

DAFTAR PUSTAKA

- Anonim. 1984. *Nutrient Requirements of Beef Cattle*, Sixth Revised Ed. Washington, D.C. National Academic Press. Diakses tanggal 4 September 2018.
- Anonim. 1989. *Nutrient requirements of dairy cattle*. National Research Council. Washington D.C.
- Anonim. 2001. *Nutrient Requirement of Dairy Cattle*. National Research Council.. Washington D.C.
- Anonim. 2016. *Statistik Perkebunan Indonesia Komoditas Kelapa Sawit 2015-2017*. Direktorat Jendral Perkebunan. Jakarta.
- Anonim. 2017. Collecting blood to perform metabolic profiling. Guide Catalog. Texas A & M Veterinary Medical Diagnostic Laboratory. Diakses tanggal 18 Oktober 2018.
- Anonim. 2018a. Reference ranges biochemistry reference interval. <http://vetmed.oregonstate.edu>. Diakses tanggal 3 Oktober 2018.
- Anonim, 2018b. Metabolic profiling. <https://extension.psu.edu/metabolic-profiling>. Diakses tanggal 2 September 2018.
- Abayawansa, W.D., Prabhakar, S., Singh, A.K. dan Brar, P.S. 2013. Seasonal variations in blood metabolic profiles during peri and early postpartum period in winter and summer calved buffaloes. *Indian Journal of Animal Reproduction*, 34 (1): 34-37.
- Abd-Ellah, M.R., Hamed, M.I., Derar, D.R.I. dan Rateb, H.Z. 2013. Comparative study on reference values for blood constituents during pregnancy in buffaloes (*Bubalus bubalis*). *J. Adv. Vet. Res.* 3:36-46.
- Abd-Ellah, M.R., Hamed, M.I., Ibrahim, D.R., dan Rateb, H.Z. 2016. Studying The Effect of Gender on Hematological and Serum Biochemistry Constituent in Buffaloes. Egypt. 13th Sc.Cong.Egyptian Society For Cattle Diseases.
- Addass, P.A., Midau, A., Muktar, Y.M., Mahelia, Z.B. 2012. Assessment of breed, age and body condition score on hematology, blood chemistry and fecal parasitic load of indigenous bulls in Adamawa State. *Intern J of Agric Sci*. 2(1). pp. 087- 089.
- Agenas, S., Heath, M.F., Nixon, R.M., Wilkinson, J.M., dan Phillips, C.J.C. 2006. Indicators of under-nutrition in cattle. *Animal Welfare* 15(2): 149-160.
- Ahmadi-Hamedani, M., Ghazvinian, K., Kokhaei, P., Barati, M., dan Mahdavi, A. 2014. Comparison of effects of age and sex on serum protein electrophoretic pattern in one-humped camels (*Camelus dromedarius*) in Semnan, Iran. *Open Vet J*. 4(1): 4-8.
- Akhtar, M.S., A.A. Farooq, S.A. Muhamma, L.A. Lodhi, C.S. Hayat and M.M. Aziz, 2010. Serum electrolyte and mineral variations during pregnancy and lactation in Nili-Ravi Buffalo. *Biol. Trace Element Res.*, 137: 340-343.
- Aktas, M.S., Ozkanlar, S., Ucar, O., Ozkanlar, Y., Kaynar, O., dan Aytekin, I. 2011. Relationships between Body Condition Score and some metabolic blood parameters in early lactating dairy cows. *Revue Méd. Vét.* 162.12. 586-592.

- Al-Ibrahim, R.M., Kelly, A.K., O'Grady, L., Gath, V.P., McCarney, C., dan Mulligan, F.J. 2010. The effect of body condition score at calving and supplementation with *Saccharomyces cerevisiae* on milk production, metabolic status, and rumen fermentation of dairy cows in early lactation. *J. Dairy Sci.* 93 :5318–5328.
- Allison, R.W. 2012. *Laboratory evaluation of the liver di dalam Veterinary Hematology and Clinical Chemistry*. Lippincott Williams & Wilkins. Maryland. Page 416.
- Al-Mujalli dan Aziz, A.M. 2008. Studies on Some Serum Constituents of Dairy Cows in Saudi Arabia. *Scientific Journal of King Faisal University* 9 (2): 1429.
- Alves, B.G., Martins, M.C., dan Gambarini, M.L. 2014. Metabolic profile of serum and follicular fluid from postpartum dairy cows during summer and winter. *Journal compilation CSIRO*.
- Antunovic, Z., Novoselec, J., Sauerwein, H., Speranda, M., Vegara, M. and Pavic, V. 2011. Blood metabolic profile and some of hormones concentration in ewes during different physiological status. *Bulgarian Journal of Agriculture Sciences*, 17(5): 687-695.
- Antunovic, Z., Sencic, D., Sperada, M., dan Liker, M. 2002. Influence of the season and the reproductive status of ewes on blood parameters. *Small Ruminant Research* 45, 39-44.
- Armstrong, D.L. 1999. Phosphorus in Animal Nutrition-Better Crops With Plant Food. *A Publication of the International Plant Nutrition Institute (IPNI) LXXXIII (83)*, No. 1: 32-33.
- Ashmawy, N.A. 2015. Blood Metabolic Profile and Certain Hormones Concentrations in Egyptian Buffalo During Different Physiological States *Asian J. Anim. Vet. Adv.*, 10 (6): 271-280.
- Asif, M., Rahman, Z.U., Arif, M., Haq, I.U., dan Javed, I. 1996. Trace Element and Electrolyte Concentrations in Different Physiological States of Sahiwal Cattle. *Journal of Islamic Academy of Sciences* 9:4, 125-128.
- Assadi, F. 2009. Hypercalcemia an evidence-based approach to clinical cases. *Iranian Journal of Kidney Diseases*.3:71-9.
- Astessiano, A.L., Clariget, R.P., Quintans, G., Soca, P., Meikle, A., Crooker, B.A., dan Carriquiry, M. 2014. Metabolic and endocrine profiles and hepatic gene expression in periparturient, grazing primiparous beef cows with different body reserves. *Livestock Science*. S1871-1413(14)00501-0
- Ate, I.U., Rekwot, P.I., Nok, A.J., dan Tekdek, L.B. 2009. Serum electrolyte values of cows during third trimester of pregnancy and early lactation in settled cattle herds in Zaria, Northern Nigeria. *Afr. J. Biomed. Res.* Vol. 12, No. 2.
- Aziz, A., dan Mujalli, A. 2008. Studies on Some Serum Constituents of Dairy Cows in Saudi Arabia. *Scientific Journal of King Faisal University*. Vol.9 No.2 1429.
- Baker, S.B., dan Worthley, L.I.G. 2002. Basic science review: The essential of calcium, magnesium and phosphate metabolism: part I. *Critical care and resuscitation*. 4:3001-306.

- Balikci, E., Yildiz, A., dan Gurdogan, F. 2007. Blood metabolite concentrations during pregnancy and post-partum in Akkaraman ewes. *Small Rum. Res.* 67, 247-251.
- Ballmer, P.E. 2001 Causes and mechanisms of hypoalbuminaemia. *Clin Nut.* 20(3):271-273.
- Bamerny, A. O. 2013. Changes in Some Haemato-Biochemical and Electrolytes Parameters in Female Meriz Goats during Pregnancy and After Parturition. *Journal of Animal Scientist*, 2(1): 11-14.
- Banos, G., Brotherstone, S., dan Coffey, M.P. 2004. Evaluation of body condition score measured throughout lactation as an indicator of fertility in dairy cattle. *J. Dairy Sci.* 87: 2669–2676.
- Ban-Tokuda, T., Orden, E.A., Barrio, A.N., Lapitan, R.M., Delavaud, C., Chilliard, Y., Fujihara, T., Cruz, L.C., Homma, G., dan Kanai, Y. 2007. Effects of species and sex on plasma hormone and metabolite concentrations in crossbred Brahman cattle and crossbred water buffalo. *Livestock Science.* 107. 244–252.
- Baxmann, A.C, Ahmed, M.S., Marques, N.C., Menon, V.B., Pereira, A.B., Kirsztajn, G.M., dan Heilberg, I.P. 2008. Influence of muscle mass and physical activity on serum and urinary creatinine and serum cystatin. *C. Clin J Am Soc Nephrol.* 3(2):348-54.
- Bazzano, M., Guidice, E., Fazio, F., Scollo, C dan Piccione, G. 2016. The peripartum period influenced the serum macromineral profile in mares. *Arch. Anim. Breed.*, 59, 65–70, 2016
- Beisenov, A.K., Kidirbay, Z., Amanzholov, Mirzakulov, S.M., Micinski, J., Nurgazy, K.S., Pogorzelska, J., dan Micinski, B. 2016. Impact of Nutrition in Rearing Result and Metabolic Profiles of Kazakh White Head Breed Heifers and Breeding Bulls. *Pol.J.Natur.Sc.* Vol 31(4): 519-532.
- Bernabucci, U., Ronchi B., Lacetera, N., dan Nardone, A. 2005. Influence of body condition score on relationships between metabolic status and oxidative stress in periparturient dairy cows. *Journal of Dairy Science*, 88: 2017–2026.
- Bide, R.W., dan Tumbleson, M.E. 1976. Age related Variations in Plasma Electrolytes of Hereford cattle Under Range Conditions. *Comp. Biochem. Physiol.* Vol 54A, pp. 365-371
- Bindari, Y.R., Shrestha, S., Shrestha, N., dan Gaire, T.N. 2013. Effects of nutrition on reproduction- a review. *Adv Appl Sci Res.* 4(1):421-429.
- Birgele, E., dan Igaza, A. 2003. Age and Feed effect on the Dynamics of Animal Blood Biochemical Values in Postnatal Ontogenesis in Calves. *Veterinarija Ir Zootechnika.T.22* (44).
- Bjerre, H.V., Friggens, N.C., dan Thorup, V.M. 2012. Metabolic and production profiles of dairy cows in response to decreased nutrient density to increase physiological imbalance at different stages of lactation. *J.Dairy. Sci.*, v.95, p.2362-2380, 2012.
- Blair, R. 2011. *Nutrition and Feeding of Organic Cattle*. CBI Anthony Rowe Ltd. UK Chippenham.

- Bombik, A., bombik, E., Rymuza, K., Gorski, K., dan Saba, L. 2009. Variability of macroelements content in blood serum of cows according to their physiological status and growing conditions. *Acta Sci. Pol., Zootech.* 8(4):5-12.
- Boonprong, S., Ibhen, S., Choothesa, Parvisi, N and Vajrabuka, C. 2007. Blood Biochemical Profiles of Thai Indigenous and Simmental Brahman Crossbred Cattle in the Central Thailand. *J. Vet. Med. A* 54, 62–65.
- Boudebza, A., Bensegueni, A., Abdeldjelil, M.C. dan Belatreche, C. 2014. Some blood biochemical parameter changes in Ouled Djellal ewes during lactation and dry period. *Annals of Biological Research*, 5(3): 42-45.
- Bourgon, S.I., De Amorim, M.D., Miller, S.P., dan Montanholi Y.R. 2017. Associations of blood parameters with age, feed efficiency and sampling routine in young beef bulls . *Livestock Science*. 195. 27–37.
- Braithwaite, G.D. 1975. Studies on the absorption and retention of calcium and phosphorus by young and mature Ca-deficient sheep. *Br. J. Nutr.* 34, 311–324.
- Bremmer, D.R., Bertics, S.J., Brsong, S.A., Grummer, R.R. 2000. Changes in hepatic microsomal triglyceride transfer protein and triglyceride in periparturient dairy cattle. *Journal of Veterinary Science*, 83, 2252-2260
- Busato, A., Faissler, D., Kupfer, U., dan Blum, J.W. 2002. Body Condition Scores in Dairy Cows: Associations with Metabolic and Endocrine Changes in Healthy Dairy Cows. *J. Vet. Med. A*.49. 455–460.
- Busher. J.T. 1990. Serum Albumin and Globulin Clinical Methods. Didalam H Kenneth Walker HK, Dallas MD, Hurst JW, editor: *The History, Physical, and Laboratory Examinations*. Ed ke 3. Editor. Butterworth Publisher Emory University School of Medicine, Atlanta, Georgia, Boston.
- Caldeira, R.M., Belo, A.T., Santos, C.C., Vazques, M.I., dan Portugal, A.V. 2007. The effect of body condition score on blood metabolites and hormonal profiles in ewes. *Small Rum Res.*68(3):233–241
- Camargo, C.M.S., Duarte, J.M.B., Fagliari, J.J., Santana, A.M., Simplicio, K.M.M.G., dan Santana, A.E. 2013. Effect of sex and seasons of the year on hematologic and serum biochemical variables of captive brown brocket deer (*Mazama gouazoubira*). *Pesq. Vet. Bras.* 33(11):1364-1370
- Capen C. C., dan T. J. Rosol, 1989. Calcium-regulating hormones and diseases of abnormal mineral (calcium, phosphorus, magnesium) metabolism. In: Kaneko, J. (eds), *Clinical Biochemistry of Domestic Animals*, pp. 678–752. Academic Press, New York.
- Cardoso, M.J.L., Fagnani, R., Cavalcante, C.Z., Zanutto, M.D.S., Junior, A.Z., Fertonani, L.H.S., Calesso, J.R., Melussi, M., Costa, H.P., dan Hashizume, E.Y. 2016. Blood Pressure, Serum Glucose, Cholesterol, and Triglycerides in Dogs with Different Body Scores. *Veterinary Medicine International*, Vol.2016, pp: 1-7.
- Carlos, M.M., Leite, J.H.G.M., Chaves, D.F., Vale, A.M., Facanha, D.A.E, dan Melo, M.M. 2015. Blood parameters in the Morada Nova sheep: influence of age, sex, and body condition score. *The Journal of Animal and Plant Sciences*.v.25.p. 950-955.

- Castaneda, G.E., Pelton, S.H., dan Gilbert, R.O. 2009. Effect of peripartum dietary energy supplementation of dairy cows on metabolites, liver function. *Anim Reprod Sci.* 112. 301–315
- Cavestany, D., Blanc, J. E., Kulcsar, M., Uriarte, G., Chilbroste, P., Meikle, A., Febel, H., Ferraris, A. dan Krall, E. 2005. Studies of the transition cow under a pasture-based milk production system: metabolic profiles. *J. Vet. Med. A Physiol. Pathol. Clin. Med.* 52: 1–7.
- Celeska, I., Janevski, A., Dzadzovski, I., Ulchar, I., dan Kirovski, D. 2015. The dynamics of biochemical parameters in blood of clinically healthy Holstein cows from day 5 before to day 60 after calving. *Mac Vet Rev.* 38 (2): 189-193.
- Celik, O. Y., Irak, K., Akgul, G. 2019. Effect of Sex on Some Biochemical and Hematological Parameters in Healthy Boer x Hair Goat Crossbred. *Kocatepe Vet J.* 12(1).
- Cerutti, R.D., Scaglione, M.C., Arfuso, F., Rizzo, M., dan Piccione, G. 2018. Seasonal variations of some hematochemical parameters in Holstein bovine under the same livestock conditions. *Veterinarski Arhiv.* 88 (3), 309-321.
- Chaudhary, S., dan Singh, A. 2004. Role of Nutrition in Reproduction: A review. *Intas Polivet*, Vol. 5 : 229-234.
- Chester-Jones, H., Fontenot, J.P., dan Veit, H.P. 1990. Physiological and pathological effects of feeding high levels of magnesium to steers. *J. of Anim. Sci.* 68: 4400-4413.
- Chimonyo, M., Hamudikuwana, A., Kusina, N.T., dan Ncube, I. 2000. Changes in stress-related plasma metabolite concentrations in working Mashona cows on dietary supplementation. *Livest. Prod. Sci.* 73:165-173.
- Cobas. 2008. *Cobas® 6000 Analyzer Series Clinical Chemistry Test Menu for Cobas c 501 module*. Roche Diagnostics Ltd. Switzerland
- Collier, R.J. 1985. Nutritional, metabolic and environmental aspects of lactation. In: *Lactation*. 1st ed. Pub. Larson B L, Iowa State University Press, U.S.A. 102-110.
- Da, Cruz, R.E., Rocha, F.M., Sena, C.V.B., Noletto, P/G., Guimaraes, E.C., Galo, J.A., Mundim, A.V. 2017. Effects of age and sex on blood biochemistry of Dorper lambs. *Semina: Ciências Agrárias, Londrina*, v. 38, n. 5, p. 3085-3094
- Danu, T.P., Yulianti, A., dan Widodo, E. 2014. Potensi hijauan di perkebunan kelapa sawit sebagai pakan sapi potong di kabupaten kutai kartanegara. *Media Sains.* 7:79-86.
- Delfino, N.C., Bulcao, L.F.D.A., Alba, H.D.R., Oliveira, M.X.D.S., De Queiroz, F.P.S., De Carvalho, G.G.P., Renno, F.P., dan Junior, J.E.D.F. 2018. Influence of body condition score at calving on the metabolic status and production performance of Murrah buffaloes (*Bubalus bubalis*) during the transition period. *Asian-Australas J Anim Sci* 31:1756-1765.
- Dwiyanto, K., Matondang, R.H., dan Handiwirawan E. 2013. *Perkembangan Sistem Integrasi Sawit-Sapi di Beberapa Lokasi Mendukung Program*

- swasembada Daging Sapi. Pusat Penelitian dan Pengembangan Peternakan. Bogor
- Dokovic R, Zoran I, Vladimir K, Vladimir D, dan Boban J. 2010. Blood biochemical parameters and enzyme activity in beef cattle. *Acta agriculturae Serbica*. 15(29) : 47-54.
- Djokovic, R.D., Kurcubic, V.S., dan Ilic, Z.Z. 2014. Blood Serum Levels Of Macro and Micronutrient in Transition and Full Lactation Cows. *Bulgarian Journal of Agricultural Science*, 20 (No 3), 715-720.
- Doornenbal, H., Tong, A.K.W., dan Murray, N.L. 1988. Reference values of blood parameters in beef cattle of different ages and stages of lactation. *Canadian Journal of Veterinary Research* 52(1):99-105.
- Douglas G.N., Overton T.R., Bateman H.G., Drackley J.K. Periparturient metabolism and production of Holstein cows fed diets supplemented with fat during the dry period. *Journal of Dairy Science*. 87:4210–4220
- Dunn, T.G. dan G.E. Moss. 1992. Effects of nutrient deficiencies and excesses on reproductive efficiency of livestock. *J. Anim. Sci.* 70:1580- 1593.
- Durak, M.H., Erkan, R.E.C., Çelik, R., Yokuş, B., Kurt, D., dan Gürgöze, S. 2015. The Effects of Age and Gender on Some Biochemical Serum Parameters in Zom Sheep Raised in the Vicinity of Karacadağ. *Israel Journal of Veterinary Medicine*. Vol. 70 (2): 33-39.
- Đuričić, D., Gelli, R., Turk, R., Folnožić, I., Šuran, J., Gračner, D., Valpotić, H., Butković, I., dan Samardžija, M. 2017. The influence of body condition score on serum metabolite profiles in Boer does before and after parturition. *Veterinarski Arhiv*. 87 (5), 543-556.
- Edmonson, A.J., Lean, I.J., Weaver, L.D., Farver, T., dan Webster, G. 1989. A Body Condition Scoring Chart for Holstein Dairy Cows. *Journal of Dairy Science*. 72(1): 68–78.
- Eghbali, M., Alavi-Shoushtari, S.M., Asri-Rezaei, S., dan Ansari, M.H.K. 2010. Calcium, magnesium and total antioxidant capacity in seminal plasma of water buffalo (*Bubalus bubalis*) bulls and their relationship with semen characteristics. *Veterinary Research Forum*. 1(1):12-20.
- Elisabeth, J., dan Ginting, S.P. 2003. Pemanfaatan hasil samping industri kelapa sawit sebagai bahan pakan ternak sapi potong. *Lokakarya sistem integrasi kelapa sawit*.
- Elitok, B. 2012. Reference Values for Hematological and Biochemical Parameters in Saanen Goats Breeding in Afyonkarahisar Province. *Kocatepe Vet J*. 5 (1): 7 – 11.
- Elitok, B., Kabu, M dan Elitok, O.M. 2006. Evaluation of liver function tests in cows during periparturient period. *FU Saglik Bil Dergisi*, 20: 205-209.
- El-Naser, A., E.M., Mohamed, G.A.E., dan Elsayed, H.K., 2014. Effect of lactation stages on some blood serum biochemical parameters and milk composition in dairy cows. *Assiut Vet. Med. J*. 60, 83–88.
- El-Samad, H., Goff, J.P. dan Khammash, M. 2002. Calcium Homeostasis and Parturient Hypocalcemia : An Integral Feedback Perspective. *J. Theor. Biol.* 214:17 – 29.

- El-Sherif, M.M., dan Assad, F. 2001. Changes in some blood constituents of Barki ewes during pregnancy and lactation under semi arid conditions. *Small Rumin Res* 40(3):269-277.
- El-Tarabany, M.S., Akram, A., El-Tarabany., dan Roushdy, E.M. 2016. Impact of lactation stage on milk composition and blood biochemical and hematological parameters of dairy Baladi goats. *Saudi Journal of Biological Sciences*. Pp: 1-7.
- Fartosi, K.G., Talib, Y.J., dan Ali, S. 2010. Comparative study of some Serum Biochemical parameters of cattle and sheep of the marshes in the south of Iraq. *Journal of AL-Qadisiya Vet.Med.Sci*.Vol/9, No.2.78-84.
- Feldman, F.B., Zinkl. G.J., dan Jain, N.C. 2006. Schalm's veterinary hematology. Blackwell publishing, Ltd 5th ed. P.1232.
- Fikar, S dan Ruhyadi, D. 2010. Beternak dan Bisnis Sapi Potong. Agro Media Pustaka. Jakarta.
- Finco, D.R. 1997. *Kidney function di dalam Clinical Biochemistry of Domestic Animals 5th ed*. Didalam Kaneko JJ, Harvey JW, Bruss ML, Editor. Academic press. London, New York, Tokyo. Pages 440, 453, 468-469.
- Fiore, E., Barberio, A., Morgante, A., Rizzo, M., Giudence, E., Piccione, G., Lora, M., dan Giancesella, M. 2015. Glucose infusion response to some biochemical parameters in dairy cows during the transition period. *Animal Science Papers and Reports* vol. 33. no.2,129-136.
- Franca, R.T., Costa, M.M., Martins, D.B., Pagnoncelli. M., Leal, M.L., Mazzanti, C.M., Palma, H.E., Kunert, C.P., Paim, F.C., dan Lopes, S.T.A. 2011. Protein profile of buffaloes of different ages. *Acta Sci Vet*. 39(4): 995. ISSN 1679-9216.
- Fukumoto, S. 2014. Review; Phosphate metabolism and vitamin D. *Bone Key Reports*. 3(497).
- García, C.A.C., Prado, F.M., Galicia, L.L., dan Borderas, T.F. 2017. Reference values for biochemical analytes in Mexican dairy farms: interactions and adjustments between production groups. *Arquivo Brasileiro de Medicina Veterinária e Zootecnia*, 69, 445–456.
- Gergacz, Z., dan Szucs, E. 2009. The Relationship Between Body Condition Scoring and Metabolic Profile in The High Yielding Dairy Cows. *Kocatepe Vet J*, 2 (2): 1-7.
- Gheise, N.J.E., Riasi, A., Shahneh, A.Z., Celi, P., dan Ghoreishi, S.M. 2017. Effect of pre-calving body condition score and previous lactation on BCS change, blood metabolites, oxidative stress and milk production in Holstein dairy cows. *Italian Journal of Animal Science*, Vol.16, No. 3, 474–483.
- Giambelluca, S., Fiore, E., Sadocco, A., Giancesella, M., Vazzana, I., Orefice, T., dan Morgante, M. 2016. Evaluation of venous blood gas levels, blood chemistry and haemocytometric parameters in milk fed veal calves at different periods of livestock cycle. *Polish Journal of Veterinary Sciences* Vol. 19, No. 4. 745–752.

- Glowinska, B., dan Oler, A. 2013. Biochemical and hormonal characteristics of peripheral blood in bulls in relation to genotype. *Folia Biol (Krakow)*. 2013;61(1-2):73-7.
- Goff, J. P., 2000. Pathophysiology of calcium and phosphorus disorders. *Vet. Clin. North Am. Food Anim. Pract.* 16, 319–337.
- Goff, J.P. 2006. Macromineral physiology and application to the feeding of the dairy cow for prevention of milk fever and other periparturient mineral disorders. *Anim. Feed Sci. Tech.* 126:237-257.
- Greisert, B.G., Erickson, G.E., Klopfeinstein, T.J., Macken, C.N., Luebbe, M.K., dan McDonald, J.C. 2010. Phosphorous Requirement and Excretion of Finishing Beef Cattle Feed Different Concentrations of Phosphorous. *J. Anim. Sci.* 88 : 2393 – 2402.
- Gross, J., Van Dorland, H.A., Bruckmaier, R.M., dan Schwartz, F.J. 2011. Performance and metabolic profile of dairy cows during a lactational and deliberately induced negative energy balance with subsequent realimentation. *J. Dairy Sci.*, 94(4): 1820-30.
- Groth, Z.W., Szul, M.B., Nogalski, Z., Purwin, C., Przybylek, P.P., dan Winarski, R. 2014. The Effect of Gender and Feeding System on the Growth Rate and Blood Parameters of Polish Holstein-Friesian x Limousin Calves. *Pak Vet J.* 35(1): 33-37
- Grundwalt, E.G., Guevara, J.C., Esteves, O.R., Vicente, A., Rousselle, H., Alcuten, D., Aguerregaray, D., dan Stasi, C.R. 2005. Biochemical and haematological measurements in beef cattle in Mendoza plain rangelands (Argentina). *Trop. Anim. Health Pro.* 37:527-540.
- Gunawan, A., Mathius, I.W., Daryanto., Majestika., Kholik, S., dan Sitompul, D.M. 2004. Evaluasi model pengembangan sistem integrasi sapi dengan kelapa sawit. Dalam: *Prosiding Seminar Nasional Sistem Integrasi Tanaman Ternak*. Hlm 401-412.
- Gupta, V., Rai, P.K., dan Risam, K.S. 2012. Integrated Crop-Livestock Farming Systems: A Strategy for Resource Conservation and Environmental Sustainability. *Indian Research Journal of Extension Education*. Special Issue, 2: 49-54.
- Gwaze, F.R., Chimonyo, M., dan Dzama, K. 2012. Effect of season and age on blood minerals, liver enzyme levels, and faecal egg counts in Nguni goats of South Africa. *Czech J. Anim. Sci.*, 57, (10): 443–453
- Hadzimusic dan Krnic, J. 2012. Values of Calcium, Phosphorus and Magnesium Concentrations in Blood Plasma of Cows in Dependence on the Reproductive Cycle and Season. *J. Fac. Vet. Med. Istanbul Univ.* 38 (1), 1-8
- Hafid, H.H., Gurnadi, R.E., Priyanto, R dan Saefuddin, A. 2001. Komposisi potongan komersial karkas sapi Australian Commercial Cross kebiri yang digemukkan secara feedlot pada lama penggemukan yang berbeda. *Jurnal Ilmu-Ilmu Pertanian Agroland*, 8(1): 90 – 96.
- Hafid, N. T., Meziane, B., Maamache, dan Belkhiri, M. 2013. Biochemical and Mineral Profile of South Eastern Algerian Desert Goats (*Capra hircus*). *Iranian Journal of Applied Animal Science*, 3:(3); Pages: 527-531.

- Hagawane, S.D., Shinde, S.B. and Rajguru, D.N. 2009. Haematological and blood biochemical profile in lactating buffaloes in and around Parbhani city. *Veterinary World*, 2(12): 467-469
- Hagsten, I., dan Perry, T.W. 1976. Evaluation of Dietary Salt Levels for Swine. II. Effect of Blood and Excretory Patterns. *J. Anim. Sci.* 42:1191.
- Hammond, A.C. 1998. *Use of BUN and MUN as guides for protein and energy supplementation in cattle*. www.corpoica.org.co/sitioweb/archivos/revista/ 8. Diakses tanggal 7 Oktober 2018
- Hanafi, N.D. 2007. *Keragaan pastura campuran pada berbagai tingkat naungan dan aplikasinya pada lahan perkebunan kelapa sawit*. Disertasi. Institut Pertanian Bogor.
- Hardjosubroto, W. 1994. *Aplikasi Pemuliabiakan Ternak di Lapangan*. Jakarta: PT Gramedia Widiasarana Indonesia.
- Hassabo, A.A. 2008. Determination of phosphorus (P) and potassium (K) in the blood of desert goats at Khartoum state. *Pakistan J. Nutr.* 7(6):811-812.
- Heck, J.M.L., Van, V.H.J.F, Djikstra J., dan Van, H.A.C.M. Seasonal variation in the Dutch bovine raw milk composition. *Journal of Dairy Science*, 2009. T. 92. P. 4745–4755
- Henuk, Y.L., Hasnudi, Yunilas, Ginting, N., Mirwandhono, E., Hassanudin, Ginting, J., Bakti, D., Purba, R.E., Hafid, H., dan Kappa, M.M.J. 2018. The integrated farming systems between cattle and oil palm plantation in Indonesia. *17th ADRI International Conference April 23 – 24*.
- Herd, T. H. 2000. Variability characteristics and test selection in herd-level nutritional and metabolic profile testing. *Vet. Clin.North Am. Food Anim. Pract.* 16: 387–403.
- Herd, T.H., Dart B, dan Neuder, L. 2001. Will large dairy herds lead to the revival of metabolic profile testing?. *Proc Am Assoc Bov Pract* 34:27-34.
- Herosimczyk, A., Lepczynski, A., Chalupnik, A.D., Kurpinska, A., Klonowska, A., dan Skrzypczak, F. 2011. Age-related Changes of Selected Blood Biochemical Indicators in Dairy Calves during Their First Week of Life. *Folia biologica (Kraków)*, vol.59.No1-2.
- Hess, B.W., Lake, S.L., Scholljegerdes, E.J., Weston, T.R., Nayigihugu, V., Molle, J.D.C., dan Moss, G.E. 2005. Nutritional controls of beef cow reproduction. *J. Anim. Sci.* 83. E90–E106.
- Hollenbeck, R.J., Willard, S.T., Welsh, T.H. Jr., dan Randel, R.D. 2006. Comparison of Respiration Rates, Body Temperature, Temperament, Adrenal Steroid Secretion and Serum Metabolites in Temperate and Tropically-Adapted Beef Steers. *Physiology*: 132-148.
- Hollum, J. R. 1998. *Fundamentals of general organic and biological chemistry*. 6th ed. John Wiley & Sons, Inc, Toronto. Canada.: 23-95.
- Houillier, P. 2014. Mechanisms and regulation of renal magnesium transport. *Annu. Rev. Physiol.*, v.76, p.411-430, 2014.
- Husakova, T., Pavlata, L., Pechova, A., Hauptmanova, K., Pitropovska, E., dan Tichy, L. 2014. Reference values for biochemical parameters in blood serum of young and adult alpacas (*Vicugna pacos*). *Animal*.8:9, pp 1448–1455

- Hussain, S., Saeed, M.A dan Bashir, J.N. 2001. Serum electrolytes in buffaloes during late pregnancy parturition and postpartum periods. *Pak. Vet. J.*, 21: 175-179.
- Hussein, S.A., dan Azab, M.E. 1998. Plasma concentrations of lipids and lipoproteins in newborn kids and female Baladi goats during late pregnancy and the onset of lactation. *Deutsche Tierärztliche Wochenschrift* 105, 6-9.
- Ingvarsen, K.L., dan Andersen, J.B. 2000. Integration of Metabolism and Intake Regulation: A Review Focusing on Periparturient Animals. *J Dairy Sci.*83:1573–1597
- Irfan, I.Z. 2014. *Profil metabolik sapi pejantan bibit berdasarkan bangsa, umur dan BCS (Body Condition Score)*. Tesis. Institut Pertanian Bogor.
- Isbandi. 2004. Pembinaan kelompok petani ternak dalam usaha ternak sapi potong. *J.Indon. Trop. Anim. Agric.* 29(2): 106-114
- Jackson ML. 2007. *Veterinary Clinical Pathology: An Introduction*. Blackwell Publishing Iowa. hlm 25, 127
- Jain, A.K., Sharma, I.J., Quadri, M.A., dan Tripathi, R.K. 2007. Association of serum electrolytes and minerals of periparturient buffaloes and cows with their neonatal calves as influenced by neem oil. *Buffalo Bull.* 26(3):87-90.
- Jalilian, M.T., dan Moeini, M.M. 2013. The Effect of Body Condition Score and Body Weight of Sanjabi Ewes on Immune System, Productive and Reproductive Performance. *Acta argiculturae Slovenica*, 102/2, 99–106.
- Jarosz, A. 2013. Identification of proteins with variable expression in plasma proteome of heifers before insemination and during pregnancy. *PhD Dissertation*, pp. 1-114
- Jezek, J., Klopčič, M., dan Klinkon, M. 2006. Influence of age on Biochemical Parameters in Calves. *Bull Vet Inst Pulawy* 50, 211-214.
- Johansson, K. 2008. *Salt to ruminants and horses study*. Diakses tanggal 18 Oktober 2018
- Kaneko, J.J., Harvey, J.W., and Bruss, M.L. 1997. *Clinical Biochemistry of Domestic Animals*, Academic Press 5th Ed. San Diego.
- Kaneko, J.J. 2008. *Clinical biochemistry of domestic animals*. 6th edition. Academic Press, New York. : 64.
- Kaplan, L.A., Pesce, A., dan Kazmierczak, S. 2002. *Clinical Chemistry: Theory, Analysis, Correlation*. 4th Ed. St. Louis: Mosby. page 1005.
- Karapehlivan, M.; Atakisi, E.; Atakisi, O.; Yucart, R. dan Pancarci, S.M. (2007). Blood biochemical parameters during the lactation and dry period in Tuj ewes. *Small Ruminant Research* 73: 267-271.
- Kariyasa, K. 2005. Sistem integrasi tanaman ternak dalam perspektif reorientasi kebijakan subsidi pupuk dan peningkatan pendapatan petani. *Jurnal Analisis Kebijakan Pertanian* 3(1): 68-80.
- Kaslow, J.E. 2010. *Analysis of Serum Protein*. Santa Ana:720 North Tustin Avenue Suite 104, CA.
- Kavazis, A. N., Kivipelto, M. S. J., dan Ott, E. A. Supplementation of broodmares with copper, zinc, iron, manganese, cobalt, iodine, and selenium, *J. Equine Vet. Sci.*22,460–464

- Kendran, A.A.S., Damriyasa, I.M., Dharmawan, N.S., Ardana, I.B.K., dan Anggreni, L.D. 2012. Profil Kimia Klinik Darah Sapi Bali. *Jurnal Veteriner*. 13 (4): 410-415
- Kerr, D.N.S. 2002. *Hypo-hypermagnesemia*. Didalam Oxford Textbook of Nephrology. Davison AM, Cameron JS, Gunfield J-P, Ritz E, Winearls. Editor. Edisi ke 2. Oxford University Press, Oxford. 271–310.
- Khan AM, Younus M. 2009. A profile of serum proteins, albumin globulin ratio and total leucocytic count in 6-10 months old healthy and diseased buffalo calves. *IJAVMS*. 3 (2). 73-75.
- Khan, I.S., Singh, C., Tejinder, S., dan Dua, K. 2018. Age Related Changes in Blood Biochemical and Hematological Profile of Buffalo in Calves. *J Vet Sci Technol* 9: 512
- Kida, K. 2002. The Metabolic Profile Test: its practicability in assessing feeding management and periparturient diseases in high yielding commercial dairy herds. *J. Vet. Med. Sci.*, 64(7): 557-663.
- Kiran, S., Bhutta, A.M., Khan, B.A., Durrani, S., Ali, M., Iqbal, F. 2012. Effect of age and gender on some blood biochemical parameters of apparently healthy small ruminants from Southern Punjab in Pakistan. *Asian Pac J Trop Biomed*.2(4): 304-306
- Kley, S., Tschudi, P., dan Busato, A. Establishing canine clinical chemistry reference values for the Hitachi_ 912 using the International Federation of Clinical Chemistry (IFCC) recommendations. *Comp Clin Path.* 12:106–112
- Klinkon, M dan Jezek, J. 2012. *Values of Blood Variables in Calves*. A Bird's-Eye View of Veterinary Medicine, Dr. Carlos C. Perez-Marin (Ed.).
- Kronfeld, D.S., Donoghue, S., Copp, R.I., Stearns, F.M., dan Engle, R.H. 1982. Nutritional status of dairy cows indicated by analysis of blood. *J Dairy Sci*.65:1925-1933
- Kronqvist, C., Emanuelson, U., Spörndly, R. dan Holtenius, K. 2011. Effects of prepartum dietary calcium level on calcium and magnesium metabolism in periparturient dairy cows. *J Dairy Sci*. 94(3):1365-73.
- Kuhn, M.T., J.L. Hutchison and H.D. Norman, 2006. Dry period length to maximize production across adjacent lactations and lifetime production. *J. Dairy Sci*. 89: 1713-1722.
- Kumar, S. 2003. Management of infertility due to mineral deficiency in dairy animals. In: Proceedings of ICAR summer school on “Advance diagnostic techniques and therapeutic approaches to metabolic and deficiency diseases in dairy animals”. *Held at IVRI, Izatnagar*: 128-137.
- Kume, S.E., Yamamoto, E., Kudo, T., Toharmat, T., dan Nonaka, I. 1998. Effect of parity on mineral concentration in milk and plasma of Holstein cows during early lactation. *Asn.J. Anim. Sci*. 11(2):133-138.
- Kume, S., Sato, T., dan Murai, I. 2011. Relationships between urine pH and electrolyte status in cows fed forages. *Anim. Sci. J.*, v.82,p.456-460.
- Kupczynski, R dan Drozdowska, B.D. 2002. Values of selected biochemical parameters of cows' blood during their drying-off and the beginning of lactation. *EJPAU*. 5(1) 01.

- Kurek, L dan Stec, A. 2005. The influence of the perinatal period and age on the levels of selected macroelements, indicators of parenchyma organs and level of free fatty acids [pol.]. *Ann.Univ.Mariae Curie-Skłodowska Lublin-Polonia* 60(6):37-54.
- Kurpinska, A.K. 2013. Identification of proteins with variable expression in plasma proteome of cows in the last month of pregnancy and in the first two months of lactation. *PhD Dissertation*, Szczecin, Poland, pp.1-130.
- Lager, K., dan Jordan, E, 2012. The metabolic profile for the modern transition dairy cow. In: *Proceedings of Mid-South Ruminant Nutrition Conference*, Grapevine, Texas, p. 9–16.
- Landgraf, R., Schulz, J., Eulenberger, K., dan Wijnhelm, J. 1983. Plasma levels of oxytocin and vasopressin before, during and after parturition in cows. *Exp. Clin. Endocr.* 81:321-328.
- Lassen, E.D. 2005. Laboratory evaluation of plasma and serum protein. Di dalam: Thrall MA, editor. *Veterinary Hematology and Clinical Chemistry*. Lippincott Williams & Wilkins. Maryland. Hal. 401-402, 405.
- Latimer. K.S., Duncan, J.R., Mahafrey, E.A., dan Phrasse, K.W. 2011. *Duncan and Prasse's Veterinary Laboratory Medicine: Clinical Pathology*. Ed. 5. Iowa State Press. Wiley Blackwell. Iowa. Hal. 374.
- Lawton, S. 2013. *Mineral Supplements for Beef Cattle*. University of Georgia. *UGA Cooperative Extension Bulletin* 895:1– 4. Diakses tanggal 9 Oktober 2018
- Levy T. K., Crawford P.C., dan Werner L.L. 2006. Effect of age on reference intervals of serum biochemical values in kittens. *Journal of American Veterinary Medicine Association*. 228. P. 1033–1037.
- Lewis, R.S. 2001. Calcium signaling mechanisms in T lymphocytes. *Annu Rev Immunol*, 19 : 497- 521.
- Lismawati. 2016. *Arahan Pengembangan integrasi sawit-sapi dalam peningkatan ekonomi wilayah di Kabupaten Langkat*. Tesis. Institut Pertanian Bogor.
- Macrae, A.I., Whitaker, D.A., Burrough, E., Dowell, A., dan Kelly, J.M. 2006. Use of Metabolic Profile for the Assessment of Dietary Adequacy in UK Dairy Herds. *Veterinary Record*. 159, 655-661
- Madziga, I.I., Alawa, C.B.I, Lamidi,O.S., dan Goska, D.Y. 2013. Assessing the nutritional status of four indigenous breeds of cattle using some blood metabolites in Nigeria. *J of Biol, Agric and Healthcare*. 3 (2).
- Mamun, M.A., Hassa, M., Shaikat, A.H., Islam, S.K.M.A., Hoque, M.A., Uddin, M., dan Hossain, M.B. 2013. Biochemical analysis of blood native cattle in the hilly area of Bangladesh. *Bangl. J. Vet. Med*. 11 (1): 51-56
- Mapekula, M., Mapiye, C., dan Chimonyo, M. 2011. Changes in Metabolites Concentration in Nguni and Crossbred Calves on Natural Pasture. *Asian-Aust. J. Anim. Sci*. Vol. 24, No. 11: 1569 – 1576
- Mapiye C, Chimonyo M, Dzama K, Marufu MC. 2010. Protein Status of indigenous Nguni and Crossbred Cattle in the Semi-arid Communal Rangelands in South Africa. *Asian-Aust. J. Anim. Sci*. 23(2): 213 – 225

- Marcos, E., Mazur, A., Cardot, P., dan Rayssiguier, Y. 1990. The effect of pregnancy and lactation on serum lipid and apolipoprotein B and A-1 levels in dairy cows. *J. Anim. Physiol. Anim. Nutr.* 64, 133-138.
- Martini, F.H., Ober, W.C., Garrison, C., dan Weleh, K. 1992. *Fundamentals of Anatomy and Physiology*. Ed ke-2. New Jersey : Prentice Hall, Englewood Cliffs
- Maryono, E. Romjali, D.B., Wijono., dan Hartatik. 2006. *Paket rakitan teknologi hasil-hasil penelitian peternakan untuk mendukung upaya Kalimantan Selatan mencapai swasembada sapi potong*. Makalah disampaikan pada Diseminasi Teknologi Peternakan, Banjarbaru, 17 Juli 2006.
- Mathius, I.W. 2008. Pengembangan sapi potong berbasis industri kelapa sawit. *Pengembangan Inovasi Pertanian*. 1:206-224.
- Matondang, R.H dan Talib, C. 2015. Model Pengembangan Sapi Bali dalam Usaha Integrasidi Perkebunan Kelapa Sawit . *Wartazoa*. Vol. 25 No. 3. 2015.
- Mayes, P.A., 2000. *Gluconeogenesis and control of the blood glucose*. In: Harper's Biochemistry. RK Murray, DK. Granner, PA. Mayes, dan VW Rodwell, (Eds), McGraw-Hill, New York, USA.
- McDonald, P., Edward, R.A., Greenhalg, J.F.D., Morgan, C.A., Sinclair, L.A., dan Wilkinson, R.G. 2010. *Animal Nutrition. Seventh Edition*. United Kingdom, Pearson.
- Meglia, G.E., Johannison, A., Petersson, L., dan Waller, K.P. 2001. Changes in some blood micronutrients, leukocytes and neutrophil expression of adhesion molecules in periparturient dairy cow. *Acta Vet. Scand.* 42:139-150.
- Meikle, A., Kulcsar, M., Chilliard, Y., Febel, H., Delavaud, C., Cavestany, D. dan Chilbroste, P. 2004. Effects of parity and body condition at parturition on endocrine and reproductive parameters of the cow. *Reproduction* 127: 727-737
- Meliani, S., B. Benallou, M. Halbouche, A. Niar and A. Naceri, 2011. Serum macrominerals, glucose and triglycerides in Arabian mares during different phases of reproduction cycle. *Pak. Vet. J.*,31: 291-294.
- Meuten, D. 2012. Laboratory evaluation and interpretation of the urinary system. di dalam *Veterinary hematology and clinical chemistry*. Mary Anna Thrall, Glade Weiser, Robin Allison, Terry W. Campbell. Lippincott Williams & Wilkins. Maryland. Page 327.
- Mikniene, Z., Maslauskas, K., Kerziene, S., Kucinskiene, J., dan Kucinsks, A. 2014. The Effect of Age and Gender on Bloof Haematological and Serum Biochemical Parameters in Zemaitukai Horses. *Vet.Med.Zoot.*65: 37-43
- Miller, S.C., Leroy, B.E., Tarpley, H.L., Bain, P.J., dan Latimer, K.S. 2004. A brief review of creatinine concentration. Didalam *Veterinary Clinical Pathology*. Clerkship Program. College of Veterinary Medicine. University of Georgia. Athens.
- Mohamed, G.A.E. 2014. Investigation of Some Enzymes Level in Blood and Milk Serum In Two Stages of Milk Yield Dairy Cows at Assiut City. *Assiut Vet. Med. J.* Vol. 60 No. 142

- Mohamed, T., Oikawa, S., Iwasaki, Y., Mizunuma, Y., Takehana, K., Endoh, D., Kurosawa, T., dan Sato, H. 2004. Metabolic profiles and bile acid extraction rate in the liver of cows with fasting-induced hepatic lipidosis. *J Vet Med A Physiol Pathol Clin Med*. 51: 113-118.
- Mohri, M., Sharifi, K., dan Eidi, S. 2007. Hematology and serum biochemistry of Holstein dairy calves: agerelated changes and comparison with blood composition in adults. *Research in veterinary science*. 83. P. 30–39.
- Mordak, R., dan Nickpon, J. 2006. Selected blood parameters in cows at the periparturient period and increasing lactation. *Med. Vet*. 62(11):1292-1294.
- Morris, A.A., Cullen, N.G., dan Upreti, G.C. 1995. Plasma cholesterol and triglyceride concentrations in yearling Angus cattle. *Proceedings of the New Zealand Society of Animal Production*, Vol 55.
- Mouffok, C., Madani, T., Smara, L., Baitiche, M., Allouche, L., dan Belkasmi, F. 2011. Relationship between body condition score, body weight, some nutritional metabolites changes in blood and reproduction in Algerian Montbeliad cows. *Vet. World*, Vol.4(10): 461-466.
- Mundim, A.C., Coelho, A.O, Hortencio, S.M., Guimaraes, E.C., dan Espindola, F.S. 2007. Influence of age and sex on the serum biochemical profile of doberman dogs in the growth phase. *Comp Clin Pathol*. 16:41-46.
- Nafikov, R.A dan Beitz, D.C. Carbohydrate and lipid metabolism in farm animals. *J. Nutr.*, Vol.137, p.702-705, 2007.
- Nale, R.A. 2003. *Metabolic profiling in buffaloes before and after parturition*. M.V.Sc. Thesis submitted to Maharashtra Animal & Fishery Sciences University, Nagpur (Maharashtra).
- Naseema, U., Vairamuthu, S., Balachandran, C., dan Ravikumar, G. 2018. The Infuence of Gender on Haemato-Biochemical Parameters of Thoroughbred Horses. *Indian Vet. J*.95 (07): 17 – 19
- Nazifi S., Saeb, M., dan Ghavami, S.M. 2002. Serum lipid profile in Iranian fat tailed sheep in late pregnancy, at parturition and during the post parturition period. *Journal Veterinary Medicine*,49:9–12.
- Ndebele, N., Mtimuni, J.P., Mpofu, I.D.T, Makuza, S., dan Mumba, P. 2005. The Status of Selected Minerals in Soil, Forage and Beef Cattle in a Semi-arid Region of Zimbabwe. *Tropical Animal Health and Production*, 37. 381-393.
- Ndlovu T, Chimonyo M, Okoh AI, Muchenje V, Dzama K, Raats JG. Assessing the nutritional status of beef cattle: current practices and future prospects. *Afri J Biotech*.6:2727–34.
- Ndlovu, T., Chimonyo, M., Okoh, A.I., Muchenje, V., Dzama, K., dan Raats, J.G. 2007. Assessing the nutritional status of beef cattle: current practices and future prospects. *African Journal of Biotechnology*. 6 (24):2727-2734.
- Nessim, M.Z. 2010. Role of some hormones and blood components during pregnancy and post partum periods in baladi cows. *J.Rad.Res. Appl.Sci*.3: (4)1319-1334
- Njidda, A.A., Hassan, I.T., dan Olatunji, E.A. 2013. Haematological and biochemical parameters of goats of semi arid environment fed on natural

- grazing rangeland of Northern Nigeria. *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*. 3(2): 2319-2372.
- Nozad, S., Ramin, A.G., Moghadam, G., Rezaei, A.S., Babapour, A., dan Ramin, S. 2012. Relationship between blood urea, protein, creatinine, triglycerides and macromineral concentrations with the quality and quantity of milk in dairy Holstein cows. *Vet. Res.* 3(1):55-59.
- Oetzel, G.R. 2004. Monitoring and testing dairy herds for metabolic diseases. *Vet Clin North Am Food Anim Pract.* 20: 651-74.
- Ogren, G. 2013. *Phosphorus to Horses and Cows*. Department of Animal Nutrition and Management Swedish University of Agricultural Science. Uppsala.
- Olayemi, F.O., dan Nottidge, H.O. 2007. Effect of Age on the Blood Profiles of the New Zealand Rabbit in Nigeria. *African Journal of Biomedical Research*, Vol.10; 73–76.
- Onasanya, G.O., Oke, F.O., Sanni, T.M., Muhammad, A.I. 2015. Parameters Influencing Haematological, Serum and Bio-Chemical References in Livestock Animals under Different Management Systems. *Open Journal of Veterinary Medicine*, 5, 181-189.
- Onita, P., dan Colibar, O. 2009. Energy ,protein and mineral profile in periparturient period at dairy cows. *Vol. XLII (2)*.
- Otomaru, K., Shiga, H., Kanome J., dan Yanagita, K. 2015. Blood biochemical values in Japanese Black breeding cows in Kagoshima Prefecture, Japan. *J. Vet. Med. Sci.* 77(8): 1021–1023
- Otomaru, K., Wataya, K., Uto, T dan Kasai, K. 2016. Blood biochemical values in Japanese Black calves in Kagoshima Prefecture, Japan. *J. Vet. Med. Sci.* 78(2): 301–303
- Ottesile, E.B., dan Kasali, O.B. 1992. Effects of age and sex on serum proteins, urea nitrogen and transaminase concentrations in Ethiopian highland sheep. *Bull of Anim Health and Prod in Afr.* 40 (3):181-184.
- Otto, F., Baggasse, P., Bogin, E., Harun, M., dan Vilela, F., 2000. Biochemical blood profile of Angoni cattle in Mozambique. *Israel Vet. Med. Assoc.* 55(3): 1-9.
- Oulun, Y. 2005. Variation in the blood chemical constituents of reindeer, significance of season, nutrition and other extrinsic and intrinsic factors. *Acta Univesitatis Ouluensis, Scientiae Rerum Naturalium*, A440.
- Ozgo, M., Skrzypczak, W.F., Michalek, K., Lepczynski, A., Herosimczyk, A., dan Dratwa, A. 2008. Regulacja gospodarki wodno-elektrolitowej matki i noworodka. Monografi a „Noworodek a środowisko”, Problemy cieląt i krów. *Wyd. UP, Wrocław*, pp 151-180.
- Pal, P and Bhatta, R. Determination of blood metabolites in cross HF cattle at pre-parturient stage: reference value. *Int. J. Pharm. Med. & Bio. Sc.*
- Pambu-Gollah, R., Cronje, P.B., dan Casey, N.H. 2000. An Evaluation of the use of blood metabolite concentrations as indicators of nutritional status in free-ranging indigenous goats. *South African Journal Animal Science.* 30(2): 115-120.

- Patel, M.D., Lateef, A., Das, H., Prajapati, M.V., Kakati, P., dan Savani, H.R. 2016. Estimation of blood biochemical parameters of Banni buffalo (*Bubalus bubalis*) at different age, sex and physiological stages. *J. Livestock Sci.* 7: 250-25.
- Paul, R.K., Gottam, G.S. and Pareek, S. 2011. Effect of lactation and pregnancy on serum biochemical and haematological profiles of surti buffaloes. *Veterinary Practitioner*, 12(1): 94-96.
- Pavlik, A., Filipcik, R., Jelinek, P., Bjelka, M., Havlicek, Z., dan Subrt, J. 2008. Indicators of the Internal Environment of Beef Cattle during Fattening and their Correlation to the Quality of Beef. *Acta Vet Brno*.77: 539-546
- Pavlik, A. 2009. Changes of Internal Environmet Indicators of Aberdeen Angus Heifers During Rearing. *Slovak J.Anim. Sci*, 42, SUPPLEMENT 1; 76-80
- Pavlík, A., Jelinek, P., Matejcek, M. and Illek, J. 2010. Blood Plasma Metabolic Profile of Aberdeen Angus Bulls during Postnatal Ontogenesis. *Acta Vet. Brno* 79: 419–429.
- Payne, J.M. 1972. The Compton metabolic profile test. *Royal Society of Medicine*, 65, 181.
- Peterson, R.G., dan Waldern, D.E. 1982. Repeatabilities of serum constituents in Holstein-Friesians affected by feeding, age, lactation, and pregnancy. *J Dairy Sci.* 64:822-831
- Piao, D.C., Wang, T., Lee, J.S., Vega, R.S.A., Kang, S.K., dan Choi, Y.J. 2015. Determination of reference intervals for metabolic profile of Hanwoo cows at early, middle and late gestation periods. *Journal of Animal Science and Biotechnology.* 6:9.
- Piccione, G., Caola, G., Giannetto, C., Grasso, F., Runzo, S.C., Zumbo, A., and Pennisi, P. 2009. Selected biochemical serum parameters in ewes during pregnancy, post-parturition, lactation and dry period. *Anim. Sci. Papers and Reports*, 27:321-330.
- Piccione, G., Messina, V., Marafioti, S., dan Casella, S. 2012. Change of some haematochemical parameters in dairy cows during late gestation, postpartum, lactation and dry periods. *Veterinarija Ir Zootehnika (Vet Med Zoot)*. T. 58 (80).
- Prisacaru, A.E. 2014. Effects of age, Sex and Breed on Biochemical Blood Parameters of Cattle at Slaughterhouse. *Lucrări Științifice-Seria Zootehnie*. Vol. 62: 164-168.
- Publicover, S., Harper, C.V., dan Barratt, C. 2007. Ca²⁺ signalling in sperm making the most of what you've got. *Nature Cell Biology.* 9: 235-242
- Pysera, B dan Opalka, A. 2000. The effect of gestation and lactation of dairy cows on lipid and lipoprotein patterns and composition in serum during winter and summer feeding. *Journal of Animal and Feed Sciences*, 9, 411 – 424.
- Radostits, O.M., Gay, C.C., Hinchcliff, K.W., dan Constable, P.D. 2007. *Veterinary Medicine: A textbook of the diseases of cattle, sheep, pigs, goats, and horses*. Ed ke 10, Elsevier Health Sciences, Philadelphia, PA, USA
- Rahman, K.R., Islam, S., Ferdous, S., Uddin, M.H., Hossain, M.B., Hassan, M.M., dan Islam, A. 2018. Determination of hematological and serum

- biochemical reference values for indigenous sheep (*Ovis aries*) in Dhaka and Chittagong Districts of Bangladesh. *Veterinary World*. 2231-0916
- Ramos, J.J., Verde, M.T., Marca, M.C., dan Fernandes, A. 1994. Clinical chemical values and variations in Rasa Aragonesa ewes and lambs. *Small Ruminant Research*.13. p.133-139
- Reist, M., Erdin, D., Von, E.D., Tschuemperlin, K., Leuenberger, H., Chilliard, Y., Hammon, H.M., Morel, C., Philipona, C., Zbinden, Y., Kuenzi, N., dan Blum, J.W. 2002. Estimation of energy balance at individual and herd level using blood and milk traits in high-yielding dairy cows. *J. Dairy Sci*. 85: 3314-3327
- Reist, M., Erdin, D., Von Euw, D., Tschuemperlin, K., Leuenberger, H., Delavaud, C., Chilliard, Y., Hammon, H.M., Kuenzi, N., dan Blum, J.W. 2003. Concentrate feeding strategy in lactating dairy cows: metabolic and endocrine changes with emphasis on leptin. *J. Dairy Sci.*,86, 1690-1706
- Reynolds, C.K., Aikman, P.C., Lupoli, B., Humphries, D.J., dan Beever, D.E. 2003. Splanchnic metabolism of dairy cows during the transition from late gestation through early lactation. *Journal of Dairy Science* 86: 1201-1217.
- Rocha, G.F.Q., LeBlanc, S.J., Duffield, T.F., Wood, D., Else, K.E., dan Jacobs, R.M. 2009. Reference limits for biochemical and hematological analytes of dairy cows one week before and one week after parturition. *Can Vet J*. 50:383-388
- Roche, J.R., MacDonald, K.A., Schutz, K.A., Matthews, L.R., Verkerk, G.A., Meier, S., Loor, J.J., Roger, A.R., McGowan, J., Morgan, S.R., Taukiri, S., Webster, R.J. 2013. Calving body condition score affects indicators of health in grazing dairy cows. *J. Dairy Sci.*, 96. 5811-5825
- Rosol, T.J., dan Capen, C.C. 1997. *Calcium-regulating hormones and diseases of abnormal mineral (calcium, phosphorus, magnesium) metabolism*. In: Kaneko, J. J., J. W. Harvey, and M. L. Bruss (eds). *Clinical Biochemistry of Domestic Animals*, 5th edn, pp.619-702. Academic Press, New York/London.
- Rossato, W., Gonzalez, F.H.D., Dias, M.M., Ricco, D., Valle, S.F., Rosa, V.L. Conceicao, T., Durte, F., dan Wald, A.V. 2001. Number of lactations affects metabolic profile of dairy cows. *Archives of Veterinary Science* 6(2):83-88.
- Roubies, N., Panousis, N., Fytianou, A., Katsoulos, P.D., Giadinis, N., dan Karatzias, H. 2006. Effects of Age and Reproductive Stage on Certain Serum Biochemical Parameters of Chios Sheep Under Greek Rearing Conditions. *J. Vet. Med.* A 53, 277-281
- Roussel, J.D., Seybt, S.H., dan Toups, G. 1982. Metabolic profile testing for Jersey cows in Louisiana: Reference values. *Am J Vet Res*.43: 1075-1077.
- Roy, B., Brahma, B., Ghosh, S., Pankaj, P.K., dan Mandal, G.2011. Evaluation of Milk Urea Concentration as Useful Indicator for Dairy Herd Management: A Review. *Asian Journal of Animal and Veterinary Advances*.6: 1-19.
- Sakha, M., Shamesdini, M., Mohamad, Z.F. 2008. Serum Biochemistry Values in Raini Goat of Iran. *The Internet J of Vet Med*. 6(1).

- Salem, N.Y. 2017. Effect of lactation on hemato-biochemical and minerals constituents in small ruminant. *Inter J Vet Sci*, 6(1): 53-56.
- Samadi, F., Vlache, D., Martin, G.B., dan Occhio, M.J. 2014. Nutrition, metabolic profiles and puberty in Brahman (*Bos indicus*) beef heifers. *Animal Reproduction Science* 146 (2014) 134–142.
- Samanc, H., Kirovski, D., dan Stojic, V. 2011. Application of the metabolic profile test in the prediction and diagnosis of fatty liver in Holsteincows. *Acta. Vet. Beograd*, Vol.61, p.543-553, 2011.
- Samanc, H., Gvozdic, D., fratric, N., Kirovski, D., Djokovic, R., Sladojevic, Z., dan Cincovic, M. 2015. Body condition score loss, hepatic lipidosis and selected blood metabolites in Holstein cows during transition period. *Animal Science Papers and Reports*. Vol.33.no. 1,35-47.
- Samardzija, M., Vince, S., dan Duricic, D. 2013. Association of parity, fecundity and body condition score with blood serum concentration of some metabolites during pre and post parturient period in German Improved Fawn goats. *Veterinarski Arhiv* 83 (5), 469-477.
- Santi, W.P. 2008. *Respons Penggemukan Sapi PO dan Persilangannya sebagai Hasil IB terhadap Pcemberian Jerami Padi Fermentasi dan Konsentrat di Kabupaten Blora*. Skripsi. Fakultas Peternakan Institut Pertanian Bogor.
- Sattler, N., Fecteau, G., Couture, Y., dan Tremblay, Y. 2001. Evaluation des equilibres pottasiques chez la vache laitiere et etude de ses variations journalieres et selon le stade de production. *Can. Vet. J.* 42:107-115.
- Sattler, N., dan Fecteau, G. 2014. Hypokalemia Syndrome in Cattle. *Veterinary Clinics of North America: Food Animal Practice*, 30(2): 351-357.
- Schauff, D. 2014. *The Importance of Macro-Minerals: Magnesium. The Agri-King Advantage Vol.5 Issue 3* : 1–4.
- Schneider, S., Miller, A., dan Wittek, T. 2016. Concentration of Potassium in Plasma, Erythrocytes, and Muscle Tissue in Cows with Decreased Feed Intake and Gastrointestinal Ileus. *J Vet Intern Med.* 30:679–685.
- Scholz, M.C. 2005. *Laboratory tests defined. PCRI*: 8(2) : 1-6.
- Sevinc, M., Basoglu, A dan Guzelbektas, H. 2003. Lipid and Lipoprotein Levels in Dairy Cows with Fatty Liver. *Turk J Vet Anim Sci*, 27, 295-299.
- Shalit, U., Maltz, E., dan Silanikove, N. 1991. Water, Sodium, Potassium, and Chlorine Metabolism of Dairy Cows at the Onset of Lactation in Hot Weather. *J Dairy Sci.* 74:1874-1883
- Shrikhande, G.B., Rode, A.M., Pradhan, M.S., dan Satpute, A. K. 2008. Seasonal effect on the composition of blood in cattle. *Veterinary World*, 1(11): 341-342.
- Singh, A., and Choudhary, R.P. 1988. Biochemical studies in Sahiwal and crossbred cattle. *Indian Veterinary Journal.* 65(9): 791-796.
- Skrzypczak, W., Kuroinska, A., Stanski, L., dan Jarosz, A. 2014. Sodium, Potassium and Chloride Homeostatis in Cows During Pregnancy and First Months of Lactation. *Acta Biologica Cracoviensia Series Zoologia.* 55/56: 58–64.
- Smith, B.P. 2009. *Large animal internal medicine.* 5 th edition. Missouri: Mosby: 1374-1375.

- Soares, M.C., De Paula, M.R., Slanzon, G.M., Rocha, F.H., Mourao, G.B., dan Bittar, C.M.M. 2017. Clinical, blood gas and biochemical profile of diarrheic dairy calves fed starter concentrate containing citrus pulp as a replacement for corn. *Pesq. Vet. Bras.* 37(8):790-796,
- Soares, G.S., Souto, R.J.C., Cajueiro, J.F.P., Afonso, J.A.B., Rego, R.O., Macedo, A.T.M., Soares, P.C., dan Mendonca, C.L. 2018. Adaptive changes in blood biochemical profile of dairy goats during the period of transition. *Revue Méd. Vét.* 169, 1-3, 65-75
- Soca, P., Carriquiry, M., Claramun, M., Gestido, V., dan Meikle, A. 2013. Metabolic and endocrine profiles of primiparous beef cows grazing native grassland. 1. Relationships between body condition score at calving and metabolic profiles during the transition period. *CSIRO-Animal Production Science*
- Soliman, E. B. 2014. Effect of physiological status on some haematological and biochemical parameters of ossimi sheep. *Egyptian Journal of Sheep & Goat Sciences*, 9 (2):33- 42.
- Somponpun, S.J., dan Sladek, C.D. 2003. Osmotic regulation of estrogen receptor- β in rat vasopressin and oxytocin neurons. *J. Neurosci.* 23(10):4261-4269.
- Spears, J.W. 2011. *Importance Of Salt In Digestion And Absorption Of Nutrients: 1–4*. Diakses tanggal 22 September 2018.
- Stefanska, B., Nowak, W., Oszmalek, E.P., Mikula, R., Stanislawski, D., Potocka, M.K., Frankiewicz, A dan Mackowiak, P. 2016. The Effect of Body Condition Score on The Biochemical Blood Indices and Reproductive Performance of Dairy Cow. *Ann. Anim. Sci.*, Vol. 16, No. 1.129–143.
- Stercova E, Pazout V, Strakova E, Suchy P. 2005. Effects of intensive fattening of bulls based on a high-grain diet on growth intensity and biochemical and acid-base parameters of blood. *Czech J Anim Sci.* 50 (8): 355-361.
- Stevanovic, O., Stojiljkovic, M., Nedic, D., Radoja, D., Nikolic, V., Prodanovic, R., Ivanov, S., dan Vujanac, I. 2015. Variability of blood serum biochemical parameters in Karakachan sheep. *Biotechnology in Animal Husbandry*, Zemun, v. 31, n. 1, p.55-62.
- Stojevic, Z., Milinkovic-Tur, S., Zdelar-Tuk, M., Pirsljin, G., Galic, G., dan Bacic, I. 2002. Blood minerals and metabolites as an indices of metabolic disturbances in dairy cattle. *Praxis Vet.* 50, 261-264.
- Stojevic, Z., Milinkovic-Tur, S., dan Poljicak-Milas, N. 2003. Hypomagnesemia In domestic animals-its causes and consequences. *Praxis Vet.* 51, 197-201.
- Stojevic, Z., Pirsljin, J., dan Milinkovic, T.S. 2005. Activities of AST, ALT, and GGT in clinically healthy dairy cows during lactation and in the dry period. *Vet. Arhiv*, v.75, p.67-73.
- Stojevic, Z., Filipovic, N., Bozic, P., Tucek, Z., dan Daud, J. 2008. The metabolic profile of Simmental service bulls. *Vet Arhiv.* 78 (2): 123-129.
- Sugeng, Y.B. 2005. *Sapi Potong*. Penebar Swadaya. Jakarta.
- Sukandar, A., Purwanto, B.P., dan Anggraeni, A. 2008. Keragaan Body Condition Score dan Produksi Susu Sapi Perah Friesian-Holstein Di Peternakan Rakyat KPSBU Lembang, Bandung. Seminar Nasional Teknologi

- Teknologi Peternakan dan Veteriner. Fakultas Peternakan. Institut Pertanian Bogor: Bogor.
- Suttle, N.F. 2010. *Mineral Nutrition of Livestock*: 4th Edition. CABI, United Kingdom.
- Taghipour, B., Hesam, A.S., Mohri, M., Farzaneh, N. dan Naserian, A. 2010. Variations of Energy Related Biochemical Metabolites During Periparturition Period in Fat-Tailed Baloochi Breed Sheep. 2(2):85-92.
- Tajik, J., Sazmandi, A., Moghaddam, S.H., and Rasooli, A. 2013. Serum concentrations of thyroid hormones, cholesterol and triglyceride, and their correlations together in clinically healthy camels (*Camelus dromedarius*): Effects of season, sex and age. *Veterinary Research Forum*. 4 (4) 239-243.
- Teleb, D.F., Ahmed, N.A.H., El-Din, H.A.T., El Soud, S.M.A., dan Hassan, O.M. 2014. Study on levels of some blood hormonal and biochemical constituents during different reproductive status in saidi ewes. *Egyptian Journal of Sheep & Goat Sciences*, Vol. 9 (3), P: 105- 113.
- Tennant, B.C., dan Center, S.A. 2008. Hepatic function di dalam *Clinical Biochemistry of Domestic Animal*. Jiro Jerry Kaneko, John W. Harvey, Michael L. Bruss. Elsevier inc.
- Thompson, C. dan Hoorn, E.J. 2012. *Hyponatraemia: an overview of frequency, clinical presentation and complications*. Best Practice & Research Clinical Endocrinology & Metabolism. 26: S1-S6.
- Tillard, E., Humblot, P., Faye, B., Lecomte, P., Dohoo, I., dan Bocquier, F. 2007. precalfing factors affecting conception risk in Holstein dairy cows in tropical conditions. *Theriogenology*. 68: 567-581
- Torell, R., Bruce, B., dan Kvasnicka, B. 2003. *Methods of Determining Age of Cattle*. Ken Conley, Gund Research and Demonstration Ranch Manager. pp: 1-3.
- Tothova. C., Nagy, O., dan Kovac, G. 2014. Changes in the concentrations of serum protein fractions in calves with age and nutrition. *Italian J of Anim Sci*. 13(1)
- Turner, J. W. 1977. Genetic and biological aspects of Zebu adaptability. *J. Anim. Sci*. 50:1201-1205.
- Underwood, E.J. dan Suttle, N.F. 1999. *The Mineral Nutrition of Livestock*, 3rd ed. CAB International, Wallingford, UK. 105 – 185.
- Upadhyay, S.R., Singh, A.K., Sharma, N., Kumar, P., Hussain, K. dan Soodan, J.S. 2006. Impact Of Minerals Upon Reproduction In Farm Animals. *The Indian Cow*: 38 – 41.
- Van Saun, R.J. 1997. Nutritional profiles: A new approach for dairy herds. *Bov Pract*: 31(2): 43-50.
- Van Saun R.J. 2000. Blood profiles as indicators of nutritional status. *Adv dairy tech*. 12; 401.
- Van Saun, R.J., Todd, A., dan Varga, G. 2004. Serum mineral concentrations and periparturient disease in Holstein dairy cows. *Proceedings 12th International Conference on Production Diseases of Farm Animals*, East Lansing, Michigan.

- Van Saun, R.J. 2006. *Metabolic Profiles for Evaluation of the Transition Period*. Department of Veterinary and Biomedical Sciences, Pennsylvania State University.
- Van Saun, R.J., Todd, A., dan Varga, G.A. 2006. Serum mineral concentrations and periparturient health status in Holstein dairy cows. In: World Buiatrics Congress 24., 2006, Nice. *Proceedings*. p.65-77.
- Velladurai, C., Selvaraju, M. dan Napoleon R. E. 2016. Effects of Macro and Micro Minerals on Reproduction in Dairy Cattle A Review. *International Journal of Scientific Research in Science and Technology*. Volume 2 Issue 1:68 – 70.
- Villarroel, A., Miller, T.B., Johnson, E.D., Noyes, K.R., dan Ward, J.K. 2013. Factors affecting serum total protein and immunoglobulin G concentration in replacement dairy calves. *Adv Dairy Res*. 1:106.
- Vinardell, M. P. 1987. Age influences on intestinal sugar absorption. *Comp. Biochem. Physiol. A* 86, 617–623.
- Watanabe, U., Takagi, M., Yamato, O., Otoi, T., tshering, C dan Okamoto, K. 2013. Metabolic profile of japanese black breeding cattle herds: Usefulness in selection for nutrient supplementation to enhance reproductive performance and regional differences. *J. Vet. Med. Sci.* 75(4): 481–487.
- Watson, T.D.G., Burns, L., Packard, C.J., dan Sheperd, J. 1993. Effects of pregnancy and lactation on plasma lipid and lipoprotein concentrations, lipoprotein composition and post-heparin lipase activities in Shetland pony mares. *Journal of Reproduction and Fertility* 97, 563-568.
- Waziri, M.A., Ribadu, A.Y., dan Sivachelvan, N. 2010. Changes in the serum proteins, hematological and some serum biochemical profiles in the gestation period in the Sahel goats. *Veterinarski Arhiv*.80 (2),215-224.
- Whitaker, D.A., Goodger, W.J., Garcia, M., Perera, M.M.A.O., dan Witter, F. 1999. Use of metabolic profiles in dairy cattle in tropical and subtropical countries on smallholder dairy farms. *Preventive Veterinary Medicine* 38. 119-131.
- Whitaker, D.A. 2000. Use and interpretation of metabolic profile. Oxford: Wiley Blackwell, 2000. p.89-107.
- Wijono, D.B., Affandhy, L., dan Rasyid, A. 2003. Integrasi Ternak dengan Perkebunan Kelapa Sawit. *Lokakarya Sistem Integrasi Kelapa Sawit-Sapi*.
- Winnicka. 2008. Wartości referencyjne podstawowych badań laboratoryjnych w weterynarii. *SGGW, Warszawa*.
- Wooding, F.B.P., Morgan, G., Fowden, A.L., dan Allen, W.R. 2000. Separate sites and mechanisms of placental transport of calcium, iron and glucose in the equine placenta. *Placenta*, 21, 635–645,
- Wyss, M. 2000. Creatinine and creatinine metabolism. *Physiological Reviews*. 8(3): 1107-1213.
- Yamada, S., Ito, T., Tamura, T, dan Shiomi, M. 2004. Age Related Changes in Serum/Plasma Biochemical Parameters of WHHLMI Rabbits. *Exp. Anim*. 53(2), 159-163.

- Yanuartono, Nururrozi, A., Indarjulianto, S., dan Purnamaningsih, H. 2016. Peran Makromineral pada Reproduksi Ruminansia. *JSV* 34 (2).
- Yaylak, E., Yenisey, C., dan Seyrek, K. 2009. Effects of Lameness, Stage of Lactation and Body Condition Score on Some Blood Parameters in Holstein Cows. *AJAVA*: 4: 245-251.
- Yeom, S.C., Cho, S.Y., park, C.G., dan Lee, W.J. 2012. Analysis of reference interval and age-related changes in serum biochemistry and hematology in the specific pathogen free miniature pig. *Lab Anim Res* 2012: 28(4), 245-253.
- Yeung, C.H., dan Cooper, T.G. 2008. Potassium channels involved in human sperm volume regulation, quantitative studies at the protein and mRNA levels. *Molecular Reproduction and Development*. 75 (4): 659–668.
- Yokus, B., dan Cakir, U.D. 2006. Seasonal and physiological variations in serum chemistry and mineral concentrations in cattle. *Biol. Trace Elem. Res.* 109(3): 255-266.
- Yokus, B., Cakir, U.D., Kanay, Z., Gulten, T., dan Uysal, E. 2006. Effects of seasonal and physiological variations on the serum chemistry, vitamins and thyroid hormone concentrations in sheep. *J. Vet. Med.* A.53: 271-276.
- Zaidan, N.K., Mohamed, W.M., Hamad, A.S. 2015. Activity of Phosphatase Enzymes, Concentration of Protein and Divalent Ions in Sheep Sera during different Physiological Status. *Journal of Animal Health and Production*. Vol.3. Page 78-81.
- Ziegler, R. 2001. Hypercalcemic crisis. *J Am Soc Nephrol* 12: S3–S9.
- Zinkl, J.G., Mae, D., Guzman, M.P., Farver, T.B., dan Humble, J.A. Reference ranges and the influence of age and sex on hematologic and serum biochemical values in donkeys (*Equus asinus*). *American Journal of Veterinary Research*. 51. P. 408–413.