DAFTAR PUSTAKA

Abbasi, A. A., Prasad, A. S., Rabbani, P., and DuMouchelle, E. 1980. Experimental zinc deficiency in man: Effect on testicular function. Journal of Laboratory and Clinical Medicine, 96(3): 544–550.

Aerens, C. D., Ihsan, M. N., dan Isnaini, N. 2012. Perbedaan kuantitatif dan kualitatif semen segar pada berbagai bangsa sapi potong. Jurnal Ilmu Ternak, 1–10, Malang: Universitas Brawijaya.

Agbaje, I. M., Rogers, D. A., McVicar, D. A., McClure, N., Atkinson, A. B., and Mallidis, C. 2007. Insulin dependent diabetes mellitus: Implications for male reproductive function. Human Reproduction, 22(7): 1871–1877.

Aggarwal, A., Prabakaran, S., and Said, T. M. 2005. Oxidative stress and antioxidants in male infertility: A difficult balance. Iranian Journal of Reproductive Medicine, 3: 1–8.

Akhzami, D. R., Mohammad, R., dan Rika, H. S. 2016. Perbandingan hasil point of care testing (POCT) asam urat dengan chemistry analyzer. Jurnal Kedokteran, 5(4): 15–19.

Al-Makhzoomi, A., Lundeheim, N., Håård, M., and Rodríguez-Martínez, H. 2008. Sperm morphology and fertility of progeny-tested AI dairy bulls in Sweden. Theriogenology, 70(4): 682–691.

Anderson, M. B., Lepak, K., Farinas, V., and George, W. J. 1993. Protective action of zinc against cobalt-induced testicular damage in the mouse. Reproductive Toxicology, 7: 49–54.

Anton, A., Kasip, L. M., Pribadi, L. W., Depamede, S. N., dan Asih, A. R. S. 2016. Perubahan status fisiologis dan bobot badan sapi Bali bibit yang diantarpulaukan dari Pulau Lombok ke Kalimantan Barat. Jurnal Ilmu dan Teknologi Peternakan Indonesia, 2(1): 86–95.

Anwar, P. dan Jiyanto. 2019. Identifikasi hormon testosteron sapi Kuantan plasma nutfah Riau sebagai penentu klasifikasi kriteria pejantan unggul. Jurnal Peternakan Indonesia 21(3): 230–239.

Arora, S. P. 1995. Pencernaan mikroba pada ruminansia (Retno Murwani, Trans.; Bambang Grigondo, Ed.). Fakultas Peternakan Universitas Diponegoro. Gadjah Mada University Press.

Ascobat, P. 2008. Androgen, antiandrogen, dan anabolik steroid. Dalam Farmakologi dan Terapi FKUI (hal. 456–466). Jakarta: Gaya Baru.

Bachyar W. 2001. Hematologi Klinik. Jakarta: Salemba Medika.

Bashandy, A.E.S. 2006. Effect of fixed oil Nigella sativa on male fertility in normal and hyperlipidemic rats. International Journal of Pharmacology, 2(1): 104–109.

Bashandy, A.E.S. 2007. Effect of Fixed Oil Nigella sativa on male fertility in normal and hyperlipidemic rats. International Journal of Pharmacology, 3(1): 27–33.

Bender, A.D. 1993. Introduction To Nutrition and Metabolism. London: UCL Press Limited, University College London.

Boitani, C., and Puglisi, R. 2008. Selenium, a key element in spermatogenesis and male fertility. In Molecular Mechanisms in Spermatogenesis. Advances in Experimental Medicine and Biology, 636: 65–73.

Brucka-Jastrzębska, E., Kawczuga, D., Brzezińska, M., Orowicz, W., and Lidwinkaźmierkiewicz, M. 2007. Zależność parametrów hematologicznych bydła rasy simental od stanu fizjologicznego (Dependence of hematological parameters in Simmental breed cattle on physiological conditions). Medycyna Weterynaryjna, 63: 1583–1586.

Brown, J. L., Wasser, S.K., Wildt, D.E., and Graham, L.H. 1994. Comparative aspects of steroid hormone metabolism and ovarian activity in felids, measured noninvasively in feces. Biology of Reproduction, 51: 776–786.

Butler, W.R. 2003. Energy balance relationships with follicular development, ovulation and fertility in postpartum dairy cows. Livestock Production Science, 83: 211–218.

Cappelli, K., Verini-Supplizi, A., Capomaccio, S., and Silvestrelli, M. 2007. Analysis of peripheral blood mononuclear cells gene expression in endurance horses by cDNA-AFLP technique. Research in Veterinary Science, 82(3): 335–343.

Chang, C., Lee, S.O., Wang, R.S., Yeh, S., and Chang, T.M. 2013. Androgen receptor (AR) physiological roles in male and female reproductive systems: Lessons learned from AR-knockout mice lacking AR in selective cells. Biology of Reproduction, 89: 1–16.

Cheah, Y., and Yang, W. 2011. Functions of Essential Nutrition for High Quality Spermatogenesis. Advances in Bioscience and Biotechnology, 2: 182–197.

Chenoweth, P.J. 2015. Bull Health and Breeding Soundness. In P.D. Cockroft (Ed.), Bovine Medicine. 3rd ed. Sussex, UK: Wiley Blackwell.

de Kretser, D.M., Loveland, K.L., Meinhardt, A., Simorangkir, D., and Wreford, N. (1998). Spermatogenesis. Human Reproduction Update, 4(1): 1–8.

Faldikova, L., Diblikova, I., Canderle, J., Zraly, Z., Vaznik, Z., and Sulcova, A. 2001. Effect of nutrition, social factors and chronic stress on the mouse Leydig cell. Veterinarni Medicina - Czech, 46(6): 160–168.

Feradis. 2010. Bioteknologi Reproduksi pada Ternak. Bandung: CV Alfabeta.

Ganabadi, S., Halimatun, K.L.A., Choong, J.A., and Hilmi, M.A. 2010. Effect of selenium supplementation on spermatogenic cells of goats. Malaysian Journal of Nutrition, 16(1): 187–193.

Ghorbani, N., Assmar, M., Amirmozafari, N., and Issazadeh, K. 2021. Recombinant Flagellin Protein Can Efficiently Protect Mice Against Salmonella Typhi. Journal of Applied Biotechnology Reports, 8(1): 41–45.

Gross, J.J., Schwinn, A.C., Schmitz-Hsu, F., Menzi, F., Drogemuller, C., Albrecht, C., and Bruckmaier, R.M. 2016. Cholesterol deficiency associated apob impacts lipid metabolism in Holstein calves and breeding bulls. Journal of Animal Science, 94: 1761–1766.

Hafez, E.S.E. (2000). Anatomy of Male Reproduction. In E.S.E. Hafez and B. Hafez (Eds.), Farm Animal Reproduction. Blackwell Publishing: 431−442.

Halliday, T.R. 1983. The study of mate choice. In P.P.G. Bateson (Ed.), Mate choice (hal. 3–32). Cambridge: Cambridge University Press.

Han, Y., and Peñagaricano, F. 2016. Unravelling the genomic architecture of bull fertility in Holstein cattle. BMC Genetics, 17(1): 1–11.

Handiwirawan, E., dan Subandriyo. 2004. Potensi dan keragaman sumberdaya genetik sapi Bali. Wartazoa, 14(3): 107–117.

Hapsari, R.D., Khalifah, Y., Widyas, N., Pramono, A., and Prastowo, S. 2018. Age effect on post freezing sperm viability of Bali cattle (*Bos javanicus*). IOP Conference Series: Earth and Environmental Science, 142: 012007.

Hardjosubroto, W., dan Astuti, J.M. 1993. Buku Pintar Peternakan. Jakarta: PT Gramedia Widiasarana Indonesia.

Harper, H.A., Rodwell, V.W., and Mayes, P.A. (1980). Biokimia (Edisi ke-17). Diterjemahkan oleh Nartin Mulawan. Jakarta: Penerbit Buku Kedokteran EGC.

Haryati. 2001. Pengaruh Pemberian Hormon Testosteron dan Oksitosin Terhadap Kuantitas dan Kualitas Semen Ayam Kedu Hitam. Tesis. Fakultas Pasca Sarjana. Universitas Gajah Mada, Yogyakarta.

Haryanti, N.W. 2009. Ilmu Nutrisi dan Makanan Ternak Ruminansia. Jakarta: Universitas Indonesia Press.

Henney, S.R., Killian, G.J., and Deaver, D.R. 1990. Libido, hormone concentrations in blood plasma and semen characteristics in Holstein bulls. Journal of Animal Science, 68, 2772−2784.

Hidiroglou, M., and Knipfel, J.E. 1984. Zinc in mammalian sperm: a review. Journal of Dairy Science, 67: 1147–1156.

Ihedioha, J.I., Ugwuja, J.I., Noel-Uneke, O.A., Udeani, I.J., and Daniel-Igwe, G. 2012. Reference values for the haematology profile of conventional grade outbred Albino Mice (Mus musculus) in Nsukka, Eastern Nigeria. Animal Research International, 9(2), 1601–1612.

Ihsan, N.M. 2009. Bioteknologi Reproduksi Ternak. Malang: Universitas Brawijaya.

Katsoulos, P.D., Roubies, N., Panousis, N., Christaki, E., Arsenos, G., and Karatzias, H. 2005. Effects of long-term dietary supplementation with clinoptilolite on incidence of parturient paresis and serum concentrations of total calcium, phosphate, magnesium, potassium and sodium in dairy cows. American Journal of Veterinary Research, 66(12): 2081–2085.

Khairi, F., Muktiani, A., dan Ondho, Y. S. 2014. Pengaruh suplementasi vitamin E, mineral selenium, dan zinc terhadap konsumsi nutrien, produksi, dan kualitas semen sapi Simmental. Agripet, 14(1), 6–16.

Lancellotti, T., Boarelli, P., Romero, A., and Al. E. 2013. Semen quality and sperm function loss by hypercholesterolemic diet was recovered by addition of olive oil to diet in rabbit. PLoS ONE, 8(1): 1–8.

Lehninger, A.L. 1994. Dasar-dasar Biokimia. Jilid 3. Jakarta: Penerbit Erlangga.

Linder, M. 2006. Nutrisi dan metabolisme mikromineral. Dalam Biokimia nutrisi dan metabolisme dengan pemakaian secara klinis (hal. 264–278, 279–284). UI Press.

Mandal, S., Bhakat, M., Singh, A., Mohanty, T.K., and Abdullah, M. 2019). Libido problem is untraceable through testosterone and luteinizing hormone rhythm in Zebu breeding bulls. Journal of Animal Health and Production, 7(3): 81−84.

Mangisah, I. 2003. Pemanfaatan kunyit (Curcuma domestica) dan temulawak (Curcuma xanthorrizha roxb) upaya menurunkan kadar kolesterol daging ayam broiler. Jurnal Litbang Provinsi Jawa Tengah, 1(2): 96–101.

Maranatha, G., Fattah, S., Nulik, J., Lole, U.R., Sobang, Y.U.L., dan Samba, F.D. 2021. Profil metabolit darah sapi Bali jantan yang diberikan pakan hasil integrasi Rumput - Legume - Tanaman Pangan di lahan kering pulau Timor. Jurnal Ilmu Peternakan dan Veteriner Tropis, 11(2): 118–124.

Mason, K.E., Burns, W.A., and Smith Jr, J.C. 1982. Testicular damage associated with zinc deficiency in pre- and postpubertal rats: response to zinc repletion. The Journal of Nutrition, 112: 1019–1028.

Maynard, L.A., Loosli, J.K., Hintz, H.F., and Warner, R.G. 1979. Animal Nutrition. 7th Ed. New Delhi: Tata McGraw-Hill Publishing Company Limited.

McDonald, P., Edwards, R.A., and Greenhalgh, J.F.D. 1981. Animal Nutrition 3rd Edition. Longman.

Miller, W.J., Blackmon, D.M., Gentry, R.P., and Pate, F.M. 1970. Effect of high but non toxic level of Zinc in practical diet on 65 Zn and Zinc Metabolism in Holstein calves. The Journal of Nutrition, 100: 893–899.

Minka, N.S., & Ayo, J.O. 2009. Physiological Responses of Food Animals to Road Transportation Stress. African Journal of Biotechnology, 8(25): 7415–7427.

Mitruka, B.M., Rawnsley, H.M., and Vadehra, B.V. 1977. Clinical Biochemical And Hematological Reference Values In Normal Experimental Animals. New York: Masson Publishing, Inc.

Morrell, J.M., Nongbua, T., Valeanu, S., Lima Verde, S.I., Lundstedt-Enkel, K., Edman, A., & Johannisson, A. 2017. Sperm quality variables as indicators of bull fertility may be breed dependent. Animal Reproduction Science, 185: 42–52.

Murray, R.K., Granner, D.K., Mayes, P.A., dan Rodwell, V.W. 2003. Biokimia Harper. Edisi ke-25. Jakarta: Penerbit Buku Kedokteran EGC.

Muryanti, Y. 2005. Kadar Testosteron Serum Darah dan Kualitas Spermatozoa Mencit (*Mus musculus L.*) setelah diberi Ekstrak Biji Saga (*Abrus precatorius L.*). Tesis. Fakultas Pascasarjana, Yogyakarta.

Pamungkas, D., Affandhy, L., Wijono, D.B., Rasyid, A., dan Susilawati, T. 2004. Kualitas spermatozoa sapi PO hasil sexing dengan teknik sentrifugasi menggunakan gradient putih telur dalam beberapa imbangan Tris-buffer semen. Dalam Seminar Nasional Teknologi Peternakan dan Veteriner, Bogor.

Panicke, L., Fischer, E., Staufenbiel, R., and Reklewski, Z. 2002. Variation of parameters of the glucose tolerance test (GTT) in growing cattle. Animal Science Papers and Reports, Supplement 1: 55–61.

Panil, Z. 2008. Memahami Teori dan Praktik Biokimia Dasar Medis. Jakarta: EGC.

Parhizkar, S., Sadaat, S., Maryam, J.Y., and Muhammad, A.D. 2013. Effect of Paleria macrocarpa on Sperm Characteristics in Adult Rats. Advanced Pharmaceutical Bulletin, 3(2): 345–352.

Partodiharjo, S. 1992. Ilmu Reproduksi Hewan. Jakarta: Mutiara.

Payne, J. M., Dew, M. Sally, and Manston, R. 1970. The use of a metabolic profile test in dairy herds. Veterinary Record, 87: 150–158.

Piccione, G., Messina, V., Marafioti, S., Casella, S., Giannetto, C., and Fazio, F. 2012. Changes of some haematochemical parameters in dairy cows during late gestation, postpartum, lactation and dry periods. Veterinarija ir Zootechnika, 58(80): 59–64.

Pirestani, A., and Motalebipour, E. Z. 2022. Relationship of lipid factors in blood serum and seminal plasma of Afshari rams. Iranian Journal of Applied Animal Science, 12(3): 533–538.

Pradhan, R., and Nakagoshi, N. 2008. Reproductive disorders in cattle due to nutritional status. Journal of International Development and Cooperation, 14(1): 45–66.

Prasetyo, A. A., Tagama, T. R., dan Saleh, D. M. 2013. Kualitas semen segar sapi Simmental yang dikoleksi dengan interfal yang berbeda di Balai Inseminasi Buatan Lembang. Jurnal Ilmiah Peternakan, 1(3): 907–913.

Preston, S. D., Buchanan, T. W., Stansfield, R. B., and Bechara, A. 2012. The effects of testosterone on social behavior and neural responses in humans. Philosophical Transactions of the Royal Society B: Biological Sciences, 367(1600): 748–762.

Purbowati, E., Baliarti, E., and Budhi, S. P. S. 2004. Tampilan Glukosa, NH3 dan urea darah domba yang digemukan secara feedlot dengan pakan dasar dan level kosentrat yang berbeda. Jurnal Pengembangan Peternakan Tropis, 1: 81–85.

Putra, R. P., Wahyuningsih, S., dan Ciptadi, G. 2012. Uji kualitas spermatozoa kambing Boer yang dibekukan dengan alat Mr. Frosty menggunakan pengencer Andromed pada suhu -45°C. Fakultas Peternakan Universitas Brawijaya, Malang.

Rachmawati, L., Ismaya, dan Astuti, P. 2014. Korelasi antara hormon testosteron, libido, dan kualitas sperma pada kambing Bligon, Kejobong dan Peranakan Etawah. Buletin Peternakan, 38(1): 8–15.

Ramandani, D., dan Nururrozi, A. 2005. Kadar glukosa dan total protein plasma pada sapi yang mengalami kawin berulang di wilayah Daerah Istimewa Yogyakarta. Jurnal Sain Veteriner, 33(1).

Reece, W. O. 2006. Functional Anatomy and Physiology of Domestic Animals. 3rd ed. USA: Blackwell Publishing.

Rizal, M., Herdis, A., Budiono, A. S., Aku, A., dan Yulnawati. 2006. Peranan beberapa jenis gula dalam meningkatkan kualitas semen beku domba Garut. Jurnal Ilmu Ternak dan Veteriner, 11(2), 123–130. Puslitbang Peternakan, Balitbang Pertanian Departemen Pertanian.

Rokhana, E. 2008. Hubungan antara jumlah false mounting dengan produksi semen pejantan sapi Madura. Cendekia, edisi Maret, 37–43.

Sajapitak, S., Kornkaewrat, K., Suthunmapinanta, P., Boodde, O., Mahasawangkul, S., and Pinyopummin, A. 2016. Investigation of relationship between expression of the Glucose Transporter3 (GLUT3) and sperm quality in Asian Elephants (*Elephas maximus*). Turkish Journal of Veterinary & Animal Sciences, 40(2).

Sajjad, M. S., Ali, N., Ullah, M., Anwar, S., Akhter, S., and Andrabi, S. M. H. 2007. Blood serum testosterone level and its relationship with scrotal circumference and semen characteristics in Nili-Ravi buffalo bulls. Pakistan Veterinary Journal, 27(2): 63–66.

Saleh, L. P., Suryanto, E., dan Yudistira, A. 2012. Aktivitas Antioksidan Dari Ekstrak Tongkol Jagung. Unpublished thesis, FMIPA UNSRAT, Manado.

Sen, S., and Chakraborty, R. 2011. The role of antioxidants in human health. ACS Symposium Series, 1083: 1–37.

Singh, A., Brar, P., and Cheema, R. 2014. Relationships among frozen-thawed semen fertility, physical parameters, certain routine sperm characteristics and testosterone in breeding Murrah buffalo (*Bubalus bubalis*) bulls. Veterinary World, 7(9): 644–651.

Souza, L. W. O., Andrade, A. F. C., Celehini, E. C. C., Negrao, J. A., and de Arruda, R. P. 2011. Correlation between sperm characteristics and testosterone in bovine seminal plasma by direct radioimmunoassay. Revista Brasileira de Zootecnia, 40(12): 2721–2724.

Staats, D. A., Lohr, D. P., and Colby, H. D. 1988. Effect of tocopherol depletion on the regional differences in adrenal microsomal lipid peroxidation and steroid metabolism. Endocrinology, 123: 975–980.

Sudono, A., Rosdiana, R., Fina, dan Setiawan, B. 2003. Beternak Sapi Perah Secara Intensif. Jakarta: Penerbit Agro Media Pustaka.

Suharyati, S., dan Hartono, M. 2016. Pengaruh Manajemen Peternak Terhadap Efesiensi Reproduksi Sapi Bali Di Kabupaten Pringsewu Provinsi Lampung. Jurnal Penelitian Pertanian Terapan, 16(1): 61–67.

Sumeidiana, I., Wuwuh, S., dan Mawarti, E. 2007. Volume dan konsentrasi sperma sapi Simmental, Limousine dan Brahman di Balai Inseminasi Buatan Unggaran. Journal of Indonesian Tropical Animal Agriculture, 32(2): 131–137.

Susilowati, T., dan Affandy, L. 2004. Tantangan dan Peluang Peningkatan Produktivitas Sapi Potong Melalui Teknologi Reproduksi. Lokakarya Nasional Sapi Potong.

Susilawati, T. 2011. Spermatology. UB Press, Malang.

Tahuk, P. K., Dethan, A. A., dan Sio, S. 2017. Profil glukosa dan urea darah sapi Bali jantan pada penggemukan dengan hijauan (*Greenlot Fattening*) di peternakan rakyat. Jurnal Agripet, 17(2): 104–111.

Tietz, N. W., Burtis, C. A., and Ashwood, E. R. 1994. Tietz Textbook of Clinical Chemistry. 2nd edition. Edited by Carl A. Burtis and Edward R. Ashwood. Pennsylvania: W. B. Saunders Company.

Tillman, A. D., Hartadi, H., Reksohadiprodjo, S., Prawirokusumo, S., dan Lebdosoekojo, S. 1991. Ilmu Makanan Ternak Dasar. Cetakan ke-4. Yogyakarta: Gadjah Mada University Press.

Tibbo, M., Jibril, Y., Woldesmelkel, M., Dawo, F., Aragaw, K., and Rege, K. 2004. Factors affecting hematological profiles in three Ethiopian indigenous goat breeds. International Journal of Applied Research in Veterinary Medicine, 2(4): 297–309.

Toelihere, M. R. 1993. Fisiologi Reproduksi pada Ternak. Bandung: Penerbit Angkasa.

Touma, C., and Palme, R. 2005. Measuring fecal glucocorticoid metabolites in mammals and birds: The importance of validation. Annals of the New York Academy of Sciences, 1046: 54–74.

Van Saun, R. J. 2012. Metabolic Profiling: Assessing Nutritional Status of the Transition Cow. Department of Veterinary Science, Penn State University.

Voet, D., and Voet, J. G. 1990. Biochemistry. Canada: John Wiley and Sons.

Wang, Y., Nakajima, T., Gonzalez, F. J., and Tanaka, N. 2020. PPARs as metabolic regulators in the liver: Lessons from liver-specific PPAR-null mice. International Journal of Molecular Sciences, 21(6).

Weinbauer, G. F., Gromoll, J., Simoni, M., and Nieschlag, E. 1997. Physiology of testicular function. In E. Nieschlag & H. M. Behre (Eds.), Andrology. Berlin: Springer-Verlag.

Weiss, W. P., and Hogan, J. S. 2005. Effect of selenium source on selenium status, neutrophil function, and response to intramammary endotoxin challenge of dairy cows. Journal of Dairy Science, 88: 4366–4374.

Widhiantara, I. G., Permatasari, A. A. A. P., Siswanto, F. M., dan Dewi, N. P. E. S. 2018. Ekstrak Daun Sembung (*Blumea balsamifera*) Memperbaiki Histologi Testis Tikus Wistar Yang Diinduksi Pakan Tinggi Lemak. Jurnal Bioteknologi & Biosains Indonesia (JBBI), 5(2), 111.

Widhiantara, I. G., Permatasari, A. A. A. P., Rosiana, I. W., Wiradana, P. A., Widiastini, L. P., and Jawi, I. M. 2021. Antihypercholesterolemic and Antioxidant Effects of Blumea balsamifera L. Leaf Extracts to Maintain Luteinizing Hormone Secretion in Rats Induced by High-Cholesterol Diets. The Indonesian Biomedical Journal, 13(4): 396–402.

Widhyari, S. D., Esfandiari, A., dan Wijaya, A. 2015. Tinjauan penambahan mineral Zn dalam pakan terhadap kualitas spermatozoa pada sapi Frisian Holstein jantan. Jurnal Ilmu Peternakan Indonesia (JIPI), 20(1): 72–77.

Wiltbank, J. N., and Parrish, N. R. 1986. Pregnancy rate in cows and heifers bred to bulls selected for semen quality. Theriogenology, 25(6): 779–783.

Wong, W. Y., Thomas, C. M., and Merkus, H. M. 2000. Cigarette smoking and the risk of male factor subfertility: minor association between cotinine in seminal plasma and semen morphology. Fertility and Sterility, 74(5): 930–935.

Wulandari, C., Muhartini, S., dan Trisnowati, S. 2012. Pengaruh air cucian beras merah dan beras putih terhadap pertumbuhan dan hasil selada (*Lactuca sativa L.*). Jurnal Vegetalika, 1(2).

Yang, J. S., Lin, G., Wu, M., Liu, X., Luan, Q., Lv, Z., He, G., and Jianmin. 2010. Preventive effect of taurine on experimental type II diabetic nephropathy. Journal of Biomedical Science, 17(1).

Yekti, M., dan Ari, W. 2011. Cara jitu mengatasi kolesterol. Andi. Yogyakarta.

Yin, H. P., Xu, J. P., Zhou, X. Q., and Wang, Y. 2012. Effects of vitamin E on reproductive hormones and testis structure in chronic dioxin-treated mice. Toxicology and Industrial Health, 28(2), 152.

Yulnawati, M., Gunawan, Herdis, Hera Maheshwari, dan Muhammad Rizal. 2009. Peranan Gula sebagai Krioprotektan Ekstraseluler dalam Mempertahankan Kualitas Semen Beku Kerbau Lumpur. Dalam Prosiding Seminar Nasional Potensi dan Pengembangan Peternakan Maluku Dalam Mendukung Ketahanan Pangan Nasional (hal. 236-250). Ambon: Jurusan Peternakan, Fakultas Pertanian, Universitas Pattimura Ambon.

LAMPIRAN

Lampiran 1. Dokumentasi kegiatan penelitian

Persiapan alat dan bahan

Persiapan dan pelaksanaan penampungan semen segar

Pengambilan dan penghitungan nilai metabolit sampel darah sapi Bali

Penilaian kualitas semen

Lampiran 2. Hasil Analisis Uji Korelasi

Korelasi Kadar Gula Darah Terhadap Motilitas Spermatozoa Semen Segar Sapi Bali Pada Lima Kali Penampungan (Sebelum Pemberian Mikronutrisi).

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT Abnormalitas
 /METHOD=ENTER Kolesterol.
```

Regression

Notes

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	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Abnormalitas /METHOD=ENTER Kolesterol.
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Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Kolesterol[b]	.	Enter

a. Dependent Variable: Abnormalitas

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.196[a]	.038	-.282	12.34240

a. Predictors: (Constant), Kolesterol

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.196	1	18.196	.119	.752[b]
	Residual	457.004	3	152.335		
	Total	475.200	4			

a. Dependent Variable: Abnormalitas

b. Predictors: (Constant), Kolesterol

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.117	16.891		2.493	.088
	Kolesterol	-.027	.079	-.196	-.346	.752

a. Dependent Variable: Abnormalitas

```
CORRELATIONS
 /VARIABLES=Kolesterol Abnormalitas
 /PRINT=TWOTAIL NOSIG
 /MISSING=PAIRWISE.
```

Correlations

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Kolesterol Abnormalitas /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02

Correlations

		Kolesterol	Abnormalitas
Kolesterol	Pearson Correlation	1	-.196
	Sig. (2-tailed)		.752
	N	5	5
Abnormalitas	Pearson Correlation	-.196	1
	Sig. (2-tailed)	.752	
	N	5	5

Korelasi Kadar Gula Darah Terhadap Motilitas Spermatozoa Semen Segar Sapi Bali Pada Lima Kali Penampungan (Setelah Pemberian Mikronutrisi).

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT Motilitas
 /METHOD=ENTER Kadar_Gula.
```

Regression

Notes

Output Created		08-FEB-2024 22:24:18
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Motilitas /METHOD=ENTER Kadar_Gula.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,05
	Memory Required	1380 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Kadar_Gula[b]	.	Enter

a. Dependent Variable: Motilitas

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.505[a]	.256	.007	2.91461

a. Predictors: (Constant), Kadar_Gula

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.747	1	8.747	1.030	.385[b]
	Residual	25.485	3	8.495		
	Total	34.232	4			

a. Dependent Variable: Motilitas

b. Predictors: (Constant), Kadar_Gula

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.042	7.907		9.743	.002
	Kadar_Gula	.106	.105	.505	1.015	.385

a. Dependent Variable: Motilitas

```
CORRELATIONS
 /VARIABLES=Kadar_Gula Motilitas
 /PRINT=TWOTAIL NOSIG
 /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		08-FEB-2024 22:24:41
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.

Syntax		CORRELATIONS
		
		/VARIABLES=Kadar_Gula Motilitas
		  /PRINT=TWOTAIL NOSIG
		  /MISSING=PAIRWISE.

Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,06

Correlations

		Kadar_Gula	Motilitas
Kadar_Gula	Pearson Correlation	1	.505
	Sig. (2-tailed)		.385
	N	5	5
Motilitas	Pearson Correlation	.505	1
	Sig. (2-tailed)	.385	
	N	5	5

Kadar Kolesterol Terhadap Abnormalitas Spermatozoa Semen
Segar Sapi Bali Pada Lima Kali Penampungan
(Sebelum Pemberian Mikronutrisi)

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT Abnormalitas
 /METHOD=ENTER Kolesterol.
```

Regression

Notes

Output Created		10-FEB-2024 02:54:16
Comments		
Input	Data	C:\Users\nakat\OneDrive\Documents\Untitled1.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Abnormalitas /METHOD=ENTER Kolesterol.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,01
	Memory Required	1380 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Kolesterol[b]	.	Enter

a. Dependent Variable: Abnormalitas

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.196[a]	.038	-.282	12.34240

a. Predictors: (Constant), Kolesterol

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.196	1	18.196	.119	.752[b]
	Residual	457.004	3	152.335		
	Total	475.200	4			

a. Dependent Variable: Abnormalitas

b. Predictors: (Constant), Kolesterol

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.117	16.891		2.493	.088
	Kolesterol	-.027	.079	-.196	-.346	.752

a. Dependent Variable: Abnormalitas

```
CORRELATIONS
 /VARIABLES=Kolesterol Abnormalitas
 /PRINT=TWOTAIL NOSIG
 /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		10-FEB-2024 02:54:50
Comments		
Input	Data	C:\Users\nakat\OneDrive\Documents\Untitled1.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Kolesterol Abnormalitas /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02

Correlations

		Kolesterol	Abnormalitas
Kolesterol	Pearson Correlation	1	-.196
	Sig. (2-tailed)		.752
	N	5	5
Abnormalitas	Pearson Correlation	-.196	1
	Sig. (2-tailed)	.752	
	N	5	5

Kadar Kolesterol Terhadap Abnormalitas Spermatozoa Semen
Segar Sapi Bali Pada Lima Kali Penampungan
(Setelah Pemberian Mikronutrisi)

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT Abnormalitas
 /METHOD=ENTER Kolesterol.
```

Regression

Notes

Output Created		10-FEB-2024 03:05:29
Comments		
Input	Data	C:\Users\nakat\OneDrive\Documents\Untitled1.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Abnormalitas /METHOD=ENTER Kolesterol.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,31
	Memory Required	1380 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Kolesterol[b]	.	Enter

a. Dependent Variable: Abnormalitas

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524[a]	.274	.032	10.48101

a. Predictors: (Constant), Kolesterol

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	124.445	1	124.445	1.133	.365[b]
	Residual	329.555	3	109.852		
	Total	454.000	4			

a. Dependent Variable: Abnormalitas

b. Predictors: (Constant), Kolesterol

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-79.086	103.536		-.764	.501
	Kolesterol	.532	.500	.524	1.064	.365

a. Dependent Variable: Abnormalitas

```
CORRELATIONS
 /VARIABLES=Kolesterol Abnormalitas
 /PRINT=TWOTAIL NOSIG
 /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		10-FEB-2024 03:05:47
Comments		
Input	Data	C:\Users\nakat\OneDrive\Documents\Untitled1.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	5
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Kolesterol Abnormalitas /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,05

Correlations

		Kolesterol	Abnormalitas
Kolesterol	Pearson Correlation	1	.524
	Sig. (2-tailed)		.365
	N	5	5
Abnormalitas	Pearson Correlation	.524	1
	Sig. (2-tailed)	.365	
	N	5	5

RIWAYAT HIDUP

Erick Dondatu, lahir di Makassar, 06 April 1994. Penulis merupakan anak kedua dari empat orang bersaudara. Penulis menyelesaikan pendidikan sarjana (S1) Program Studi Peternakan di Fakultas Peternakan Universitas Hasanuddin pada tahun 2017. Penulis kemudian melanjutkan ke pendidikan magister (S2) Program Studi Ilmu dan Teknologi Peternakan di Universitas Hasanuddin dan dinyatakan lulus pada tahun 2024.

Selama menjalani masa studi S2, penulis juga adalah seorang praktisi professional dengan pengalaman kerja di PT. Ibnu Auf Global Investama, Makassar (Januari 2019 - April 2021), PT. Sembilan Benua Abadi, Makassar (Januari 2022 - September 2023) dan PT. Sinergi Surya Celebes, Makassar (Oktober 2023 - Mei 2024).