

## DAFTAR PUSTAKA

- Aberle De, J.C. Forrest, D.E. Gerrad, and E.W. Milss. 2001. Principles of Meat Science. Fourth Edition. W.H, Freeman and Company San Francisco United Nation of America.
- Aboenawan, L. 1991. Pertambahan bobot badan , konsumsi ransum, dan total digestible nutrient (TDN) pellet isi rumen dibanding pellet rumput pada domba jantan. Laporan Penelitian. Fakultas Peternakan. Institut Pertanian Bogor, Bogor.
- Afriyanto. 2008. Adopsi inovasi pada peternakan sapi potong di Kabupaten Sleman, Yogyakarta. Skripsi Fakultas Peternakan. Universitas Gadjah Mada, Yogyakarta.
- Afrizal, R. Sutrisna, and Muhtarudin. 2014. Forage Production of Ruminants in Bumi Agung District East Lampung Regency. Department of Animal Husbandry, Faculty of Agriculture Lampung University. Lampung.
- Alexander, R.H. and M. MCGowan. 1966. The Routine Determination Of *In Vitro* Digestibility Of Organic Matter In Forages-An Investigation Of The Problems Associated With Continuous Large Scale Operation. The journal of the British Grassland Society
- Anggraeny, Y. Nur; Soetanto, Kusmantono, dan Hartutik. 2015. Sinkronisasi suplai protein dan energi dalam rumen untuk Meningkatkan Efisiensi Pakan Berkualitas Rendah. *Wartazoa* 25(3): 107 - 116.
- Anggraeny, Y.N., D. Pamungkas, N.H. Krishna, S.P. Quigley and D.P. Poppi. 2010. Feeding Strategies to increase growth of early weaned Bali calves in East Java. Proceeding of The 5th International Seminar on Tropical Animal Production Community Empowerment and Tropical Animal Industry October 19-22, 2010, Yogyakarta, Indonesia. Pp 433 - 436.
- AOAC. 2005. Official Methods of Analysis. Association of Official Analytical Chemists. Editor : Horwitz, W and G.W. Latimer, Jr. Published by AOAC International. 18<sup>th</sup> Edition. USA.
- Aoetpah, A. 2002. Fluktuasi ketersediaan dan kualitas gizi padang rumput alam di pulau Timor. *J. Dryland Agric.* 11: 32 - 43.
- Arief. 2013. Suplementasi Probiotik pada ransum kambing perah berbasis produk samping industri pengolahan sawit. Disertasi: Program Doktor Program Pascasarjana Universitas Andalas, Padang.
- Arif, M.A., L.T. Suwanti, Estepangestie, and M. Lamid. 2017. The Nutrients Contents, Dry Matter Digestibility, Organic Matter Digestibility, Total Digestible Nutrient, and NH<sub>3</sub> Rumen Production of Three Kinds of Cattle Feeding Models. The Veterinary Medicine International Conference 2017. Airlangga University. Surabaya.
- Arora, S.P. 1995. Pencernaan Mikrobial pada Ruminansia. Cetakan ke-2. Gadjah Mada University Press, Yogyakarta.
- Asnah. 1997. Pakan Potensial sebagai Sumber Hijauan untuk Penggemukan Sapi di Nusa Tenggara Timur. Seminar Nasional Peternakan dan Veteriner.

- Astuti, M.J. 1999. Pemuliaan Ternak Pengembangan Dan Usaha Perbaikan Genetik Ternak Lokal. Pidato Pengukuhan Guru Besar dalam Ilmu Pemuliaan Ternak pada Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta.
- Badan Litbang Pertanian. 2013. Mengenal Participatory Rural Appraisal (PRA). Tersedia di <http://malut.litbang.pertanian.go.id>. Diakses 25 November 2015.
- Balai Penelitian Tanaman Palma, 2015. Potensi gewang di Provinsi Nusa Tenggara Timur. Posted on 2 oktober 2015, Kupang.
- Bamualim, A, A. Pohan and B. Tiro. 2015. The Growth Rates Baliness Cattle Fed with Native grass and Putak Base Diet and supplemented with *Sesbania* sp Leaf and Urea in East Nusa Tenggara, Prossiding Seminar Nasional Teknologi Peternakan dan Veteriner, Kupang.
- Bamualim, A., Kale, Taek, J. Nulik, dan R.B. Widahayati. 1993. Pengaruh Suplemen daun kedondong hutan (*Lannea gradis*), turi (*Sesbania grandiflora*), *Carypha gebanga*) dan putak campur urea terhadap pertumbuhan ternak sapi Bali pada musim kemarau. Publikasi wilayah kering 1 : 1 - 5.
- Bamualim, A.. 2011. Pengembangan teknologi pakan sapi potong di daerah semi-arid Nusa Tenggara. Pengembangan Inovasi Pertanian 4(3): 175 - 188.
- Banks, D. 1986. Analysis of livestock survey data; in NTTLDP. Completion Report. II. Livestock.ACIL, Malbourne. Pp 63 - 91.
- Barnes, R.F., C.J. Nelson, K.J. Moore, and M. Collins. 2007. Forages: The Science of Grassland Agriculture. Volume II. 6<sup>th</sup> edition. Wiley Blackwell, USA.
- Bettencourt, Tilman, Narciso, Carvalho, and Henriques. 2014. The role of livestock functions in the well being and development of Timor-Leste rural communities. ICAAM and Department of Veterinary Medicine, University of Évora, Portugal.
- Black, J.L. 1983. Implication of Development in Meat Science Production and Marketing for Lamb product.
- Block, E. 2006. Rumen Microbial Protein production : Are we missing an opportunity to improve dietary and economic efficiencies in protein nutrition of the high producing daery cow? High plans dairy conference available at Acession date 12 June 2017 :<http://www:highplansdairy.org/2006/Block-pdf> (2) February, 2007
- Branco, A.F., G. Moreli, Jobim, U. Ccato, Guimaraes, and S. Teixeira. 2010. Performance of Nellore steers grazing on *Panicum maximum* Jacq cv. Mombaça receiving chopped sugar cane tops and protein supplementation. Acta Sci. 32(4): 455 - 460.
- Broderick, and A. Glen. 2006. Improving Nitrogen Utilization in the Rumen of the Lactating Dairy Cow. Agricultural Research Service, USDA, US Dairy Forage Research Center.1925 Linden Drive West, Madison 53706. [gbrodi@wisc.edu](mailto:gbrodi@wisc.edu).
- Brody, S. 1945. Bionergetics and Growth with Special Reference to Efficiency Complex in Domestic animal. Hafner Press.London.

- Burris, R. and J. Johns. 1984. Feeding the Cow Herd. Available at <http://www2.ca.uky.edu/agcomm/pubs/id/id108/07.pdf>. Diakses 23 Februari 2017.
- Burrow, H.M. 1998. The effects of inbreeding on productive and adaptive traits and temperament of tropical beef cattle. *Livest. Prod. Sci.* 55: 227 - 243.
- Cajarville, C., M. Aguerre, and J.L. Repetto. 2006. Rumen pH, NH<sub>3</sub>-N concentration and forage degradation kinetics of cows grazing temperate pastures and supplemented with different sources of grain. *Anim. Res.* 55: 511 - 520
- Church, D. C. 1976. Digestive Physiology and Nutrition of Ruminants. Vol 1. 2<sup>nd</sup> Ed. Metropolitan Printing Co. Overton Portland, Oregon.
- Copland, R.S., A.B.M. Afonso, L.B. Fontes, and E.A. Serrao. 2003. The role of livestock in development of East Timor – Constraints and potential. ACIAR Proceedings. Pp 113. Australia.
- Correia, P.V., R.F.M. Rubzen, Hanes, and A. Jong. 2014. Sistema Agricultura em Timor-Leste. Departamento de Socio-Economia, Faculdade de Agricultura. Universidade Nacional Timor Loro Sae, Dili.
- Cottrill, B.R. 1998. A review of current nutritional models. What we need to measure. In vitro in techniques for measuring nutrient supply to ruminants . Occasional publication. *Br.Soc. Anim. Sci.* 22: 21 - 31.
- Crowder, L.V dan H.R. Chheda. 1992. Tropical Grassland Husbandry. Longman Inc. New York. 233-244.
- Cullison, A.E. 1979. Feeds and Feeding. 2<sup>nd</sup> ed. Reston Publishing Company Inc., Reston.
- Da Costa, H., C. Piggim, C.J. Cruz, and J.J. Fox. 2003. Agriculture: New Directions for a New Nation East Timor, ACIAR, Canberra.
- Da Cruz, J.C. 2003. Livestock development in East Timor. ACIAR Proceedings P. 113. Director General, Ministry of Agriculture, Forestry and Fisheries, Dili.
- Dahllanuddin, M.L. Mulik, Y.A. Sutaryono, C.D.C, Varela, Coimbra, L De Deus P, and Supriyadi. 2012. Developing Strategy for Improving Bali Cattle Productiity in Timor-Leste. Fakultas Peternakan, Universitas Mataram, NRB, Universitas Nusa Cendana, Kupang, NTT. Ministry of Agriculture and Fishier, Timor-Leste.
- Damry. 2009. Produksi dan kandungan nutrient hijauan padang penggembalaan alam di kecamatan Lore Utara, Kabupaten Poso. *J. Agroland* 16(4): 296 - 300.
- Deutschmann, K., C. Phatsara, C. Sorachakula, Vearasilp, W. Phunphiphat, A. Cherdthong, K. Gerlach, and K. Sudekum. 2017. In vitro gas production and in vivo nutrient digestibility and growth performance of thai indigenous cattle fed fresh and conserved pangola grass. *Ital. J. Anim. Sci.* 16(3): 521 - 529.

Endang, B, Rio,G, I Gede B=S.B, Ali, A, Trisakti,H, Panjono, Bambang, S,Sigit B, Febri, A, Yuriadi, Bambang, S, Budi G, Galih,T.Y dan Bayu, A.A. 2016. Performance of Bali Cows during pregnancy kept by smallholder Patner of PT. Perkebunan Nusantara Riau. Prossiding Simposium Nasional Penelitian dan Pengembangan Peternakan Tropik, Fakultas Peternakan Universitas Gadjah Mada, Yogyakarta.ISBN : 978-979-1215-28-2.

Erdman, R. A., G. H. Proctor, and J. H. Vandersall. 1986. Effect of rumen ammonia concentration on *in situ* rate and extent of digestion of feedstuffs. *J. Dairy Sci.* 69: 2312 - 2320.

Eriksson, A. 2015. Increasing the knowledge of Bali cattle management- The key to maintain genetic variation and improve animal welfare. Examensarbete / Swedish University of Agricultural Sciences Department of Animal Breeding and Genetics. Swedish.

Evans, D.O., R.J. Joy, and C.L. Chia. 1988. Cover cro for orchards in Hawaii. Honolulu. University of Hawaii. 16 p. Research Extension Series; Res. 094.

Food and Agriculture Organizatio of the United Nations. 2011. Global Livestock production systems.

Fuah, A.M., M. Baihaqi, R. Priyanto, L. Abdullah, and Ismail. 2015. Beef Cattle Production System, Constraints and Opportunities for Small Farmers in South Central Timor Regency, West Timor.Proceeding of the 3rd International Seminar on Animal Industry, Bogor, 17 - 18 September.

Ginting, M. 2000. The influence of fermented putak in pig diets digestibility and growth performance of weaning pigs (Dissertation ). Gotingen/Germany : Institute of aimals Physiology and animal nutrition, Georg- August University. Germany.

Ginting-Moenthe, U. 2000. The Influence of Fermented Putak in Pig Diets Digestibility and Growth Performance of Weanling Pigs. Doctoral Dissertation, Institute of Animal Physiology and Animal Nutrition, Georg-August University, Göttingen, Germany.

Graser, H. 2003. Option for genetic improvement of bali cattle assessing the strengths and weaknesses of alternative strategies. *Prosiding seminar strategies to improve bali cattle in Eastren Indonesia*. Australian Centre for International Agricultural Research. Denpasar, 4 - 7 Februari 2002.

Grummer, Clark, Davis and Murphy. 1984. Effect of Ruminial Ammonia-Nitrogen Concentration on Protein Degradation In Situ. *J. Dairy Sci.* 67(10): 2294 - 2301.

Gunawan, A. K. Jamal dan C. Sumantri. 2008. Pendugaan bobot badan melalui analisis morfometrik dengan pendekatan regresi terbaik Best Subset pada domba garut tipe pedaging, tangkas dan persilangannya. *Majalah Peternakan.* 11: 1-6.

Gunawan, A., Sari, R., & Parwoto, Y. 2011. Genetic Analysis Of Reproductive Traits In Bali Cattle Maintained On Range Under Artificially And Naturally Bred. *J.Indonesian Trop.Anim.Agric.* 36(3) September

Hartono, B. 2012. Peran Daya Dukung wilayah terhadap pengembangan usaha peternakan sapi Madura. *Jurnal Ekonomi Pembangunan.* 13 (2) : 316 – 326.

- Haryanto, B. 2012. Perkembangan Penelitian Nutrisi Ruminansia. Watazoa. 22 (4). Balai Penelitian Ternak.
- Hau, D.K., M. Nenobais, J. Nulik, dan N.G. F. Katipana. 2005. Pengaruh probiotik terhadap kemampuan cerna mikroba rumen sapi Bali. Seminar Nasional Teknologi Peternakan dan Veteriner. Medan.
- Hermon, Suryahadi, K.G. Wiryawan dan S. Hardjosoewignjo. 2008. Nisbah Sinkronisasi Suplai N-protein dan energi dalam rumen sebagai Formulasi ransum ternak ruminansia. Media Peternakan. Vol. 31. No 3 Desember: halaman 186-194.
- Hikmawaty, Gunawan, A), RR Noor, RR dan Jakaria. 2014. Identifikasi Ukuran Tubuh bentuk Tubuh sapi Bali di beberapa pusat Pembibitan melalui Analisis komponen Utama. Institut Pertanian Bogor, Bogor ISSN 2303-2227, Pp :231 – 237.
- Hilakore, M.A. (2008). Peningkatan Kualitas Nutritif Putak Melalui Fermentasi Campuran *Trichoderma reesei* dan *Aspergillus niger* Sebagai Pakan Ruminansia. Disertasi. Sekolah Pascasarjana, Institut Pertanian Bogor, Bogor.
- Hoover, W. H. and S. R. Stokes, 1991. Balancing carbohydrates and proteins for optimum rumen microbial yield. J. Dairy Sci 74:3630-364.
- Hou, M., G. Gentu, T. Liu, Y. Jia, and Y. Cai. 2017. Silage preparation and fermentation quality of natural grasses treated with lactic acid bacteria and cellulase in meadow steppe and typical steppe. Asian-Australas J. Anim. Sci. 30(6) :788 - 796.
- Hume, I.D. 1982. Digestion and Protein Metabolism. In: A Course Manual in Nutrition and Growth. AUIDP and AAUCS. Melbourne.
- Imran, S.P.S. Budhi, N. Ngadiyono, dan Dahlanuddin. 2012. Pertumbuhan pedet sapi Bali lepas sapih yang diberi rumput lapangan dan disuplementasi daun turi (*Serbania grandiflora*). Agrinimal, Jurnal Ilmu Ternak dan Tanaman 2: 55 - 60.
- Jelantik, I.G.N. 2001. Improving Bali cattle production through protein supplementation. PhD Thesis. The Royal Veterinary and Agricultural University, Copenhagen. Denmark.
- Kagu, H.A.M., A.I. Zarah, Aja and Mohammed. 2018. Assessing the nutritive value of some common tropical feeds for feeding ruminants in a semi-arid environment of Nigeria. Nig. J. Anim. Sci. Tech. 1(1): 31 - 37.
- Karsli, M. A., and Russel, R. R. 2001. Effects of Source and Concentrations of nitrogen and Carbohydrate on ruminal microbial protein synthesis Turk J Vet Anim Sci: 26 : pp 201-207.
- Kearl, L.C. 1982. Nutrient Requirements of Ruminants in Developing Countries. International Feed stuffs Institute Utah Agricultural Experiment Station Utah State University, Logan, Utah.
- Kementerrian Pertanian Nomor 325/Kpts/OT.140/1/2010. Tentang Penetapan Rumpun Sapi Bali.

- Khampa, S and Wanapat. 2006. Supplementation level of concentrate containing high levels of cassava chip on rumen ecology and microbial protein synthesis in cattle. *Pak. J. Nutr.* 5 (6): 501 - 506.
- Kimisarczuk-Bony, S. And M. Durand. 1991. Nutrient requirement of rumen microbes. In: *Recent Advances on the Nutrition of Herbivores. Proceeding of the Third International Symposium on the Nutrition of Herbivores.* (Y.W. Ho, H. K. Wong, N. Abdullah, and Z. A. Tajuddin (Ed)). Malaysian Society of Animal Production. UPM. Serdang.
- Kleden, M.M., M.R.D. Ratu, dan M.D.S. Randu. 2015. Kapasitas tampung hijauan pakan dalam areal perkebunan kopi dan padang rumput alami di Kabupaten Flores Timur Nusa Tenggara Timur. *Jurnal Zootek* 35(2): 340 - 350.
- Koddang, M.Y.A. 2008. The effect of feeding level of concentrate on dry matter and crude protein digestibility of male Bali steers which get king grass (*Pennisetum purpurephoides*) Ad-libitum. *J. Agroland* 15(4): 343 - 348.
- Koster, H.H., Woods, Cochran, Vanzant, Titgemeyer, Grieger, Olson, and Stokka. 2002. Effect of increasing proportion of supplemental N from urea in prepartum supplements on range beef cow performance and on forage intake and digestibility by steers fed low-quality forage<sup>1,2</sup>. *American Society of Animal Science. All rights reserved. J. Anim. Sci.* 80: 1652 - 1662.
- Kubkomawa, H., H.U. Olowuye, L.J. Krumah, E.B. Etuk, and I.C. Okoli. Nutrient requirements and feed resources availability for pastoral cattle in the tropic Africa. A review. *J, Agric, Crop Res* 3 : 100 – 116.
- Kushartono, B. dan N. Iriani. 2004. Inventarisasi keanekaragaman pakan hijauan guna mendukung sumber pakan ruminansia. *Prosiding Temu Teknis Nasional tenaga Fungsional Pertanian*: 66 - 71. Malang.
- Las, I., A.K. Makarim, A. Hidayat, A.S. Karama, dan I. Manwan. 1991. *Peta Agroekologi Utama Tanaman Pangan di Indonesia*, Pusat Penelitian dan Pengembangan Tanaman Pangan, Balitbang Pertanian-Departemen Pertanian.
- Lasley, J.F. 1981. *Genetics of Livestock and Improvement*. 3<sup>rd</sup> ed. Prentice-Hall of India, Pvd., Ltd, New York.
- Lay, W.A., J.N. Kihe; M.U.E. Sanam, and A. Pigawahi. 2004. *Produksi Ternak Ruminansia Pedaging. Pasca Indonesia Australia Eastern Universities Project*. Fakultas Peternakan Universitas Nusa Cendana Kupang.
- Leng, R.A. 1993. Quantitative Ruminant Nutrition-A Green Science. *Australian Journal of Agricultural Research* 44: 363 - 80.
- Leng, R.A. and J.V. Nolan. 1984. Symposium: protein nutrition of the lactating dairy cow. *J. Dairy Sci.* 67: 1072 - 1089.
- Liewellyn, D. 2012. *Feeding Beef Cattle I: The Realities of Low-Quality Forages*. Washington State University.
- Lindell, I.C. 2013. Phenotyping of Bali cattle and interviewing farmers in Indonesia - a minor field study. *Swedish University of Agricultural Sciences Faculty of Veterinary Medicine and Animal Science*.

- Lopez, H.A., Brum, Gracia, and M. Ranilla. 1999. Composition and in vitro digestibility of leaves and stems of grasses and legumes harvested from permanent mountain Meadows at different stages of maturity. *Journal of Animal and Feed Sciences*. J. Anim.Feed Science. 8 : 599 – 110.
- Luanmase, C.M., S. Nurtini, dan F.T. Haryadi. 2011. Analisa Motivasi Beternak sapi potong bagi peternak local dan transmigran serta pengaruhnya terhadap pendapatan di Kecamatan Kairatu, Kabupaten Seram bagian Barat. *Buletin Peternakan* vol.35 (2): 113 – 123.
- Maiwashe, A., K.A. Nephawe, and H.E. Theron. 2008. Estimates of genetic parameters and effect of inbreeding on milk yield and composition in South African Jersey cows. *S. Afr. J. Anim. Sci.* 38(2): 119 - 125.
- Maluyu, H. 2014. The nutrient digestibility of locally sheep fed with amofer palm oil byproduct-based complete feed. *Internat. J. Sci. Eng.* 7(2): 106 - 111.
- Mannetje, L't dan K.P. Haydoc, 1963. The Dry Weight Rank Method for the Botanical Analysis of Pasture. *J.Br. Grassld Soc.*, 18 : 266 – 275.
- Mannetje, L.'t dan R.M. Jonas. 1992. *Plant Resources of Southeast Asia Forage* Pudoc Scientific Publisher. Wageningen.
- Manu, A. 2009. Produktivitas Padang Pengembalaan Sabana Timor Barat. *Prosiding Semnas li Hitpi*.
- M.A. Hilakore, U. Ginting-Monthe and Y.L. Henuk. 2010. The Use of gawang (*Corypha Elata Robs*) tree as fed for livestock in the Tropics. The 5<sup>th</sup> International Seminar on Tropics Animal Production Community Empowerment and Tropical Animal Industri. Yogyakarta, Indonesia
- Maphosa, Y. and V.A. JIdeani. 2017. The Role of Legumes in Human Nutrition. The Role of Legumes in Human Nutrition. Available at <http://dx.doi.org/10.5772/intechopen.69127>. Acession date 10 maret 2017.
- Maynard, L. A., J. K. Loosly, H. F. Hinz, and R. G. Warner. 1979. *Animal Nutrition*. 7<sup>th</sup> ed. McGraw-Hill Publications. New York.
- Mc Donald, P., R. A. Edwards, J.F.D. Greenhalgh, and C. A. Morgan. 2002. *Animal Nutrition*. 5<sup>th</sup> ed. Longman Scientific and Technical, New York.
- McDonald, P., R.A. Edward, and Greenhalgh. 1988. *Animal Nutrition* 4<sup>th</sup> ed. Longman. London and New York
- McDonald, P., R.A. Edwards, J.F.D. Greenhalgh, C. A. Moran, L.A. Sinclair, and R. G. Wilkinson. 2011. *Animal Nutrition*. 7<sup>th</sup> ed. Prentice Hall. New York.
- Mcllroy, R.J. 1977. *Pengantar Budidaya Padang Rumput Tropika*. Jakarta: Pradya Paramitha.
- Merchen, N. R. 1988. Digestion, absorption and excretion in ruminats. In: *The Ruminant Animal Digestive Physiology and Nutrition*. Church (ed). Prentice Hall. New Jersey.
- Ministry of Agriculture Forestry and Fisheries. 2006. *A Strategy to Develop the Timor-Leste Cattle Industry and cattle Exports*. The Agribusiness Directorate and Livestock Diivision of Miistry of Agriculture Forestry and Fisheress, East Timor.

- Moore, J.E., M.H. Brant, Kunkle, and Hopkins. 1999. Effects of Supplementation on Voluntary Forage Intake, Diet Digestibility, and Animal Performance. American Society of Animal Science and American Dairy Science Association. Vol ; 77, issue suppl ; \_2 January 1999, pages 122 – 135.
- Mubi, A.A., Kibon and I.D. Mohammed. 2013. Formulation and production of multivitamin blocks for ruminants in the guinea savanna region of Nigeria. Agric. Biol. J. N. Am. 4(3): 205 - 215.
- Mulik, M. dan I.G.N. Jelantik. 2009. Strategi Peningkatan Produktivitas sapi Bali pada Sistem Pemeliharaan Ekstensif di Daerah Lahan Kering: Pengalaman Nusa Tenggara Timur. Materi Seminar Nasional Pengembangan sapi Bali Berkelanjutan dalam Sistem Peternakan Rakyat, Mataram.
- Mulik, M. Yelly; M. Ridla, I. Prihantoro, and M.L. Mullik. 2016. In vitro nutrient digestibility of chromolaena odorata-based silage treated with corypha gebanga meal and rumen content. Accepted for oral presentation in the 3<sup>rd</sup> APIS and 3<sup>rd</sup> ARCAP international seminar, Batu, 19 - 21 October 2016.
- Mumu, M.I. 2017. Post-partum Anoestrus in Bali Cattle under Low-Input Animal Production Systems in Eastern Indonesia. The University of Queensland in 2017 School of Agriculture and Food Sciences. Australia.
- Murwanto, A.G. 2008. Karakteristik peternak dan tingkat masukan teknologi peternakan sapi potong di Lembah Prafi Kabupaten Manokwari. Jurnal Ilmu Pendidikan 3(1): 8 - 15.
- Nulik, J.P. dan D.K. Hau. 2015. Daily Body weight Gain of Bali cattle fed with Leucaena leucocephala as the main ration in West Timor, Nusa Tenggara Timur, Indonesia. The 6<sup>th</sup> International seminar on Tropical animal production integrated Approach in Developing Sustainable Tropical Animal Production. Yogyakarta.
- Nulik, J.P., T. Fernandes, and A. Bamualim. 1988. Pemanfaatan dan produksi putak sebagai sumber energy makanan ternak sapi dan kambing, Laporan Penelitian komponen Teknologi Peternakan.
- Oka, I.G.L., I.P. Suyadnya., S. Putra., I.M. Suarna., N. Suparta, I.K. Saka, N.K. Suwiti, I.M. Antara, I.N. Puja, I.W. Sukanata, A.A. Oka, dan I.M. Mudita. 2012. sapi Bali sumber Daya Genetik Asli Indonesia. Udayana University Press. ISSN: 978-602-9042-91-7.268-277.
- Orskov, E.R. 1992. Protein Nutrition in Ruminants. 2<sup>nd</sup> edition. Published by Academic Press Limited. London.
- Pamungkas, D., Y.N. Anggraeni, Kusmartono, dan N.H. Krishna. 2008. Produksi Asam Lemak Terbang dan Amonia Rumen sapi Bali Pada Imbangan Daun Lamtoro (*L. leucocephala*) dan Pakan Lengkap yang Berbeda. Seminar Nasional Teknologi Peternakan dan Veteriner, Universitas Brawijaya, Malang.
- Pane, I. 1991. *Produktivitas dan breeding sapi Bali*. Prosiding Seminar Nasional sapi Bali. 2-3 September 1991. Fakultas Peternakan Universitas Hassanudin. Ujung Pandang.

- Panjaitan, T., M. Fauzan, Dahlanuddin, M.J. Halliday, and H. M. Shelton. 2013. Growth of Bali Bulls Fattened with forage tree legumes in Eastern Indonesia: *Leucaena leucocephala* in Sumbawa. In Proceedings of the 22<sup>nd</sup> International Grassland congress. Pp 601 - 602.
- Parakkasi, A. 1999. Ilmu Nutrisi Ruminansia Pedaging. Departemen Ilmu Pakan Ternak, Fakultas Pertanian, IPB Bogor.
- Parakkasi, A. 1995. Ilmu Nitrisi dan Makanan Ternak Ruminan. Penerbit Universitas Indonesia, Jakarta.
- Paudel, N., L.P. Paudel, D. Prakash, D.D. Bishnu. 2017. Change in physico-chemical properties of soil and nutrients in *Desmodium triflorum* in case of seasonal variation in Ratnanagar-11, Jirauna, Chitwan, Nepal. Int. J. Sci. Rep. 3(11): 285 - 287.
- Praptiwi, I.I., D.S. Susanti, A.T. Damayanti, Y. Mangera, and N. Umami. 2017. Potensi berbagi jenis vegetasi sebagai hijauan pakan ternak di padang penggembalaan Kampung Sota, Kabupaten Merauke. Agricola 7(1): 15 - 24.
- Prawirokusumo, S. 1994. Ilmu Gizi Komparatif. Edisi I BPFE. Yogyakarta.
- Preston, T. R. and R. B. Willis. 1974. Intensive Beef Production. 2<sup>nd</sup>.ed. Pergamon Press. Oxford.
- Purbajanti, E.D. 2012. Rumput dan Legum. Graha Ilmu, Yogyakarta.
- Purbowati, Endang, Rianto, Edy, Wayan, D. Sukarya, C.M.S. Lestari, and R. Adiwanti. 2014. Karakteristik cairan rRumen, Jenis, dan jumlah mikrobia dalam rumen Sapi Jawa dan Peranakan Ongole. Buletin Peternakan 38(1): 21 - 26.
- Purmomoadi, A.B.C. Edy, R. Adiwanti and E. Rianto. 2007. The performance and energi utilization in ongole crossbreed cattle raised under two level supplementation of concentrate to the rice straw J. Indonesia Trop. Anim.Agric.32 (1) : 1 - 4.
- Purwaningsih. S. 1991. Pertumbuhan anak kambing Lokal dari induk yang digembalakan serta diberi dan tanpa suplemen putak sampai umur 2 bulan. Skripsi Sarjana Peternakan, Fakultas Peternakan Universitas Nusa Cendana Kupang, Kupang
- Putra, R.A. 2012. Komposisi botani dan kandungan protein asar hijauan pakan kuda penarik. Cidomo di Kabupaten Lombok Barat . Skripsi ilmu nutrisi dan Makanan ternak. Fakultas Peternakan, Universitas Mataram, NTB.
- Ramirez, R.G. H. Gonzales-Rodriguez, R. Moralaes-Rodrigues, A. Serillo-Soto. A. Soares-Reyez, G.J. Garcia-Dessommes, and M.Guerrero-Cervantes. 2009. Chemical Composition and, dry meter digestion of some native and cultivated grasses in Mexico. Czech, J, Anim Sci 54:150 – 162.
- Ranjhan, S.K. 1980. Animal Nutrition in Tropic. 2<sup>nd</sup>. Ed. Vikas Publishing House PVT Ltd, New Dehli.
- Reijntjes, C. B. Haverkort dan A. Waters-Bayer. 2007. Pertanian masa depan. Pengantar untuk pertanian berkelanjutan dengan imput luar rendah. Penerbit Kanisius Yogyakarta. ISBN : 979-453-7. 39: 122 – 123.

- Reksohadiprodjo, S. 1985. Produksi Hijauan Makanan Ternak Tropika. BPFE, Yogyakarta.
- Rezende, A.A., M.T.B. Pacheco, V.S. Silva, and T. Ferreira. 2018. Nutritional and protein quality of dry Brazilian beans (*Phaseolus vulgaris* L.). *Food Sci. Technol.* 38(3): 421 - 427.
- Riduwati. 2017. The Use of Spatial Approach in Studyin the Potential of Graxing Land in Gowa District, South Sulawesi. Disertasi: Universitas Hasanudin, Makasar.
- Riswandi, L. Priyanto, A. Imsya dan Patricia. 2016. Nilai pencernaan neutral detergent fiber (NDF), acid detergent fiber (ADF) dan hemiselulosa pada ransum sapi potong dengan kandungan legum yang berbeda secara in vitro. *Prosiding Seminar Nasional Lahan Suboptimal, Palembang*.
- Riswandi, Muhakka, dan M. Lehan. 2015. Evaluasi nilai pencernaan secara in vitro ransum ternak sapi Bali yang disuplementasi dengan probiotik bioplus. *Jurnal Peternakan Sriwijaya* 4(1): 35 - 46.
- Riswandi, Muhakka, Syaifudin and Akbar. 2015. Nutrient digestibility and productivity of bali cattle fed fermented hymenachne amplexiacalis based rations supplemented with leucaena leucocephala. *Media Peternakan*, 38(3): 156 - 162.
- Rochana, A., N.P. Indriani, B. Ayuningsih, Hernaman, Dhalika and Rahmat. 2016. Feed forage and nutrition value at altitudes during the dry season in West Java. *Anim. Prod.* 18 (2): 85 - 93.
- Rubianti, A., P.TH. Fernandes, H.H. Marawali dan E. Budisantoso. 2010. Kecernaan Bahan Kering dan Bahan Organik Hay *Clitoria Ternatea* dan *Centrocema Pascuorum* Cv *Cavalcade* pada sapi Bali Lepas Sapih. *Seminar Nasional Teknologi Peternakan dan Veteriner*. Semarang.
- Rufino, L.M., Detmann, E., Gomes, D., Reis, W., Batista, E.D., Filho, C.V., & Paulino, M.F. 2016. Intake, digestibility and nitrogen utilization in cattle fed tropical forage and supplemented with protein in the rumen, abomasum, or both. *Journal of Animal Science and Biotechnology* (2016) 7:11
- Rukmana. 2005. *Budidaya Rumput Unggul*. Kanisius, Yogyakarta.
- Rusastra, I.W. 1983. *Optimalisasi Integrasi Tanaman Pangan Dan Ternak Sap! Pada Berbagai Topografi Lahan Di Bali*. Badan Lit Bang Pertanian.
- Safwat, A.M., L.S. Franco, Ricalde, Nieves, and Castro. 2015. Estimating apparent nutrient digestibility of diets containing leucaena leucocephala or moringa oleifera leaf meals for growing rabbits by two methods. *Asian-australas. J. Anim. Sci.* 28(8): 1155 - 1162.
- Sayuti. 1994. *Analisa usaha ternak pada sapi ektensif, semi intensif dan intensif. Makalah untuk pertemuan Aplikasi Teknologi di Dili, Propinsi Timor-Timur pada tanggal 28 Februari – 2 Maret 1994*. Dili.
- Schauer, Bohnert, Ganskopp, Richards, and Falckt. 2005. Influence of protein supplementation frequency on cows consuming low-quality forage: Performance, grazing behavior, and variation in supplement intake<sup>1</sup>. *J. Anim. Sci.* 83: 1715 - 1725.

- Seifert, G.W. 1978. Simulated selection to reproduction to beef cattle. *J. Anim. Sci.* 61: 402 – 409.
- Semiadi, G. dan Y. Jamal. 1997. Produktivitas dan nilai nutrisi rumput padang penggembalaan alam di Pulau Timor. *Buletin Peternakan* 21(1): 63 - 69.
- Sendow, C.J.B. 2016. Penambahan Ubi Kayu (Manihot Utilissima) Dengan Jumlah Dan Waktu Yang Berbeda Dalam Pakan Basal Jerami Padi Fermentasi Untuk Meningkatkan Daya Cerna Sapi Bali Secara In Vitro. *Tesis: Universitas Gadjah Mada*. Yogyakarta.
- Seven, P.T. and I.H. Cerci. 2006. Relationships between nutrient composition and feed digestibility determined with enzyme and nylon bag (in situ) techniques in feed sources. *Bulgarian J. of Vet. Med.* 9(2): 107 - 113.
- Siba, F.G., I.W. Suarna, and N.N. Suryani. 2017. Evaluasi padang penggembalaan alami Maronggela di Kabupaten Ngada Provinsi Nusa Tenggara Timur. *Majalah Ilmiah Peternakan* 20 (1): 1 - 4.
- Skerman, P.J. dan F. Reveros. 1990. *Tropical grasses*. Food and Agriculture Organization of the United Nation, Italia.
- Soares, F.S. and G. Dryden. 2011. A Body Condition Scoring System for Bali Cattle. *Asian-Aust. J. Anim. Sci.* 24(11): 1587 - 1594.
- Soares, W.O., Gunartha, M.L. Mullik, Y.A. Sutaryono and Dahlanuddin. 2018. Feed intake, feed digestibility and live weight gain of male Bali cattle fed different combinations of *Leucaena leucocephala* and maize stover under farm conditions in Timor Leste. *Postgraduate Study Program, University of Mataram, Lombok, NTB, Indonesia*.
- Steel, R.G.D dan J.H. Torrie. 1993. *Prinsip dan Prosedur Statistika*. Terjemahan Bambang Sumantri. Gramedia. Jakarta
- Stern, M.D., A. Bach and S. Calsamiglia. 2006. New concepts in protein nutrition of ruminants. *21<sup>st</sup> Animal Southwest Nutrition and Management Conference*. Pp 45 - 62. Oxford US.
- Subagyo dan Kusmartono. 1988. *Ilmu Kultur Padangan*. UFFIG. Universitas Brawijaya, Malang.
- Subandriyo, P. Sitorus, M. Zulbardi, dan R. Ambar. 1979. *Performan sapi Bali*. *Jurnal Penelitian dan Pengembangan Pertanian Indonesia* 1:8.
- Sukino. 2014. *Membangun Pertanian Dengan Memberdayakan Masyarakat Tani*. Pustaka Baru Pres. Jawa Barat.
- Sumadi, H. Mulyadi, T. Hartatik, dan R.D. Mundingsari. 2011. Estimasi potensi pembibitan sapi potong di Kecamatan Wonosari, Kabupaten Gunung Kidul, Daerah Istimewa Yogyakarta. *Laporan Hibah Penelitian Tematik Laboratorium, Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta*.
- Sumaryanto. 2009. Diversifikasi sebagai salah satu pilar ketahanan pangan. *Forum Agro Ekonomi* 27(2): 93 - 108.
- Supriadi. 2013. *Macam Bahan Pakan Sapi dan Kandungan Gizinya*. BPTP Yogyakarta, Badan Litbang Pertanian Indonesia. Tersedia di <http://yogya.litbang.pertanian.go.id>. Diakses 21 November 2015.

- Suratiyah, K. 2006. Ilmu Usahatani. Penerbit Penebar Swadaya, Jakarta. 20 – 22: 40 – 43.
- Susetyo. 1980. Hijauan Pakan Ternak. Direktorat Peternakan Rakyat, Direktorat Jenderal Peternakan Departemen Pertanian. Jakarta.
- Sutardi, T. 1980. Landasan Ilmu Nutrsisi jilid I. Institut Pertanian Bogor, Bogor.
- Sutardi, T. 1990. Landasan Ilmu Nutrien Departemen Ilmu Makanan Ternak. IPB, Bogor
- Syamsi, A.N., F.M. Suhartati, and W. Suryapratama. 2017. Pengaruh Daun Turi (*Sesbania grandiflora*) Dan Lamtoro (*Leucaena leucocephala*) Dalam Ransum Sapi Berbasis Indeks Sinkronisasi Protein - Energi Terhadap Sintesis Protein Mikroba Rumen. *Pastura* 6(2): 47 - 52.
- Tabun, C.A., N. Novianti, Toelle, W.S. Rikka, dan L.P. Cardial. 2016. Pemanfaatan jerami padi dan putak sebagai pakan induk sapi Bali di kelompok tani Kuinbes, *Jurnal Pengabdian masyarakat Peternakan*, 1(1), Politeknik Negeri Kupang, Kupang. Hal.1
- Tahuk, K.P, S.P.S. Budhi, Panjono, and E. Baliarti. 2016. In vitro characteristics of rumen fermentation of fattening rations with different protein-energy levels fed to Bali Cattle. *Pak. J. Nutr.* 15(10): 897 - 904.
- Tahuk, K.P. 2017. Kinerja sapi Bali jantan pada penggemukan di peternakan rakyat melalui perbaikan pakan dengan kandungan protein dan energi berbeda. Disertasi. Program Pascasarjana Fakultas Peternakan Universitas Gadjah Mada, Yogyakarta.
- Tahuk, K.P., S.P.S. Budhi, Panjono, and E. Baliarti, 2016. The effect of season on the botanical composition and quality of feedstuff used in Bali cattle fattening at smallholder farms. *Proceeding of The 17th Asian-Australasian Association of Animal Production Societies Animal Science Congress*, Fukuoka, Japan.
- Tahuk, P.K. and A.A. Dethan. 2010. Performance of bali bull in greenlot fattening by farmers when rainy season in Timor Island. *The Agriculture Faculty of Timor University-East Nusa Tenggara*
- Talib, C. 2002. sapi Bali di daerah sumber bibit dan peluang pengembangannya. *Wartazoa* 12(3): 100 - 107.
- Talib, C., K. Entwistle, S.S. Budiarti, and D. Lindsay. 2003. Survey of population and production dynamics of Bali cattle and existing breeding programs in Indonesia. *ACIAR Proceedings No.110*. Australia.
- Taman Nasional Bauran. 2004. Inventarisasi Pengembalaan Liar di Taman Nasional Baluran. Laporan kegiatan Taman Nasional Baluran. 20 halaman
- Tamidi, L.T. 1992. Ekonomi Pembangunan. Penelitian antar Universitas Studi Ekonomi. Universitas Indonesia, Jakarta.
- Tjiptoherijanto, P. 2001. Proyeksi penduduk, Angkatan kerja, tenaga kerja dan peran serikat pekerja dalam peningkatan kesejahteraan. *Majalah perencanaan pembangunan*. 23 : 1 – 10. [http://www.bappenas.go.id/files/3513/5211/1083/prijono\\_20091015125259\\_2356\\_0.pdf](http://www.bappenas.go.id/files/3513/5211/1083/prijono_20091015125259_2356_0.pdf). Akses 09 januari 2020.

- Tavares, L. Baliarti, E. Bintara, S., 2012. Pre Weaning growth of Bali calves at Balai Pembibitan Ternak Unggul sapi Bali, Buletin Peternakan Vol. 36 (3): 66 - 74.
- Thomas, N.C., C. Kaunang, and M. Najooan . 2017. Potensi Hijauan Pakan dan Kapasitas Tampung Ternak Sapi di Bawah Pohon Kelapa di Kecamatan Tabukan Utara Kabupaten Kepulauan Sangihe. Jurnal LPPM Bidang Sains dan Teknologi 4(2): 67 - 78.
- Triayani, N.N, Wandia, I.K, Puja. 2013. Asosiasi Keragaman Lokus DNA Mikrosatelit DRB3 Gen Bola dengan Berat badan Induk dan Berat lahir Pedet pada Sapi Bali. Universitas Udayana. Denpasar. Bali.
- Tilley, J.M.A. and R.A. Terry. 1963. A two stage technique for in vitro digestion of forage crops. Grass Forage Sci. 18: 104 - 111.
- Tillman, A.D. 1977. Ruminant Nutrition. Fakultas Peternakan. Universitas Gadjah Mada, Yogyakarta.
- Tillman, A.D., H. Hartadi, S. Reksohadiprodjo, S. Prawirokusumo, dan S. Lebdosoekojo. 1991. Ilmu Makanan Ternak Dasar. Yogyakarta: Gadjah Mada University Press, Yogyakarta
- Tjardes, K.E.D.D., M.S. Buskirk, N.K. Allen, L.D. Ames, Bourqin dan S.R. Rust. 2002. Neutral detergent fibre concentrate of corn silage and rumen insert Bulk influences of dry matter in take corn rumianl digesta kinetic of growing steer. J. Anim. Sci. 80: 833 - 840.
- Tjitsomo, S.S., S. Harran, A. Sdiono, dan Hadisumarso. 1984. Biologi Umum 2 Angkasa. Bandung.
- Torell, L.A., K.S. Lyon, dan E.B. Godfrey. 1991. Long-Run Versus Short-Run Planning Horozons and the Rangeland Stocking Rate Decision. Amer.J Agr. Econ. 795-807.
- Uhi, H.T.; A. Parakkasi dan B. Haryanto. 2006. Pengaruh suplemen kayalitik terhadap karakteristik dan populsi mikroba rumen domba. Media Peternakan. 29(1): 20 - 26.
- Usman, Y., E.M. Sari, and N. Fadilla. 2013. Evaluasi pertambahan bobot badan sapi aceh jantan yang diberi imbangan antara hijauan dan konsentrat di Balai Pembibitan Ternak Unggul Indra puri Agripet 13(2): 41 - 46.
- Utomo, R. 2010. Modifikasi Metoda Penetapan Kecernaan *in vitro* bahan kering atau bahan organik. Buletin Sintesis 5: 1 – 11.
- Utomo, R. 2012. Bahan Pakan Berserat untuk Sapi. Yogyakarta: PT Citra Adi Parama.
- Utomo, R. 2015. Konsevasi Hijauan Pakan dan Peningkatan Kualitas Bahan Pakan Berserat Tinggi, Gadjah Mada University Press, Yogyakarta.
- Utomo, R., S. Reksohadiprodjo, B.P. Widyobroto, Z., Bachrudin, dan B. Suhartanto. 1999. Sinkronisasi degradasi energy dan protein dalam rumen pada ransum basal jerami padi untuk meningkatkan efisiensi pencernaan nutrient sapi potong. Laporan Penelitian Komprehensif HBV. Proyek Pengkajian dan Penelitian Ilmu Pengetahuan Terapan. Lemlit Universitas Gadjah Mada, Yogyakarta.

- Valkeners, D.A., F. Thewis, Piron, and Y. Beckers. 2004. Effect of imbalance between energy and nitrogen supplies on microbial protein synthesis and nitrogen metabolism in growing double muscled Belgia Blue bulls .J. Anim. Sci. 82: 1818 - 1825.
- Van Soest, J.P. 1994. Nutritionnal Ecology of Ruminants 2<sup>nd</sup> Ed., Cornell University Press. New York.
- Wahyono, D.E. dan R. Hardianto. 2004. Pemanfaatan Sumber Daya Pakan Lokal untuk Pengembangan Usaha Sapi Potong. Jurnal Lokakarya Sapi Potong. Grati. Pasuruan.
- Wahyuni, D.S. 2008. Fermentabilitas dan degradabilitas in vitro serta produksi biomassa mikroba ransum komplit kombinasi rumput lapang, konsentrat dan suplemetasi kaya nutrient. Skripsi Ilmu Nutrisi dan Teknologi Pakan. Fakultas Peternakan. Institut Pertanian Bogor, Bogor.
- Wangi, L., W. Busono, and M. Nasich. 2017. The effect of different seasons and land types towards the performance of Bali Cattle production in Southeast Sulawesi. Res. J. of Life Sci. 04(03): 169 - 178.
- Widyaningrum, Y., D. Pamungkas, M. Kote, dan Mariyono. 2013. Pertumbuhan sapi Bali Jantan Muda Pada Agroekosistem Lahan Kering Iklim Kering Nusa Tenggara Timur. Seminar Nasional Teknologi Peternakan dan Veteriner. Kupang.
- Widyobroto, B.P., S. Padmowijoto, dan R. Utomo. 1994. Pendugaan kualitas protein bahan pakan (hijauan, limbah pertanian dan konsentrat) untuk ternak ruminansia. Direktorat Pembinaan Penelitian dan Pengabdian pada Masyarakat Direktorat Jenderal Pendidikan Tinggi DEPDIKBUD. Jakarta.
- Williams, I.H. 1982., A Course Manual in Nutrition. Australian Vice-Choncellors-Committee, Melbourne and Development of Meat Animals, Prentice-Hall Inc. Englewood Cliff, New Jersey.
- Williamson, G. dan W. J. A. Payne. 1993. Pengantar Peternakan di Daerah Tropis. Terjemahan SGN Djiwa Darmadja. Gajah Mada University Press, Yogyakarta.
- Wiradarya, T.R. 1989. Peningkatan produktivitas ternak domba melalui perbaikan nutrisi lapang. Laporan Penelitian. Fakultas Peternakan. Institut Pertanian Bogor, Bogor
- Yoku, O., A. Supriyanto, T. Widayati, dan I. Sumpe. 2014. Produksi padang penggembalaan alam dan potensi pengembangan sapi Bali dalam mendukung program kecukupan daging di Papua Barat. Pastura 3 (2): 102 - 105.
- Yulianti, A. 2010. Kinetika volatile fatty acid cairan rumen dan estimasi sintesis protein mikrobia pada sapi perah dara peranakan friesland holstein yang diberi pakan basal rumput raja, jerami jagung, dan jerami padi yang disuplementasi konsentrat protein tinggi. Jurnal Teknologi pertanian 6 (1): 25 - 33.
- Yulianto, P., dan C. Saporinto. 2010. Pembesaran sapi potong secara intensif. Penebar Swadaya, Depok.



Yuliati. 2013. Energy Requirement for Maintenance and Growth of Bali Cattle in East Timor. Thesis M.Phil. Faculty of Science and Engineering Muresk Institute. Curtin University, Australia.

Zayed, M., Sallam, M.A. and Shetta, N. 2018. Review article on leucaena leucocephala as one of the miracle timber trees. International Journal Of Pharmacy And Pharmaceutical Sciences 10(1) : 34.