

## DAFTAR PUSTAKA

- Abdoli, R., S.Z. Mirhoseini, N.G. Hossein-Zadeh, P. Zamani, M.H. Moradi, M.H. Ferdosi, and C. Gondro. 2019. Genome-wide association study of first lambing age and lambing interval in sheep. Small Ruminant Research 178: 43-45.
- Abdel-Rahman S. M., Mustafa Y. A., Abd Errasool H. A., ElHanafy A. A. and Elmaghraby A. M. 2013. Polymorphism in BMP-15 gene and its association with litter size in Anglo-Nubian goat. Biotechnology in Animal Husbandry. 29(4): 675–683.
- Abood, H.K., F. Jasim, and S. Ghanim. 2016. Comparative study of serum protein status of local breeds sheep and goats in Basra Province. Al-Qadisiyah Journal of Vet. Met.Sci. 15(2): 16-19
- Adjisoedarmo, S., B. Purnomo, E. A. Marmono, A. T. Ari Sudewo dan S. A. Santosa. 1997. Menciptakan Bibit Domba Lokal Berkualitas Unggul Melalui Seleksi. Laporan Penelitian HB II/4. Fakultas Peternakan Unsoed. Purwokerto.
- Ahlawat S, Sharma R, Roy M, Mandakmale S, Prakash V, Tantia MS. 2016. Genotyping of novel SNPs in BMPR-1B, BMP-15, and GDF9 genes for association with prolificacy in seven Indian goat breeds. Anima Biotech. 27(3): 199–207.
- Analla, M., A. Munoz-Serrano, and J.M. Serradilla. 1997. Analysis of the genetic relationship between *litter size* and weight traits in Segurena ewe. Can. J. Anim. Sci. 17-21.
- Analla, M., J.M. Montila, dan J.M. Serradilla. 1998. Analyses of ewe weight and ewe *litter size* in various lines of Spanish Merino Ewe. Small Ruminant Research 29:255-259.
- Andara, G., M. Y. Sumaryadi dan D. M. Saleh. 2022. Pengaruh Tingkat Prolifikasi terhadap Kadar Hematologis Domba Batur. Journal of Animal Science and Technology 4(1) : 139-151
- Astuti DA, Ekastuti DR, Marwah, Suryani. 2006. Status Nutrien dan Gambaran Darah Domba Lokal Yang Dipelihara di Hutan Pendidikan Gunung Walat Sukabumi. Di dalam: Pusat Penelitian dan Pengembangan Peternakan. Seminar nasional teknologi peternakan dan veteriner; 2010 Jan 14; Bogor, Indonesia
- Atmaja, D.S., E Kurnianto, dan B. Sutiyono. 2012. Ukuran-ukuran Tubuh Domba Betina Beranak Tunggal dan Kembar di Kecamatan Bawen dan Jambu Kabupaten Semarang. Animal Agricultural Journal 1(1): 123-133.
- Awemu, E.M., L.N. Nwakalor, dan B.Y. Abubakar. 2000. Environmental Influences On Age At First Lambing and Lambing Interval In Yankasa Sheep. Journal of Tropical Agriculture, Food, Environment and Extension 1(1): 100-104.
- Ballmer PE. 2001. Causes and Mechanisms Of Hypoalbuminaemia. J Clin Nut. 20:271-273.
- Baratawidjaja, K. G. (2006). Sel-sel Sistem Imun. Imunologi Dasar. Edisi 3. Gaya Baru. Jakarta.
- Batubara A, Elieser S, Sumantri C. 2016. Study of BMP15 gene polymorphism in Boer, 224–230. Kacang, and Boerka goats. Jurnal Ilmu Ternak dan Veteriner. 21(4): 224–230. <https://doi.org/10.14334/jitv.v21i4.1636>

- Bodensteiner K. J., Clay C. M., Moeller C. L., Sawyer H. R. 1999. Molecular cloning of the ovine Growth/Differentiation factor-9 gene and expression of growth/differentiation factor-9 in ovine and bovine ovaries. *Biol Reprod.* 60:381–386.
- Bodin, L., Lecerf, F., Pisseelet, C., SanCristobal, M., Bibe, B., Mulsant, P., 2003. How many mutations are associated with increased ovulation rate and litter size in progeny of Lacaune meat sheep? In: Proceedings of the International Workshop on Major Genes and QTL in Sheep and Goats, Toulouse, France, 8–11 December 2003, CD-ROM communication no. 2-11 (4pp).
- Bodin L, et al. 2007. A novel mutation in the bone morphogenetic protein 15 gene causing defective protein secretion is associated with both increased ovulation rate and sterility in Lacaune sheep *Endocrinology* 148 (1) : 393-400.
- Bradford, G. E., I. Inounu, L. C. Iniguez, B. Tiesnamurti and D. L. Thomas. 1991. The Prolificacy Gene of Javanese Sheep. In : J.M. Elsen, L. Bodin and J. Thimonier (Ed.). Major Gene for Reproduction in Sheep. Proc. 2nd Int. Workshop, Tolouse, France.
- Bradford, G. E., J. F. Quirke, P. Sitorus, I. Inounu, Best, T., F. C. Bell and D. T. Torell. 1993. Genetic basis of prolificacy in three Javanese sheep: A progress report. Prosiding penelitian pertemuan ruminansia Puslitbangnak. Bogor.
- Brook, A.N, I.SI. Currie, F. Gibson, G.B. Thomas. Neuroendocrine regulation of ewe fetuses. *J. Reprod. Fertil. Suppl.* 45: 69-84.
- Bromley CM, LD Van Vleck and GD Snowder. 2001. Genetic correlations for litter weight weaned with growth, prolificacy, and wool traits in Columbia, Polypay, Rambouillet, and Targhee sheep. *J. Anim. Sci.* 79:339t346.
- Bunok, D.K.I., M.Th.R. Lapian, V.R.W. Rawung, dan G.D.C. Rembet. 2020. Hubungan Bobot Lahir Anak Babi dengan Pertambahan Bobot Badan, Bobot Sapih, Mortalitas, dan Litter Size Sapihan Pada Peternakan PT. Karya Prospek Satwa. *Zootec* 40(1): 260-270.
- Canul-Solis, J., J.C. Angeles-Hernandez, R.A. Garcia-Herrera, O.E. del Razo-Rodriguez, H.A. Lee Rangel, A.T. Pineiro-Vazquez, F. Casanova-Lugo, C.A.R. Nieto, dan A.J. Chay-Canul. 2020. Estimation of body weight in hair ewes using an indirect measurement method. *Tropical Animal Health and Production*.
- Casas E, BA Freking and KA Leymaster. 2005. Evaluation of Dorset, Finnsheep, Romanov, Texel, and Montadale breeds of sheep: V. Reproduction of F1 ewes in spring mating seasons1. *J. Anim. Sci.* 83:2743-2751.
- Casellas J, G Caja, A Ferret and J Piedrafita. 2007. Analysis of litter size and days to lambing in the Ripollesa ewe. II. Estimation of variance components and response to phenotypic selection on litter size. *J. Anim. Sci.* 85:625t631.
- Cemal, I. and Karaca, O. 2007. Phenotypic and genetic parameters for litter size in some regional synthetic sheep genotypes: Evidence for a major gene effect. *J. Biol. Sci.* 7 (1) : 5256.
- Chan, A. 2004. An analysis of pairwise sequence alignment algorithm complexities: Needleman-Wunsch, Smith-Waterman, FASTA, BLAST and gapped BLAST California(US) :Stanford University
- Chen, D., M. Zhao dan G. R. Mundy. 2004. Bone morphogenetic proteins. *Growth Factors* 22(4):233-241.
- Chu, M., L. Jia, Y. Zhang, M. Jin, H. Chen, L. Fang, R. Di, G. Cao, T. Feng, Q. Tang, Y. Ma, dan K. Li. 2011. Polymorphisms of coding region of BMPR-IB gene and their relationship with litter size in ewe. *Mol. Bio. Rep.* 38: 4071-4076.

- Chu, M.X., Z.H. Liu, C.L. Jiao, Y.Q. He, L. Fang, S.C. Ye, G.H. Chen, dan J.Y. Wang. 2007. Mutations in BMPR-1B and BMP-15 genes are associated with litter size in small tailed Han ewe (*Ovis aries*). *Journal of Animal Science* 85(3):598-603.
- Conington J, SC Bishop, AW Waterhouse and G Simm. 2004. A bioeconomic approach to derive economic values for pasturebased sheep genetic improvement programs. *J. Anim. Sci.* 82:1290t 1304.
- Corner, A.A., F.J. Mulvaney, S.T. Morris, D.M. Wet, P.C.H. Morel, dan P.R.Kenyon. 2013. A Comparison of the reproductive performance of ewe ewes and mature ewes. *Small Ruminant Research* 144:126-133.
- Cunningham, J. G. 2002. *Textbook of Veterinary Phisiology*. New York (USA): Saunders.
- Davis, G.H., S.M. Galloway, I.K. Ross, S.M. Gregan, J. Ward, B.V. Nimbkar, P.M. Ghalsasi, C. Nimbkar, G.D. Gray, Subandriyo, I. Inounu, B. Tiesnamurti, E. Martyniuk, E. Eythorsdottir, P. Mulsant, F. Lecerf, J.P. Hanrahan, G.C. Bradford dan T. Wilson. 2002. DNA Test In Prolific Sheep From Eight Countries Provide New Evidence On Origin Of The Booroola (Fecb) Mutation. *Biol. Reprod.* 66: 18691874.
- Davis, G.H. 2004. Fecundity genes in sheep. *Anim. Reprod. Sci.* 82-83: 247–253.
- Davis, G.H. 2005. Major genes affecting ovulation rate in sheep. *Genet. Sel. Evol.* 37 (Suppl. 1): S11-S23.
- Davis, G.H., P.A. Farquhar, A.R. O'connell, J.M. Everett-Hincks, P.J. Wishart, S.M. Galloway and K.G. Dodds. 2006. A putative autosomal gene increasing ovulation rate in Romney sheep. *Anim. Reprod. Sci.* 92: 65-73.
- Demars, J., Fabre, S., Sarry, J., Rossetti, R., Gilbert, H., Persani, L. & Bodin, L., 2013. Genome-wide association studies identify two Novel BMP15 mutations responsible for an atypical hyperprolificacy phenotype in sheep. *PLoS Genet.* 9, e1003482.
- Devendra C. dan M. Burns. 1994. *Produksi Kambing di Daerah Tropis*. Terjemahan: I. D. K. Harya Putra. Penerbit ITB. Bandung.
- Di Pasquale E, Beck-Peccoz P, Persani L. 2004. Hypergonadotropic ovarian failure associated with an inherited mutation of human bone morphogenetic protein-15 (BMP15) gene. *Am J Hum Genet.* 75:106–111
- Dixit H, Rao LK, Padmalatha VV, Kanakavalli M, Deenadayal M, Gupta N, Chakrabarty B, Singh L. Missense mutations in the BMP-15 gene are associated with ovarian failure. *Hum Genet.* 2006;119:408–415.
- Drouilhet, L., C. Mansanet, J. Sarry, K. Tabet, P. Bardou, F. Woloszyn, J. Lluch, G. Harichaux, C. Viguié, D. Monniaux, L. Bodin, P. Mulsant dan S. Fabre. 2013. The highly prolific phenotype of Lacaune sheep is associated with an ectopic expression of the B4GALNT2 gene within the ovary. *journal.pgen.1003809*. Epub 2013 Sep 26.
- Dube J. L., et al. 1998. The Bone morphogenetic protein 15 gene is X linked and expressed in oocytes. *Mol Endocrinol* 12 : 1809–1817.
- Edson M. A., Nalam R. C., Franco H. L., DeMayo F. J., Lyons K. M., Pangas S. A., and Matzuk M. M.. . 2010. Granulosa cell-expressed BMPR-1A and BMPR-1B

- have unique functions in regulating fertility but act redundantly to suppress ovarian tumor development. *Mol. Endocrinol.* 24:1251–1266.
- Elsen, J.M., L. Bodin and J. Thimonier, 1991. Major Gene for Reproduction Sheep. INRA Paris.
- Eppig J. J. 2001. Oocyte control of ovarian follicular development and function in mammals. *Reproduction* 122:829–838.
- Ferreira, P.M.P., D.F. Farias, J.T.A. Oliveira, & A.F.U. Carvalho. (2008). Moringa oleifera: Bioactive Compounds and Nutritional Potential. *Rev. Nutr., Campinas.* 21(4):431-437.
- Fogarty N. M. 2009. A review of the effect of the Booroola gene (FecB) on sheep production. *Small Ruminant Res.* 64, 305-10.
- Fowden, A.L., J. Szemere, P. Hughes, R.S. Gilmour, dan A.J. Forhead. The effects of cortisol on the growth rate of the ewe fetus during late gestation. *Journal of Endocrinology* 151: 97-105.
- Gagah, H. W., M. Yamin., H. Nuraini dan A. Esfandiari. 2016. Performans Produksi dan Profil Metabolik Darah Domba Garut dan Jonggol yang Diberi Limbah Tauge dan Omega-3. *Jurnal Veteriner.* 2 :246-256.
- Galloway S.M., McNatty K. P., Cambridge L. M., Laitinen M. P., Juengel J. L., Jokiranta T.S. , McLaren R. J., Luiro K., Dodds K. G., Montgomery G. W., Beattie A. E., Davis G. H., Ritvos O. 2000. Mutations in an oocyte-derived growth factor gene (BMP15) cause increased ovulation rate and infertility in a dosage-sensitive manner. *Nat Genet* 25:279–283.
- Ganong, W. F., M. D. Widjajakusumah dan M. Jauhari. 1999. Buku Ajar Fisiologi Kedokteran (Review Of Medical Physiology).
- Gardner, D.S., P.J. Buttery, Z. Daniel, dan M.E. Symods. 2007. Factors affecting birth weight in sheep: maternal environment. *Society for Reproduction and Fertility.Reproduction* 133:297-307.
- Glister, C., Satchell L., and Knight P. G... . 2010. Changes in expression of bone morphogenetic proteins (BMPs), their receptors and inhibin co-receptor betaglycan during bovine antral follicle development: inhibin can antagonize the suppressive effect of BMPs on thecal androgen production. *Reproduction.* 140:699–712.
- Guang XE, Huang YF, He JN, Ni WW, Zhao YJ. 2016. A963G single nucleotide variant of BMP15 is not common bio-marker for fecundity in goat. *Indian Journal Animal Research.* 50(3): 366–369.
- Gunawan, A., dan R.R. Noor. 2006. Pendugaan Nilai Heritabilitas Bobot Lahir dan Bobot Sapih Domba Garut Tipe Laga. *Media Peternakan* 29(1):7-15.
- Gusfarisa R.P., M. Mudawamah, Sumartono. 2020. Identifikasi total protein dan fraksi protein (Albumindan Glubolin) induk kambing peranakan etawah beranak kembar dan tunggal. *Jurnal Ternak Tropika.* 21(1): 44-49.
- Hakim, M.A.R., E. Susnto, dan D.W. ASpriati. 2019. Hubungan Jumlah Kelahiran Anak (*Litter Size*) terhadap Bobot Lahir, Mortalitas Selama Menyusu dan Bobot Sapih Anakan Kelinci Lokal. *IJASC* 2(3): 70-74.
- Handoyo, D. dan A. Rudiretna. 2000. Prinsip Umum dan Pelaksanaan Polymerase Chain Reaction (PCR). *Unitas* 9(1) : 17-29
- Hanrahan, J.P., S.M. Gregan, P. Mulsant, M. Mullen, G.H. Davis, R. Powell and S.M. Galloway. 2004. Mutations in the genes for oocytes derived growth factors

- GDF9 and BMP15 are associated with both increased ovulation rate and sterility in Cambridge and Belclare sheep (*Ovis aries*). *Biol. Reprod.* 70: 900–909.
- Hardjopranjoto, H. S. 1995. Ilmu Kemajiran pada Ternak. Surabaya (ID): Airlangga University Pr.
- Hartatik, T. 2021. Analisis Genetika Molekuler Sapi Madura. Gadjah Mada University Press. Yogyakarta
- Hernandez, F., L. Elvira, J. Gonzalez-Martin, A. Gonzalez-Bulnes, dan S. Astiz. 2011. Influence of age at first lambing on reproductive and productive performance of Lacaune dairy sheep under an intensive management system. *Journal of Dairy Research* 78:160-167.
- Ibrahim, A., I.G.S. Budisatria, R. Widiyanti, B.A. Atmoko, R. Yuniawan, dan W.T. Artama. On-Farm Body Measurements and Evaluation of Batur Sheep on Different Age and Sex in Banjarnegara Regency, Indonesia. *Advances in Animal and Veterinary Sciences* 8(10): 1028-1033.
- Inounu, I. B., B. Tiesnamurti, Subandriyo dan H. Martojo. 1999. Produksi anak pada domba prolifik. *Jurnal Ilmu Ternak* 4(3): 25-38.
- Jakaria, M.S.A. Zein, S. Sulandari, Subandriyo, dan Muladno. The Use Microsatellite Markers to Study Genetic Diversity In Indonesian Sheep. *J. Indonesian Trp. Anim. Agric.* 37(1): 1 – 9.
- Jalilian, M.T., dan M.M. Moeni. 2013. The effect of Body Condition Score and Body Weight of Sanjabi Ewes in Immune System, Productive and Reproductive Performance. *Acta Agriculturae Slovenica* 102(2): 99-106.
- Juengel J. L., Bodensteiner K. J., Heath D. A., Hudson N. L., Moeller C. L., Smith P., Galloway S. M., Davis G. H., Sawyer H. R., McNatty K. P. 2004a. Physiology of GDF9 and BMP15 signalling molecules. *Anim Reprod Sci.* 82–83:447–460
- Kasap, A., J. Ramljak, B. Mioc, V. Drzaic, I. Siric, and D. Jurkovic. 2021. The impact of age at first lambing on milk yield and lactation length in a population of Istrian Sheep under semi-intensive management. *Animal* 11(1604):1-10.
- Kaslow, J. E. 2010. Analysis of Serum Protein. Santa Ana (US): 720 North Tustin Avenue Suite 104.
- Kementerian Pertanian. 2011. Keputusan Menteri Pertanian Republik Indonesia Nomor 2916/Kpts/OT.140/6/2011 tanggal 17 Juni 2011 tentang penetapan Domba Batur sebagai rumpun ternak lokal Indonesia.
- Kementerian Pertanian. 2015. Keputusan Menteri Pertanian Nomor 353/Kpts/PK.040/6/2015 tentang penetapan Kabupaten Banjarnegara sebagai wilayah sumber bibit Domba Batur.
- Khotijah L., M.A. Setiadi, K. G. Wirawan dan D. A. Astuti .2015. Reproductive Performance, Cholesterol and Progesterone Status of Garut Ewes Fed Ration Containing Different Levels of Sun Flower Oil. *Pakistan Journal of Nutrition* 14(7): 388-391 DOI: 10.3923/pjn.2015.388.391
- Khotijah, L., Nurmiasih dan D. Diapari. 2020. Nutritional Intake, Blood Profile and Metabolites in Ewes Fed a Fat-Rich Diet of Vegetable Oils. *JINTP* 18(2) : 38-42.
- Laitinen M, Vuojolainen K, Jaatinen R, Ketola I, Aaltonen J, Lehtonen E, Heikinheimo M, Ritvos O. A novel growth differentiation factor-9 (GDF-9) related factor is co-expressed with GDF-9 in mouse oocytes during folliculogenesis. *Mech Dev.* 1998;78:135–140.

- Lee, W., Otsuka, F., Moore, R., & Shimasaki, S. (2001). Effect of bone morphogenetic protein-7 on folliculogenesis and ovulation in the rat. *Biology of Reproduction*, 65, 994–999.
- Lendrawati, R. Priyanto, M. Yamin, A. Jayanegara, W. Manalu, dan Desrial. 2019. Respon Fisiologis dan Penyusutan Bobot Badan Domba Lokal Jantan Terhadap Transportasi dengan Posisi Berbeda dalam Kendaraan. *Jurnal Agripet*. 19: 2.
- Mabyahaga, J., S.N.M. Mandiki, J.L. Bister, R. Paquay. 1998. Body Weight, oestrous and ovarian activity in local Burundian ewes and goats after parturition in the dry season. *Animal Reproduction Science* 51: 289-300.
- Mahilia, F. 2009. Pengaruh Umur Induk Saat Beranak Terhadap Produktivitas. Prosiding Seminar Nasional Teknologi Peternakan dan Veteriner. Bogor.
- Mahmilia, F dan S. Elieser. 2008. Korelasi Lama Bunting dengan Bobot Lahir, *Litter size* dan Daya Hidup Kambing Boerka-1. Prosiding Seminar Nasional Teknologi Peternakan dan Veteriner. Bogor.
- Marhaeniyanto, E. dan S. Susanti. 2016. Penggunaan Konsentrat Hijau untuk Meningkatkan Penampilan Domba Jantan Muda. Seminar Nasional Hasil Penelitian UNITRI 172-179
- Maria, G.A., dan M.S. Ascaso. Litter size, lambing interval and lam mortality of Salz, Rasa Aragonesa, Ramanov and F1 ewes on accelerated lambing management. *Small Ruminant Research* 32: 167-172.
- Maskur dan C. Arman. 2009. Identifikasi Mutasi gen BMPR-1B dan BMP-15 pada Domba Ekor. *Gemuk. JITV* 15(1): 16-21.
- McNatty KP, Juengel JL, Reader KL, Lun S, Myllymaa S, Lawrence SB, Western A, Meerassahib MF, Mottershead DG, Groome NP, Ritvos O, Laitinen MPE. 2005c. Bone morphogenetic protein 15 and growth differentiation factor 9 co-operate to regulate granulosa cell function in ruminants. *Reproduction*. 129:481–487.
- Mellado, M., C.A. Meza-Herrera, J.R. Arevalo, M.A. De Santiago-Miramontes, A. Rodriguez, J. R. Luna-Orozco, and F.G. Veliz-Deras. 2011. Relationship between litter birthweight and b in five goat genotypes. *Animal Production Science* 51:144-149.
- Miyoshi, G., Butt, S. J., Takebayashi, H. and Fishell, G. 2007. Physiologically distinct temporal cohorts of cortical interneurons arise from telencephalic Olig2-expressing precursors. *J. Neurosci.* 27, 7786-7798.
- Montgomery, G.W., A.M. Crawford, J.M. Penty, K.G. Dodds, A.J. Ede, H.M. Henry, C.A. Pierson, E.A. Lord, S.M. Galloway, A.E. Schmack, J.A. Sise, P.A. Swarbrick, V. Hanrahan, F.C. Buchanan and D.F. Hill. 2001. The ovine Booroola fecundity gene (FecB) is linked to markers from a region of human chromosome 4q. *Nat. Genet.* 4: 410–414.
- Mudawamah M., G. R. Putri., Sumartono dan G. Ciptadi. 2021. Comparison of Serum Protein Profile in Indonesian Local Ettawah Goats with Single and Twin Offsprings using SDS-Page. The 11<sup>th</sup> International Conference on Global Resource Conservation. IOP Conf. Series : Earth and Environmental Scinece 743.012039: 1-6
- Murdani, K., B.P. Purwanto, dan A. Atabany. 2017. Umur Beranak Pertama terhadap Produktivitas Sapi Perah Periode Laktasi Pertama dan Selang Beranak Pertama. *Jurnal Ilmu Produksi dan Teknologi Hasil Pertanian* 5(3): 122-126.
- Murray R. K., D. K. Granner dan V. W. Rodwell. 2003. Biokimia Harper. Ed ke-25. A. Hartono A, Bani AP, TMN Sikumbang, penerjemah. Jakarta (ID): EGC.

- Muryanto, H. Kurnianto, dan A. Malik. 2019. Potensi, Permasalahan dan Alternatif Pelestarian dan Pengembangan Domba Batur. Prosiding Seminar Nasional Kesiapan Sumber Daya Pertanian dan Inovasi Spesifik Lokasi Memasuki Era Industri 4.0. Semarang.
- Muryanto., H. Kurnianto, dan A. Malik. 2020. Potensi, Permasalahan dan Alternatif Pelestarian dan Pengembangan Domba Batur. Prosiding Seminar Nasional Kesiapan Sumber Daya Pertanian dan Inovasi Spesifik Lokasi Memasuki Era Industri 4.0, Balai Pengkajian Teknologi Pertanian, Jawa Tengah. p 359-365.
- Nagdy H., K. G. M Mohamoud, M. M. M. Kandiel, N. A. Helmy, S. S. Ibrahim, Nawito MF, Othman E, Othman OE. PCR-RFLP gen bone morphogenetic protein 15 (BMP-15/FecX) sebagai kandidat prolififikasi pada domba. *Int J Dokter Hewan Sci Med.* 2018; 6 :68–72
- Najmuddin, M., dan M. Nasich. 2019. Produktivitas Induk Domba Ekor Tipis di Desa Sedan Kecamatan Sedan Kabupaten Rembang. *Journal of Tropical Animal Production* 20(1): 76-83.
- Nei, M. 1978. The theory of genetic distance and evolution of human races. *Japanese Journal of Human Genetics*, 23(4), 341–369.
- Newton, C. R. dan A. Graham. 1994. PCR. UK: Bios Scientific Publisher.
- Ndlovu, T., M. Chimonyo, A. I. Okoh, V. Muchenje, K. Dzama dan J. G. Raats. 2007. Assessing the nutritional status of beef cattle: current practices and future prospects. *African Journal of Biotechnology*, Vol. 6 (24): 2727-2734
- Nguyen H.X., T.L. Huynh, T.N. Nguyen. 2018. Blood biochemical profiles of brahman crossbred cattle supplemented with different protein and energy sources. *Veterinary World*. 9 (21):1021-1024
- Notter DR. 2002. Opportunities to reduce seasonality of breeding in sheep by selection. *Sheep Goat Res. J.* 17:20t32.
- Noviani, F., Sutopo, dan E. Kurnianto. Hubungan Genetik antara Domba Wonosobo (Dombos), Domba Ekor Tipis (DET) dan Domba Batur (Dombat) Melalui Analisis Polimorfisme Protein Darah. *Sains Peternakan* 11(1):1-9.
- Nugroho, S., S. Akbar, dan R. Vusvitasari. Kajian Hubungan Koefisien Korelasi Pearson ( $r$ ), Spearman- $\rho$  ( $\rho$ ), Kendall-Tau ( $\tau$ ), Gamma (G), dan Somers ( $d_{yx}$ ). *Jurnal Gradien* 4 (2): 372-381.
- Osaer, S., B. Goossens, S. Kora, dan I. Jeffcoate. 1999. Effects of Trypanosoma congolense infection and diet on puberty, age at first lambing and haematology changes in Djallonke ewe lambs. *Veterinary Parasitology* 80(3): 215-230.
- Otsuka, F. And S. Shimasaki. 2002. A Negative Feedback System Between Oocyte Bone Morphogenetic Protein 15 And Granulosa Cell Kit Ligand: Its Role In Regulating Granulosa Cell Mitosis. *Proc. Natl. Acad. Sci. USA.* 99:80608065.
- Pal K., A. K. Para, A. Sahoo, N. M. Soren. 2015. Nitrate and Fumarate in Tree Leaves Based Diets on Nutrient Utilization, Rumen Fermentation, Microbial Protein Supply and Blood Profile in Sheep. *Livestock science.* 172: 5-15.
- Palai TK, Maity A, Bisoi PC, Polley S, Mukharjee A, De S. 2012. Screening of BMP15 (FecX) fecundity gene in prolific Raighar goats of odisha. *Journal Cell and Tissue Research.* 12(3): 3.285–3.289.
- Pamungkas, F.A., F. Mahmilia, S. Elieser, dan M. Doloksaribu. 2005. Hubungan Bobot Induk Saat Melahirkan dengan Bobot Lahir dan *Litter Size* Kambing Persilangan Kacang x Boer. Prosiding Seminar Nasional Teknologi Peternekan dan Veteriner. Bogor

- Parakkasi, A. 1999. Ilmu Nutrisi dan Makanan Ternak Ruminan. Penerbit Universitas Indonesia. Jakarta.
- Petrovic, M.P., D.R. Music, V.C. Petrovic, and N. Maksimovic. 2011. Influence of environmental factors on birth weight variability of indigenous Serbian breeds of Sheep. African Journal of Biotechnology 10(22):4673-4676.
- Pierre, A., Pisselet, C., Dupont, J., Mandon-Pepin, B., Monniaux, D., Monget, P., et al. (2004). Molecular basis of bone morphogenetic protein-4 inhibitory action on progesterone secretion by ovine granulosa cells. Journal of Molecular Endocrinology, 33, 805–814.
- Piper, L. R., B. M. Bindon and G. H. Davis. 1985. The single gene inheritance of the prolificacy of the Booroola Merino. In: Genetic of Reproduction in Sheep. R.B. LAND and D.W. ROBINSON (Eds.). Butterworths, London. pp. 115-125.
- Polley S, De S, Batabyal S, Kausik R, Yadav P, Arora JS, Chattopadhyay S, Pan S, Brahma B, Datta TK, Goswami SL. 2009. Polymorphism of fecundity genes (BMPR-1B, BMP15, and GDF9) in the Indian prolific Black Bengal goat. Small Ruminant Research. 85(2/3): 122–129.
- Pramod AB, Foster J., Carvelli L., Henry L. K. 2013. Pengangkut SLC6: Struktur, Fungsi, Regulasi, Asosiasi Penyakit dan Terapi . mol. Aspek Med. 34 ( 2-3 ), 197–219.
- Prayitno, R. S. dan N. Heni. 2021. The Effect of Allium Ascalonicum Leaves (Allium Ascalonicum L.) as an Alternative Forage on Blood Lipid Profile of Sheep. Jurnal Peternakan 18 (1) : 19-24.
- Prayitno, T. Hartatik, R. Pratiwi, and W.T. Artama. 2011. Genetic Relatedness Between Batur, Merino, and Local Sheep Based on Random Amplified Polymorphism DNA Marker. Animal Production 13(1):30-38.
- Rao S. dan Notter DR. 2000. Analisis genetik ukuran serasah pada domba Targhee, Suffolk, dan Polypay . J.Anim. Sains . 78 :2113–2120.
- Reader K. L., L. J. Haydon, R. P. Littlejohn, Juengel JL, McNatty KP Booroola BMPR-1B mutation alters early follicular development and oocyte ultrastructure in sheep . Reproduction, Fertility and Development. 2012;24(2):353–361.
- Ridha, M., Hidayati, dan T. Adelina. Analisis Faktor yang mempengaruhi Jarak beranak (Calving interval) Sapi Bali Di Kecamatan Bangkinang Kabupaten Kampar. Jurnal Peternaka 4(2):65-69.
- Riis, P. M. 1983. Dynamic Biochemistry of Animal Production. New York (USA): Amsterdam Elsevier.
- Riofrio, ELA, JBS Ferraz, and EC Mattos. 2016. Influence of non-genetic factors on growth and reproductive traits of sheep Santa Inês in extensive systems. Livestock. Research. for Rural Development. 28 (7): Article 3121.
- Santacristobal-Gaudy, M., L. Bodin, J.M. Elsen, C. Chevalet. 2001. Genetic component of litter size variability in ewe. Genet. Sel. Evol. 33: 249-271.
- Sato, T., Ueda, S., Niki, Y., 2008. Wingless signaling initiates mitosis of primordial germ cells during development in *Drosophila*. Mech. Dev. 125, 498–507.
- Schalm, O. W. 2010. Schalm's Veterinary Hematology. 6th ed. Weiss DJ dan Wardrop KJ, editor. Iowa (US): WileyBlackwell

- Schoeman, S.J., J.R. Albertyn, dan H.T. Groeneveld. 1991. Lifetime reproduction of Karukul ewes as influenced by season of birth, age at first lambing and lambing interval. *S.Afr.J.Anim. Sci.* 21(4): 169-172.
- Setiawan, B. 2015. Teknik Hitung Manual Analisis Regresi Linear Berganda Dua Variabel Bebas. Andi. Yogyakarta.
- Shimasaki S., R. J. Zachow, D. Li, H. Kim, S. Iemura, N. Ueno, K. Sampath, R. J. Chang and G. F. Erickson. 1999. A functional bone morphogenetic protein system in the ovary. *Proc Natl Acad Sci*
- Sjaastad, O.V., Hove, K. and Sand, O. 2003. The physiology of domestic animals. 1. ed. Oslo: Scandinavian Veterinary Press.
- Sodiq, A. 2010. Identifikasi Sistem Produksi dan Keragaman Produktivitas Domba Ekor Gemuk di Kabupaten Brebes Provinsi Jawa-Tengah. *Agripet Vol. 10 (1)*: 25-31.
- Southey BR, SL Rodriguez-Zas and KA Leymaster. 2001. Survival analysis of lamb mortality in a terminal sire composite population. *J. Anim. Sci.* 79:2298-2306.
- Southey BR, SL Rodriguez-Zas and KA Leymaster. 2003. Discrete time survival analysis of lamb mortality in a terminal sire composite population. *J. Anim. Sci.* 81:1399t1405.
- Souza, C.J., C. Macdougal, B.K. Campbell, A.S. Mcneilly and D.T. Baird. 2001. The Booroola (FecB) Phenotype Is Associated With A Mutation In The Bone Morphogenetic Receptor Type 1B (BMPR-1B) Gene. *J. Endocrinol.* 2, R1-R6.
- Snyman, M. A., S. W. P. Cloete and J. J. Olivier. 1998. Genetic and phenotypic correlations of total weight of lamb weaned with body weight, clean fleece weight and mean fibre diameter in three South African Merino Flocks. *Livest. Prod. Sci.* 55 (2) : 157-162
- Subandriyo, B. Setiadi, M. Rangkuti, dan K. Diwyanto. 1998. Performa Doma Komposit Hasil Persilangan Antara Domba Lokal Sumatera dengan Domba Rambut Generasi Pertama dan Kedua. *JITV 3(2)*:78-86.
- Suharti, S., A. Shofiyana dan A. Sudarman. 2017. Metabolit Darah Domba yang Disuplementasi Bakteri Pendegradasi HCN dan Sulfur Pada Pakan Mengandung Tepung Daun Singkong Pahit (*Manihot glaziovii*). *Buletin Makanan Ternak* 104(4) : 31-40
- Sumaryadi, M. Y., Haryati dan W. Mansur. 2000. Efek Penyuntikan PMSG terhadap Konsentrasi Progesteron Kaitannya Dengan Pertumbuhan Kelenjar Uterus Domba Pada Fase Luteal Siklus Berahi. Seminar Nasional Peternakan dan Veteriner 2000 : 111-115
- Sumaryadi, M. Y. (2021). Respon Hematologis dan Immunologis Hubungannya dengan Proliferasi Domba Batur yang Diinduksi Hormon Eksogen. Prosiding Seminar Nasional "Pengembangan Sumber Daya Perdesaan dan Kearifan Lokal Berkelanjutan XI"11(1):36-41.
- Suryadi, U. 2006. Pengaruh Jumlah anak sekelahiran dan jenis kelamin terhadap kinerja anak domba sampai sapih. *Majalah Ilmiah Peternakan* 9(1).
- Sutama, I.K. 2011. Inovasi Teknologi Reproduksi Mendukung Pengembangan Kambing Perah Lokal. *Pengembangan Inovasi Pertanian* 4(3):231-246.
- Sutiyono, B., N. J. Widjani, dan E. Purbowati. 2006. performans induk Studi kambing Peranakan Etawah berdasarkan jumlah anak sekelahiran di Desa Banyuringin Kecamatan Singorojo Prosiding teknologi Kabupaten Kendal. seminar peternakan nasional dan veteriner 2006 : 537-543.

- Tillman. A. D., H. Hartadi dan S. Reksohadiprodjo. 1998. Ilmu Makanan Ternak Dasar. Gadjah Mada University press, Yogyakarta.
- Umizakiah, K., M. Yamin, dan M.S. Soenarno. 2014. Karakteristik Fisik Wol Domba Batur dan Domba Garut. Jurnal Ilmu Produksi dan Teknologi Hasil Pertanian 2(1): 243-250.
- Vatankhah, M., M.A. Talebi, dan F. Zamani. 2012. Relationship betweenewe body condition score (BCS) at mating and reproductive and productive traits in Lori-Bakhtiari ewe. Small Ruminant Research 106:105-109.
- Wahjuni, R. S. dan R. Bijanti. (2006). Uji Efek Samping Formula Pakan Komplit terhadap Fungsi Hati dan Ginjal Pedet Sapi Friesian Holstein. Media Kedokteran Hewan.
- Wang, G.L., X.Z. Mao, G.H. Davis, Z.S. Zhao, L.J. Zhang Dan Y.Q. Zeng. 2003. DNA tests in Hu sheep and Han sheep (small tail) showed the existence of Booroola (FecB) mutation. J. Nanjing Agric. Univ. 1: 104–106.
- Widitania, S., Y.S. Ondho dan C.M. Sri Lestari. 2016. Korelasi antara bobot badan induk dengan *litter size*, bobot lahir dan mortalitas anak kelinci New Zealand White. JIIP 26(2): 42-48.
- Wilson, T., Wu, Xi-Yang, Juengel, J.L., Ross, I.K., Lumsden, J.M., Lord, E.A., Dodds, K.G., Walling, G.A., McEwan, J.C., O'Connell, A.R., McNatty, K.P., Montgomery, G.W., 2001. Highly prolific Booroola sheep have a mutation in the intracellular kinase domain of bone morphogenetic protein 1B receptor (ALK-6) that is expressed in both oocytes and granulosa cells. Biol. Reprod. 64, 1225–1235.
- Yamashita, H., Murayama, C., Takasugi, R., Miyamoto, A., Shimizu, T., 2011. BMP-4 suppresses progesterone production by inhibiting histone H3 acetylation of StAR in bovine granulosa cells in vitro. Mol. Cell. Biochem. 348, 183–190.
- Zhang, H., Klausen, C., Zhu, H., Chang, H.M., Leung, P.C.K., 2015. BMP4 and BMP7 suppress StAR and progesterone production via ALK3 and SMAD1/5/8-SMAD4 in human granulosa-lutein cells. Endocrinology 156, 4269–4280.