ciereszko, A. 2014. Isolation and characterization of an ovoinhibitor, a multidomain kazal-like inhibitor from Turkey (*Meleagris gallopavo*) seminal Plasma1. *Biol. Reprod.* 91, 108. <https://doi.org/10.1095/biolreprod.114.118836>.
- Sugimoto, Y., Kusakabe, T., Nagaoka, S., Nirasawa, T., Tatsuguchi, K., Fujii,M., Aoki, T., and Koga,K. 1996, Aproteinase inhibitorfromegg yolk often is an ovoinhibitor analog. *Biochim. Biophys.* 1295 (1), 96–102.
- Sulandari S., Zein, M.S.A., Sri P., Tike S., Maria A., Tuti W., Endang S., Sidadolog, J. H. P., Iwan S., and Dani G. 2007. *Sumber Daya Genetik Ayam Lokal Indonesia: Keragaman Sumber Daya Hayati Ayam Lokal Indonesia*. Pusat Penelitian Biologi, LIPI. Edisi Pertama. Hal: 45-95.
- Sultana, F., Yokoe, A., Ito, Y., Mao, K. M., and Yoshizaki, N. 2003. The peri-albumen layer: A novel structure in the envelopes of an avian egg. *Journal of Anatomy*, 203(1), 115–122.
- Sandelin, A., Alkema, W., Engstrom, P., Wasserman, W.W., and Lenhard, B. 2004. JASPAR: An Open-Access Database for Eukaryotic Transcription Factor Binding Profiles. *Nucleic Acids Research*. 32: D91–D94. doi:10.1093/nar/gkh012.
- Sun, L., Yu, L., and Chen, C. 1998. Presence, isolation and characterization of yolk DNA from chicken eggs. *Science in China, Series C: Life Sciences*. 41(3), 251–257. <https://doi.org/10.1007/BF02895099>



- Suryaman, 2010. Perbandingan morfometri ayam kampung, ayam pelung dan ayam keturunan pertama ( $F_1$ ) Persilangan Pelung Kampung Umur 5-12 Minggu. *Skripsi*. Fakultas Peternakan. IPB.
- Sousa, A. O., De Oliveira, S. M., and Bernardes, A. T. 2000. Simulating inbreeding depression through the mutation accumulation theory. *Physica A: Statistical Mechanics and Its Applications*. 278(3), 563–570. [https://doi.org/10.1016/S0378-4371\(00\)00008-X](https://doi.org/10.1016/S0378-4371(00)00008-X).
- Tabbu, C. R. 2000. Penyakit Ayam dan Penanggulangannya: Penyakit Bakterial, Mikal, dan Viral. Kanisius, Yogyakarta.
- Udeh, I. 2007. Influence of weight grouping on the short term egg production of two strains of layer type chicken. *Animal Research International*. 4(3), 741–744. <https://doi.org/10.4314/ari.v4i3.48684>.
- Vered, M., Gertler, A., and Burstein, Y. 1981. Inhibition of porcine elastase II by chicken ovooinhibitor. *Int. J. Pept. Protein Res.* 18, 169–179. <https://doi.org/10.1111/j.1399-3011.1981.tb02055.x>.
- Wahyu, J. 1997. *Ilmu Nutrisi Unggas*. Edisi Keempat. Yogyakarta: Universitas Gajah Mada Press.
- Wakchaure, R., and Ganguly, S. 2015. Marker Assisted Selection (MAS) in Animal Breeding: A Review. *Journal of Drug Metabolism & Toxicology*, 06(05). <https://doi.org/10.4172/2157-7609.1000e127>
- Wang, B., Zhao, J. M., Song, L. S., Zhang, H., Wang, L. L., Li, C. H., Zheng, P. L., Zhu, L., Qiu, L. M., and Xing, K. Z. 2008. Molecular cloning and expression of a novel Kazal-type serine proteinase inhibitor gene from Zhikong scallop *Chlamys farreri*, and the inhibitory activity of its recombinant domain. *Fish Shellfish Immunol.* 24 (5), 629–637.
- Wang, X., Ford, B. C., Praul, C. A., and Leach, R. M., Jr. 2002. Collagen X expression in oviduct tissue during the different stages of the egg laying cycle. *Poultry Science*. 81(6), 805–808.
- Well, D.N., Misica, P.M., and Tervit, H.R. 1998. Future opportunities in livestock production and biomedicine from advances in animal cloning. *Proceedings of New Zealand Society of Animal Production*. 58: 32-35.
- Wolc A., Kranis A., and Settar P. 2016. Implementation of genomic selection in the poultry industry. *Animal Frontiers*. 6(1):23–31. doi: 10.2527/af.2016-0004.
- Yang, A. F., Zhou, Z. C., Dong, Y., Jiang, B., Wang, X. Y., Chen, Z., Guan, X. Y., Wang, B., and Sun, D. P. 2010. Expression of immune-related genes in embryos and larvae of sea cucumber *Apostichopus japonicus*. *Fish Shellfish Immunol.* 29 (5), 839–845.
- Yang, W., Bei, X., Liu, M., and Qi, X. 2015. Intronic Promoter-Mediated Feedback Loop Regulates Bean PvSR2 Gene Expression. *Biochemical and Biophysical Research Communications*. 463 (4): 1097–1101. doi:10.1016/j.bbrc.2015.06.064.
- Yen, C. F., Lin, E. C., Wang, Y.H., Wang, P.H., Lin, H.W., Hsu, J.C., Wu, L. S., Jiang, Y.N., and Ding, S. T. 2009. Abundantly Expressed Hepatic Genes and Their Differential Expression in Liver of Prelaying and Laying Geese. *Poultry Science*. 88 (9): 1955–1962. doi:10.3382/ps.2008-00473.
- Yuwanta, T. 2004. *Dasar Ternak Unggas*. Penerbit Kanisius. Yogyakarta. p. 50



Yuwanta, T. 2007. *Telur dan Produksi Telur*. Universitas Gadjah Mada Press, Yogyakarta.

Zhu, Y. F., Wang, M., Lin, H., Li, Z., and Luo, J. 2001. Identification of estrogen-responsive genes in chick liver. *Cell Tissue Res.* 305 (3), 357–363.

Zita, L., Tumova, E., and Stolc, L. 2009. Effects of genotype, age and their interaction on egg quality in brown-egg laying hens. <https://doi.org/10.2754/avb200978010085>. *Acta Veterinaria*. 78:85-91.