

## DAFTAR PUSTAKA

- Aydinalp, C. And M.S. Cresser. 2008. The Effects of Global Climate Change on Agriculture. *American-Eurasian J. Agri and Environ.* 3 (5): 672-676
- Cheeke, P.R. 2000. Actual and potential application of *Yucca schidigera* and *Quillaja saponaria* saponins in human and animal nutrition. *J. Anim Sci.* 77: 1–10.
- Close, W and K. Menke. 1986. *Selected Topics in Animal Nutrition.* University of Hohenheim. Jerman.
- Czerkawski, J. W., and G. Breckenridge. 1972. Fermentation of various glycolytic intermediates and other compounds by rumen microorganisms, with particular reference to methane production. *J. Anim Nutr.* 27: 131.
- Darwis, A. A. dan E. Sukara. 1990. *Teknologi Mikrobial.* Departemen P dan K. Dirjen Pendidikan Tinggi. PAU Bioteknologi. Institut Pertanian Bogor.
- Dehority, B.A. 2004. *Rumen Microbiology.* Nottingham University Press. Nottingham.
- Dewatisari, W. F., Suranto., P. Setyono. 2008. Diversity of some *Sansevieria trifasciata* cultivars based on anatomical, isozymic, and saponin constituents. *Bioteknologi.* 5: 56-62.
- Firsoni, J. Sulistyono., A.S. Tjakradidjaja., dan Suharyono. 2008. *In vitro* fermentability test of feed supplement in complete feed. Pusat Aplikasi Teknologi Isotop dan Radiasi BATAN. Seminar nasional Teknologi Peternakan dan Veteriner.
- Gill, M., P. Smith, and J. M. Wilkinson. 2010. Mitigating climate change: the role of domestic livestock. *Animal.* 4: 323.
- Ginting, S. P. 2005. Sinkronisasi degradasi protein dan energi dalam rumen untuk memaksimalkan produksi protein mikrobial. *Wartazoa.* 15: 1-10.
- Goel, G., H.P.S. Makkar, and K. Becker. 2008. Changes in microbial community structure, methanogenesis and rumen fermentation in response to saponin-rich fractions from different plant materials. *J. Applied Micro.* 105: 770-777.
- Hadi, R. Fathoni, Kustantinah, dan H. Hartadi 2011. Kecernaan *in sacco* hijauan leguminosa dan hijauan non-leguminosa dalam rumen sapi peranakan ongole. *Buletin Peternakan.* 35(2): 79-85.
- Harborne, J.B. 1996. *Metode Fitokimia.* Terjemahan K. Padmawinata. ITB Press. Bandung.

- Harfiah. 2007. Nilai Indeks Beberapa Pakan Hijauan Potensial Untuk Ternak Domba. Seminar Nasional Teknologi Peternakan dan Veteriner.
- Hegarty, R.S. 1999. Reducing rumen methane emissions through elimination of rumen protozoa. *Australian Journal Agricultural Research*. 50: 1321-1328.
- Hess, H. D., R. A. Beuret, M. Lotscher, I. K. Hindrichsen, A. Machmuller, J. E. Carulla, C. E. Lascano, and M. Kreuzer. 2004. Ruminant fermentation, methanogenesis and nitrogen utilization of sheep receiving tropical grass hay-concentrate diets offered with *Sapindus saponaria* fruits and *Cratylia argentea* foliage. *J. Anim Sci*. 79: 177.
- Hobson, P.N and C.S. Stewart. 1997. *The Rumen Microbial Ecosystem*. St Edmundsbury Press. Great Britain.
- Hristov, A. N., T. A. McAllister, F. H. Van Herk, K. J. Cheng, C. J. Newbold, and P. R. Cheeke. 1999. Effect of *Yucca schidigera* on ruminal fermentation and nutrient digestion in heifers. *J. Anim Sci*. 77: 2554.
- Hu, W.L., Liu, J.X., Ye, J.A., Wu, Y.M. and Guo, Y.Q. 2006. Effect of tea saponin on rumen fermentation *in vitro*. *J. Anim Nutr*. 120: 333–339.
- Itabashi, H., T. Kobayashi, and M. Matsumoto. 1984. The effects of rumen ciliate protozoa on energy metabolism and some constituents in rumen fluid and blood plasma of goats. *Japan. J. Zootech. Sci*. 55: 248–255.
- Jayanegara, A., dan A. Sofyan. 2009. Kinetika produksi gas, pencernaan bahan organik dan produksi gas metan *in vitro* pada hay dan jerami yang disuplementasi hijauan mengandung tanin. *Media Peternakan* 32: 120-129.
- Jessop, N. S. And Nerrero M. 1996. Influence of Soluble Components on Parameter estimation using the invitro gas production technique. *J. Anim Sci*. 62:621-627
- Jordan E., D. Kenny, M. Hawkins, R. Malone, D.K. Lovett & F.P. O'mara. 2006. Effect of refined soy oil or whole soybeans on intake, methane output, and performance of young bulls. *J. Anim Sci*. 84: 2418-2425.
- Jouany, J. P., B. Zainab, J. Senaud, C. A. Groliere, J. Grain, and P. Trivend. 1981. Role of the rumen ciliate protozoa *Polyplastron multivesiculatum*, *Entodinium* spp. and *Isotricha prostoma* in the digestion of a mixed diet in sheep. *Reproduction Nutrition Development*. 21: 871–884.
- Knapp J. R., G. L. Laur, P. A. Vadas, W. P. Weiss, and J. M. Tricarico. 2014. Enteric methane in dairy cattle production: Quantifying the opportunities and impact of reducing emissions. *J. Dairy Sci*. 97: 3231-3261.

- Lila, Z. A., N. Mohammed., S. Kamada., and H. Itabashi. 2003. Effect of arsaponin on ruminal fermentation with particular reference to methane production *in vitro*. J. Dairy Sci. 86: 3330-3336.
- Martin, S. A., and J. M. Macy. 1985. Effects of monensin, pyromellitic diimide and 2-bromoethanesulfonic acid on rumen fermentation *in vitro*. J. Anim Sc. 60: 544-550.
- McDonald, P., R. A. Edward, J. F. D. Greenhalg, & C. A. Morgan. 2002. Animal Nutrition. 6<sup>th</sup> Edition. Scientific and Tech John Willey & Sons. Inc, New York.
- Mc Sweeney, C.S., Palmer, B., McNeil, D.M., Krause, D.O. 2001. Microbial interactions with tannins: nutritional consequences for ruminants. Animal Feed Science Technology. 91: 83-93.
- Mao, H. L., J. K. Wang., Y. Y. Zhou., and J. X. Liu. 2010. Effects of addition of tea saponins and soybean oil on methane production, fermentation and microbial population in the rumen of growing lambs. Livestock Science. 129: 56-62.
- Moss, A.R. 1993. Metane. Cholombe Publications. United Kingdom.
- Muhtarudin dan Liman. 2006. Penentuan Tingkat Penggunaan Mineral Organik untuk Memperbaiki Bioproses Rumen pada Kambing secara *In Vitro*. Lampung. Jurusan Produksi Ternak Fakultas Pertanian, Universitas Lampung.
- Newbold, C. J., B. Lassalas, and J. P. Jouany. 1995. The importance of methanogens associated with ciliate protozo in ruminal methane production *in vitro*. Lett. Applied of Microbiology. 21: 230-234.
- Neuman, K.H. 2007. *Aneka Ternak Produksi*. Darmajaya Press. Semarang.
- Ørskov, E. R., W. P. Flatt, and P. W. Moe. 1968. Fermentation balance approach to estimated extent of fermentation and efficiency of volatile fatty acid formation in ruminants. J. Dairy Sci. 51: 1429-1435.
- Owens, F. N. & A. L. Goetsch. 1988. Ruminal fermentation. In: Church, D.C. (Ed). The Ruminant Animal Digestive Physiology and Nutrition. Prentice Hall, Englewood Cliffs, New Jersey.
- Parakkasi, A. 1999. Ilmu Nutrisi dan Makanan Ternak Ruminansia. Universitas Indonesia. Jakarta.
- Pitta, D.W., T.N. Barry, N. Lopez-Villalobos, & P.D. Kemp. 2007. Willow fodder blocks – an alternate forage to low quality pasture for mating ewes during drought. Animal Feed Science and Technology. 133: 240-258.
- Putra, S. 2006. Pengaruh suplementasi agensia defaunasi segar dan waktu inkubasi terhadap degradasi bahan kering, bahan organik, dan

- produksi fermentasi secara *in vitro*. Skripsi. Jurusan Nutrisi dan Makanan Ternak, Fakultas Peternakan, Universitas Udayana. 13.
- Schlegel, H.G. 1994. Mikrobiologi Umum. Penerjemah: T. Baskoro. Gadjah Mada University Press. Yogyakarta.
- Steinfeld, H., P. Gerber, T. Wassenaar, V. Castel, M. Rosales and C. deHaan. 2006. *Livestock's Long Shadow*. Food and Agriculture Organization of the United Nations. Rome.
- Stone, B. C. 1978. Studies in Malesian Pandanaceae XVII on the taxonomy of 'Pandan Wangi': A *Pandanus cultivar with scented leaves*. *Economic Botany*. 32 (3): 285-293.
- Stumm, C. K., H. J. Gijzen, and G. D. Vogels. 1982. Association of methanogenic bacteria with ovine rumen ciliates. *J. Nutr.* 47: 95–99.
- Sugoro, I dan I Yuniarto. 2006. Pertumbuhan Protozoa dalam Cairan Rumen Kerbau yang Disuplementasi Tanin secara *In Vitro*. Pusat Aplikasi Teknologi Isotop dan Radiasi - Batan. Jakarta.
- Suhada, A. T., Pangestu, E., dan L. K. Nuswantara. 2012. Kelarutan mineral Ca dan Zn hasil sampingan agroindustri pada rumen kambing Jawarandu secara *in sacco*. *J. Anim Agri.* 1:757-775.
- Sukandar, D. (2007). Isolasi dan Penentuan senyawa kimia minyak atsiri tumbuhan pandan wangi (*P. amaryllifolius* Roxb.). Prosiding Seminar BKS MIPA. UIN Syarif Hidayatullah. Jakarta. 42:53.
- Suparwi. 2000. Pengaruh minyak kelapa dan kembang sepatu (*Hibiscus rosasinensis*) terhadap pencernaan ransum dan jumlah protozoa. *Jurnal Produksi Ternak*. 2(2): 53-59.
- Thalib, A. 2004. Uji efektivitas saponin buah sapindus rarak sebagai inhibitor metanogenesis secara *in vitro*. *Jurnal ilmu Ternak dan Veteriner*. 9(3): 164-171.
- Thalib, A. 2008. Buah Lerak Mengurangi Emisi Gas Metan pada Hewan ruminansia. *Warta Penelitian dan Pengembangan Pertanian*. 30.
- Ushida, K., A. Miyazaki, and R. Kawashima. 1986. Effect of defaunation on ruminal gas and VFA production *in vitro*. *Japan. J. Zootech Sci.* 57: 71–77.
- Van Soest. 1994. *Nutritional Ecology of The Ruminant*. 2nd Edition. Comstock Publishing Associates a Division of Cornell University Press, Ithaca and London.
- Wallace, R. J., L. Arthaud, and C. J. Newbold. 1994. Influence of *Yucca schidigera* extract on ruminal ammonia concentrations and ruminal microorganisms. *Applied Environment Microbiology*. 60: 1762.

- Wallace, R.J., N.R. McEwan., F.M. McIntosh., B. Teferedegne and C.J. Newbold. 2002. Natural products as manipulators of rumen fermentation. *J. Anim Sci.* 15(10): 1458-1468.
- Wang, Y. X., T. A. McAllister, C. J. Newbold, P. R. Cheeke, and K. J. Cheng. 1997. Effects of *Yucca* extract on fermentation and degradation of saponins in the Ruminant. *Proceeding West Sector Am. Soc. Animal Science.* 48: 149–152.
- Wang, Y., T. A. McAllister, L. J. Yanke, Z. J. Xu, P. R. Cheeke, and K. J. Cheng. 2000. *In vitro* effects of steroidal saponins from *Yucca schidigera* extract on rumen microbial protein synthesis and rumen fermentation. *Journal Science and Food Agriculture.* 80: 2114-2123.
- Wati, N. E., Achmadi, J., dan E. Pangestu. 2012. Degradasi nutrisi bahan pakan limbah pertanian dalam rumen kambing secara *in sacco*. *J. Anim Agri.* 1:485-498.
- Wina, E., S. Mauzel., E. Hoffman., H.P.S. Makkar., and K. Becker. 2005. The impact of saponin-containing plant materials on ruminant production – A Review. *Journal of Agricultural and Food Chemistry.* 53: 8093-8-15.
- Yuliana, P., E.B. Laconi., E. Wina., and A. Jayanegara. 2014. Extraction of tannins and saponins from plant sources and their effects on *in vitro* methanogenesis and rumen fermentation. *Journal Indonesian Tropical Animal Agricultural.* 39(2): 91-97.