

## DAFTAR PUSTAKA

- Afriani, T., Agusta, M. P., Yurnalis, Y., Arlina, F., & Putra, D. E. (2019). Estimasi dinamika populasi dan pembibitan sapi potong di kecamatan bayang kabupaten pesisir selatan. *Jurnal Peternakan Indonesia (Indonesian Journal Of Animal Science)*, 21(2), 130. <Https://Doi.Org/10.25077/Jpi.21.2.130-142.2019>
- Ahad, W., Andrabi, M., A. Beigh, S., A. Bhat, R., & Shah, R. A. (2017). Applications of myostatin (MSTN) gene in the livestock animals and humans: a review. *International Journal Of Current Microbiology And Applied Sciences*, 6(8), 1807–1811. <Https://Doi.Org/10.20546/Ijcmas.2017.609.222>
- Aini, K., Suharyati, S., & Hartono, M. (2014). Pengaruh jarak straw dengan nitrogen cair pada proses pre freezing terhadap kualitas semen beku sapi limousin. *Jurnal Ilmiah Peternakan Terpadu*, 2(3).
- Al-Shuaib, M. B. S., Al-Lamy, S. M. A., Al-Tayy, H. M. A., Al-Thuwaini, T. M., & Radhi, A. H. (2018). Single nucleotide polymorphism (SNP) of leptin gene in holstein cattle. *The Thai Journal Of Veterinary Medicine*, 48(2), 187–201. <Https://Doi.Org/10.56808/2985-1130.2902>
- Al-Shuaib, M. B. S., & Hashim, H. O. (2023). Mastering DNA chromatogram analysis in sanger sequencing for reliable clinical analysis. *Journal Of Genetic Engineering And Biotechnology*, 21(1), 115. <Https://Doi.Org/10.1186/S43141-023-00587-6>
- Amanda, K., Sari, R., & Apridamayanti, P. (2019). Optimasi suhu annealing proses pcr amplifikasi gen SHV bakteri *Escherichia coli* pasien ulkus diabetik. *Jurnal Mahasiswa Farmasi Fakultas Kedokteran UNTAN*, 4(1), 150–159.
- Anwar, S., Khaerunnisa, I., Maulana, T., Wulandari, A. S., Volkandari, S. D., Prihatin, K. W., Krisnawati, T., Putra, W. P. B., Sophian, E., & Said, S. (2023). Status of the F94L mutation of the myostatin gene in cattle breeds in indonesia. *AIP Conference Proceedings* (Vol. 2606, No. 1, p. 040015). <Https://Doi.Org/10.1063/5.0118379>

Anwar, S., Volkandari, S. D., Wulandari, A. S., Putra, W. P. B., Sophian, E., & Said, S. (2020). Detection of F94L mutation of the *mstn* gene in four indonesian local cattle breeds. *Journal Of The Indonesian Tropical Animal Agriculture*, 45(1), 7–14. <Https://Doi.Org/10.14710/Jitaa.45.1.7-14>

Artati, D., & Lubis, D. S. (2017). Optimasi performa DNA marker pada elektroforesis gel. *Buletin Teknik Litkayasa Akuakultur*, 15(2), 47. <Https://Doi.Org/10.15578/Blta.15.2.2017.47-50>

Arthur, P. (1995). double muscling in cattle: a review. *Australian Journal Of Agricultural Research*, 46(8), 1493. <Https://Doi.Org/10.1071/AR9951493>

Asser, A., Rezkyanti, A., Ningsih, D. W., Syarifuddin, S., & Firmaty, S. (2024). Pengaruh molasses multi nutrient soft (MMS) terhadap upaya mengatasi silent heat pada sapi limousin: the effect of multi nutrient soft (MMS) molasses on efforts to overcome silent heat in limousine cow. *Jurnal Agrisistem*, 19(2), 55–59. <Https://Doi.Org/10.52625/J-Agr.V19i2.283>

Aulia, S. L., Suwignyo, R. A., & Hasmeda, M. (2021). Optimasi suhu annealing untuk amplifikasi DNA padi hasil persilangan varietas tahan terendam dengan metode polymerase chain reaction. *Sainmatika: Jurnal Ilmiah Matematika Dan Ilmu Pengetahuan Alam*, 18(1), 44. <Https://Doi.Org/10.31851/Sainmatika.V17i3.5805>

Bi, Y., Feng, B., Wang, Z., Zhu, H., Qu, L., Lan, X., Pan, C., & Song, X. (2020). *Myostatin (MSTN)* gene indel variation and its associations with body traits in shaanbei white cashmere goat. *Animals*, 10(1), 168. <Https://Doi.Org/10.3390/Ani10010168>

Bordbar, F., Jensen, J., Zhu, B., Wang, Z., Xu, L., Chang, T., Xu, L., Du, M., Zhang, L., Gao, H., Xu, L., & Li, J. (2019). Identification of muscle-specific candidate genes in simmental beef cattle using imputed next generation sequencing. *PLOS ONE*, 14(10), E0223671. <Https://Doi.Org/10.1371/Journal.Pone.0223671>

Bruno, S., Landi, V., Senczuk, G., Brooks, S. A., Almathen, F., Faye, B., Gaouar, S. S. B., Piro, M., Kim, K. S., David, X., Eggen, A., Burger, P., & Ciani, E. (2022). Refining the camelus dromedarius *myostatin* gene polymorphism through worldwide whole-genome sequencing. *Animals*, 12(16), 2068. <Https://Doi.Org/10.3390/Ani12162068>

Casas, E., Keele, J. W., Shackelford, S. D., Koohmaraie, M., Sonstegard, T. S., Smith, T. P., Kappes, S. M., & Stone, R. T. (1998). Association of the muscle hypertrophy locus with carcass traits in beef cattle. *Journal Of Animal Science*, 76(2), 468. <Https://Doi.Org/10.2527/1998.762468x>

Casas, E., & Kehrli, M. E. (2016). A review of selected genes with known effects on performance and health of cattle. *Frontiers In Veterinary Science*, 3. <Https://Doi.Org/10.3389/Fvets.2016.00113>

Cassar-Malek, I., & Picard, B. (2016). Expression marker-based strategy to improve beef quality. *The Scientific World Journal*, 2016, 1–11. <Https://Doi.Org/10.1155/2016/2185323>

Ciepłoch, A., Rutkowska, K., Oprządek, J., & Poławska, E. (2017). Genetic disorders in beef cattle: a review. *Genes & Genomics*, 39(5), 461–471. <Https://Doi.Org/10.1007/S13258-017-0525-8>

Crossley, B. M., Bai, J., Glaser, A., Maes, R., Porter, E., Killian, M. L., Clement, T., & Toohey-Kurth, K. (2020). Guidelines for sanger sequencing and molecular assay monitoring. *Journal Of Veterinary Diagnostic Investigation*, 32(6), 767–775. <Https://Doi.Org/10.1177/1040638720905833>

Dehairs, J., Talebi, A., Cherifi, Y., & Swinnen, J. V. (2016). CRISP-ID: Decoding CRISPR mediated indels by sanger sequencing. *Scientific Reports*, 6(1). <Https://Doi.Org/10.1038/Srep28973>

Elena Ermilova, E. M. (2015). Sequencing and expression analysis of the gene encoding PII signal protein in *Chlorella variabilis* NC64A. *Journal Of Plant Biochemistry & Physiology*, 03(01). <Https://Doi.Org/10.4172/2329-9029.1000142>

Gaina, C., & Amalo, F. (2022). Genetic polymorphism of *myostatin* gene in sumba ongole (*Bos indicus*) cattle and its association with growth traits. *Journal Of Advanced Veterinary And Animal Research*, 9(4), 565. <Https://Doi.Org/10.5455/Javar.2022.I625>

Grade, C. V. C., Mantovani, C. S., & Alvares, L. E. (2019). *Myostatin* gene promoter: structure, conservation and importance as a target for muscle modulation. *Journal Of Animal Science And Biotechnology*, 10(1), 32. <Https://Doi.Org/10.1186/S40104-019-0338-5>

- Grobet, L., Poncelet, D., Royo, L. J., Brouwers, B., Pirottin, D., Michaux, C., Ménissier, F., Zanotti, M., Dunner, S., & Georges, M. (1998). Molecular definition of an allelic series of mutations disrupting the *myostatin* function and causing double-muscling in cattle. *Mammalian Genome*, 9(3), 210–213. <Https://Doi.Org/10.1007/S003359900727>
- Guo, B., Greenwood, P. L., Cafe, L. M., Zhou, G., Zhang, W., & Dalrymple, B. P. (2015). Transcriptome analysis of cattle muscle identifies potential markers for skeletal muscle growth rate and major cell types. *BMC Genomics*, 16(1), 177. <Https://Doi.Org/10.1186/S12864-015-1403-X>
- Gupta, N. (2019). DNA extraction and polymerase chain reaction. *Journal Of Cytology*, 36(2), 116. [Https://Doi.Org/10.4103/JOC.JOC\\_110\\_18](Https://Doi.Org/10.4103/JOC.JOC_110_18)
- Hashim, H. O., & Al-Shuaib, M. B. (2019). Exploring the potential and limitations of PCR-RFLP and PCR-SSCP for SNP detection: a review. *Journal Of Applied Biotechnology Reports*, 6(4), 137–144. <Https://Doi.Org/10.29252/JABR.06.04.02>
- Heather, J. M., & Chain, B. (2016). The sequence of sequencers: the history of sequencing DNA. *Genomics*, 107(1), 1–8. <Https://Doi.Org/10.1016/J.Ygeno.2015.11.003>
- Jakaria, J., Ladhunka Nur Aliyya, W., Ismail, R., Yuni Siswanti, S., Fakhrul Ulum, M., & Priyanto, R. (2021). Discovery of SNPs and indel 11-bp of the *myostatin* gene and its association with the double-muscled phenotype in belgian blue crossbred cattle. *Gene*, 784, 145598. <Https://Doi.Org/10.1016/J.Gene.2021.145598>
- Kementerian Perdagangan. (2014). *Laporan ringkas: analisis outlook pangan 2015-2019*. Pusat Kebijakan Perdagangan Dalam Negeri, Kementerian Perdagangan.
- Kementerian Pertanian. (2023). *Pusat data dan sistem informasi pertanian: outlook komoditas peternakan daging sapi*. Kementerian Pertanian.
- Khasanah, H., Gunawan, A., Priyanto, R., Ulum, M. F., & Jakaria, J. (2016). Polymorphism Of *Myostatin (MSTN)* Promoter gene and its association with growth and muscling traits in bali cattle. *Media Peternakan*, 39(2), 95–103. <Https://Doi.Org/10.5398/Medpet.2016.39.2.95>

Khichar, J. P., Gahlot, G. C., Agrawal, V. K., Kiran, Dewna, A. S., Prakash, & Ashraf, M. (2016). Molecular characterization of exon 3 of caprine *myostatin* gene in marwari goat. *Veterinary World*, 9(6), 676–679. <Https://Doi.Org/10.14202/Vetworld.2016.676-679>

Konovalova, E., Romanenkova, O., Zimina, A., Volkova, V., & Sermyagin, A. (2021). Genetic variations and haplotypic diversity in the *myostatin* gene of different cattle breeds in russia. *Animals*, 11(10), 2810. <Https://Doi.Org/10.3390/Ani11102810>

Ma'arif, N., Hanum Isfaeni, & Gunawan, A. (2023). Analisis keanekaragaman gen *myostatin* (*MSTN*) secara in-silico pada cattle di indonesia. *Bioma*, 19(1), 25–31. [Https://Doi.Org/10.21009/Bioma19\(1\).3](Https://Doi.Org/10.21009/Bioma19(1).3)

Macedo, D. B., Santos Correa, R. M. D., Pereira Coelho, H. J., Damasceno De Barros, B. R., Farias, M. G., Santos, K., & Nunes Rodrigues, M. D. (2025). Mutations in GDF8 gene in double-muscled cattle breeds: an overview of mechanisms of action and its relevance to livestock production. *International Journal Of Molecular Biology Open Access*, 8(1), 20–25. <Https://Doi.Org/10.15406/Ijmboa.2025.08.00193>

Mawaddah, R., Lestari, P., & Karima, R. (2022). Optimasi metode sanger sequencing untuk deteksi polimorfisme gen *MTHFR* (*C677t*) pada pasien LLA anak. 150–159.

Mckimmie, C., Amirpour Najafabadi, H., Alizadeh, H., & Hickford, J. (2024). Evaluating the potential of double-muscled angus sires to produce progeny from dairy cows to meet premium beef brand specifications. *Applied Sciences*, 14(15), 6440. <Https://Doi.Org/10.3390/App14156440>

Ota, M., Fukushima, H., Kulski, J. K., & Inoko, H. (2007). Single nucleotide polymorphism detection by polymerase chain reaction-restriction fragment length polymorphism. *Nature Protocols*, 2(11), 2857–2864. <Https://Doi.Org/10.1038/Nprot.2007.407>

Pradana, T., Ikhtiarini, S. D., & Sandy Supriyadi, M. D. B. (2024). Implementasi metode AHP & SAW dalam SPK pemilihan bibit sapi uggul limousin berbasis website. *Spirit*, 16(2). <Https://Doi.Org/10.53567/Spirit.V16i2.364>

Prihatin, K. W. (2023). Dua dekade sapi limousin di indonesia: perkembangan estimasi nilai pemuliaan pejantan dan informasi genotip terkini pejantan sapi limousin di BBIB singosari. *Prosiding Seminar Nasional Teknologi Agribisnis Peternakan (STAP)*, 10, 8–13.

Putri, R. F., Widodo, N., Kuswati, & Suyadi, S. (2021). The potential of growth traits between limousin and ongole crossbred (PO) cattle at tuban, indonesia. *IOP Conference Series: Earth And Environmental Science*, 788(1), 012024. [Https://Doi.Org/10.1088/1755-1315/788/1/012024](https://doi.org/10.1088/1755-1315/788/1/012024)

Sanger, F., Nicklen, S., & Coulson, A. R. (1977). DNA sequencing with chain-terminating inhibitors. *Proceedings Of The National Academy Of Sciences*, 74(12), 5463–5467. [Https://Doi.Org/10.1073/Pnas.74.12.5463](https://doi.org/10.1073/pnas.74.12.5463)

Saragih, B. C., Sutrisno, J., & Fajarningsih, R. U. (2023). Analisis faktor-faktor yang mempengaruhi permintaan daging sapi di provinsi dki jakarta. *Agrista*, 11, 21–31.

Sasmito, D. E. K., Kurniawan, R., & Muhamm, I. (2014). Karakteristik primer pada polymerase chain reaction (pcr) untuk sekensing DNA: mini review. *Seminar Nasional Informatika Medis (SNIMed)* (pp. 93-102).

Schiavinato, M. (2023). JLOH: inferring loss of heterozygosity blocks from sequencing data. *Computational And Structural Biotechnology Journal*, 21, 5738–5750.

Shi, H., Li, W., & Xu, X. (2016). Learning the base sequence quality and content of bioinformatics analysis method. *Proceedings Of The 2016 4th International Conference On Management, Education, Information And Control (MEICI 2016)*, Shenyang, China. [Https://Doi.Org/10.2991/Meici-16.2016.118](https://doi.org/10.2991/meici-16.2016.118)

Shirasawa, K., Hirakawa, H., & Isobe, S. (2016). Analytical workflow of double-digest restriction site-associated DNA sequencing based on empirical and *in silico* optimization in tomato. *DNA Research*, 23(2), 145–153. [Https://Doi.Org/10.1093/Dnares/Dsw004](https://doi.org/10.1093/dnare/Dsw004)

Sivaraman, B., Jeyasekaran, G., Jeya Shakila, R., Alamelu, V., Wilwet, L., Aanand, S., & Sukumar, D. (2018). PCR-RFLP for authentication of different species of processed snappers using mitochondrial d-loop region by single enzyme. *Food Control*, 90, 58–65. <Https://Doi.Org/10.1016/J.Foodcont.2018.02.028>

Socheh, M., & Purbojo, S. W. (2018). Pengaruh bangsa sapi potong terhadap bobot potong, bobot karkas, dan persentase karkas. *Prosiding Seminar Teknologi dan Agribisnis Peternakan VI: Pengembangan Sumber Daya Genetik Ternak Lokal Menuju Swasembada Pangan Hewani ASUH, Fakultas Peternakan Universitas Jenderal Soedirman* (Vol. 7).

Sutarno, S., & Setyawan, A. D. (2015). Review: genetic diversity of local and exotic cattle and their crossbreeding impact on the quality of indonesian cattle. *Biodiversitas Journal Of Biological Diversity*, 16(2). <Https://Doi.Org/10.13057/Biodiv/D160230>

Tyagi, P., & Bhide, M. (2020). History of DNA sequencing. *Folia Veterinaria*, 64(2), 66–73. <Https://Doi.Org/10.2478/Fv-2020-0019>

Wadood, A. A., Sadia, H., Yangqing, L., Hussain, T., Safdar, M., Shahzad, Q., Ashiq, K., Ali, A., & Ashiq, S. (2019). Identification of variations in the coding region of *myostatin (MSTN)* gene of thalli and pak-karakul sheep breed in pakistan. *Journal Of Microbiology, Biotechnology And Food Sciences*, 9(2), 335–337. <Https://Doi.Org/10.15414/Jmbfs.2019.9.2.335-337>

Williams, R. C. (1989). Restriction fragment length polymorphism (RFLP). *American Journal Of Physical Anthropology*, 32(S10), 159–184. <Https://Doi.Org/10.1002/Ajpa.1330320508>

Yuliwulandari, R., Prayuni, K., Kenconoviyati, Susilowati, R. W., & Sofro, A. S. M. (2015). Pengembangan metode in-house HLA-Typing gen HLA kelas I (HLA A, HLA B, dan HLA C) menggunakan next generation sequencing illumina miseq. *Majalah Kedokteran Bandung*, 47(3), 152–159. <Https://Doi.Org/10.15395/Mkb.V47n3.389>

Zhang, Y., Wang, K., Liu, J., Zhu, H., Qu, L., Chen, H., Lan, X., Pan, C., & Song, X. (2019). An 11-bp indel polymorphism within the CSN1S1 gene is associated with milk performance and body measurement traits in chinese goats. *Animals*, 9(12), 1114. <Https://Doi.Org/10.3390/Ani9121114>

Zhao, X., Ni, W., Chen, C., Sai, W., Qiao, J., Sheng, J., Zhang, H., Li, G., Wang, D., & Hu, S. (2016). Targeted editing of *myostatin* gene in sheep by transcription activator-like effector nucleases. *Asian-Australasian Journal Of Animal Sciences*, 29(3), 413–418. <Https://Doi.Org/10.5713/Ajas.15.0041>

Zhao, Y., Yang, L., Su, G., Wei, Z., Liu, X., Song, L., Hai, C., Wu, D., Hao, Z., Wu, Y., Zhang, L., Bai, C., & Li, G. (2022). Growth traits and sperm proteomics analyses of *myostatin* gene-edited chinese yellow cattle. *Life*, 12(5), 627. <Https://Doi.Org/10.3390/Life12050627>

