

เอกสารอ้างอิง

- กรมปศุสัตว์. 2546. บทความ: การพัฒนาอาหารสัตว์ กองอาหารสัตว์ (ปศุสัตว์โคนม) กรมปศุสัตว์, กระทรวงเกษตรและสหกรณ์.
- ฉลอง วชิราภรณ์. 2541. โภชนาศาสตร์และการให้อาหารสัตว์ด้วยอิ่งเบื้องต้น. ขอนแก่น: ภาควิชาสัตวศาสตร์ คณะเกษตรศาสตร์ มหาวิทยาลัยขอนแก่น.
- ธีรวรรณ ขันทอง. 2543. ลิปิด. ใน ตำราชีวเคมี, หน้า 79-97. ภาควิชาเคมี คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น.
- นภา หลิมรัตน์. 2537. ชีวเคมีของลิปิด. ภาควิชาเคมี มหาวิทยาลัยขอนแก่น, หน้า 1-11.
- เมฆา วรรณพัฒน์. 2533. โภชนาศาสตร์สัตว์ด้วยอิ่ง. โรงพิมพ์ฟันนี่พับบลิชชิ่ง, กรุงเทพฯ.
- สำนักงานเศรษฐกิจการเกษตร. 2548. สถิติการค้าสินค้าเกษตรกรรมไทยกับต่างประเทศปี 2547. ศูนย์สารสนเทศการเกษตร สำนักงานเศรษฐกิจการเกษตร กระทรวงเกษตรและสหกรณ์ กรุงเทพมหานคร
- สำนักงานเศรษฐกิจการเกษตร. 2549. สถิติการเกษตรประเทศไทย 2548. สำนักงานเศรษฐกิจการเกษตรกระทรวงเกษตรและสหกรณ์. <http://www.oae.go.th/statistic/yearbook48/>
- องค์การส่งเสริมกิจการโคนมแห่งประเทศไทย. 2546. โครงการส่งเสริมการเลี้ยงโคนมในเขตพื้นที่ อสค. ภาคตะวันออกเฉียงเหนือ. ใน: ยุทธศาสตร์การพัฒนาชีดความสามารถในการแข่งขันภาคตะวันออกเฉียงเหนือ. สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. หจก. ขอนแก่นการพิพม์, ขอนแก่น
- Aharoni, Y., H. Tagari, and R.C. Bosston. 1991. A new approaches to the quantitative estimation of nitrogen metabolic pathway in the rumen. Br. J. Nutr. 66:407.
- Al-Rabbat, M.F., R.L. Baldwin, and W.C. Weimer. 1971. Microbial growth dependence on ammonia nitrogen in the bovine rumen: a quantitative study. J. Dairy Sci. 54:1162.
- An, B.K., C.W. Kang, Y. Izumi, Y. Kobayashi, and K. Tanaka. 2003. Effects of dietary fat on occurrences of conjugated linoleic acid and trans fatty acids in rumen contents. Asian-Aust. J. Anim. Sci. 16:222.
- AOAC. 1985. Official Methods of Analysis. Association of Official Analysis Chemists, DC, U.S.A.
- ARC. 1984. The Nutrient Requirements of Ruminant Livestock. Suppl. 1, CAB, Slough, Farmam Royal, UK.

- Bauman, D.E., L.H. Baumgard, B.A. Corl, and J.M. Griinari. 2000. Biosynthesis of conjugated linoleic acid in ruminants. Proceedings of the American Society of Animal Science. pp. 1.
- Bauman, D.E., J.W. Perfield II, M.J. de Veth, and A.L. Lock. 2003. New perspectives on lipid digestion and metabolism in ruminants. Proc. Cornell. Nutr. Conf. pp. 175.
- Belury, M.A. 1995. Conjugated dienoic linoleate: A polyunsaturated fatty acid with unique chemo protective properties. Nutr. Rev. 53:83.
- Bird, S. H. 1989. Production from ciliate-free ruminants. Pages 233–246 in The Roles of Protozoa and Fungi in Ruminant Digestion. J. V. Nolan, R. A. Leng, and D. I. Demeyer, ed. Penambul Books, Armidale, Australia.
- Blaxter, K.L., and J.K. Czerkawski. 1966. Modification of methane production of sheep by supplementation of its diet. J. Sci. Food Agri. 17:417.
- Bremner, J.M., and D.R. Keeney. 1965. Steam distillation methods to determination of ammonium, nitrate and nitrite. Anal Chem. Acta. 32:485.
- Broudiscou, L., S. Pochet, and C. Pochet. 1994. Effect of linseed oil supplementation on feed degradation and microbial synthesis in the rumen of ciliate-free and refaunated sheep. Anim. Feed Sci. Technol. 49:189.
- Bucholtz, H.F., and W.G. Bergen. 1973. Microbial phospholipid synthesis as a marker for microbial protein synthesis in the rumen. Appl. Microbiol. 25:504.
- Chandramoni, S., B. Jadhao, C.M. Tiwari, N. Haque, Murarilal and M.Y. Khan. 2001. Energy metabolism and methane production in faunated and defaunated sheep fed two diets with same concentrate to roughage ratio (70:30) but varying in composition. Asian-Aust. J. Anim. Sci. 14:1238.
- Chen, X.B., D.J. Kyle, and E.R. Ørskov. 1993. Measurement of allantoin in urine and plasma by high-performance liquid chromatography with pre-column derivatization. J. Chromatography. 617:241.
- Coleman, G.S. 1975. Interrelationship between rumen ciliate protozoa and bacteria. In: Digestion and Metabolism in the Ruminant. McDonald, I.W. and A.C.I. Wamer. (Eds.), pp. 149–164. University of New England, Armidale, Australia.
- Cole, B.A., L.H. Baumgard, D.A. Dwyer, J.M. Griinari, B.S. Phillips, and D.E. Bauman. 2001. The role of $\Delta 9$ -desaturase in the production of cis-9, trans-11 CLA. J. Nutr. Biochem. 12:622.

- Crocker, C.L. 1967. Rapid determination of urea-nitrogen in serum or plasma without deproteinization. Amer. J. Med. Tech. 33: 361.
- Czauderma, M., and J. Kowalczyk. 2001. Separation of some mono-, di- and tri-unsaturated fatty acids containing 18 carbon atoms by high-performance liquid chromatography and photodiode array detection. J. Chromatography B. 760:165.
- Czerkawski, J.W., K.L. Blaxter, and F.W. Wainman. 1966. The metabolism of oleic, linoleic and linolenic acids by sheep with reference to their effects on methane production. Br. J. Nutr. 20:349.
- Dohme, F., A. Machmuller, B.L. Estermann, P. Pfister, A. Wasserfallen, and M. Kreuzer. 1999. The role of the rumen ciliate protozoa for methane suppression caused by coconut oil. Lett. Appl. Microbiol. 29:187.
- Dohme, F., A. Machmuller, A. Wasserfallen, and M. Kreuzer. 2001. Ruminal methanogenesis as influence by individual fatty acids supplemented to complete ruminant diets. Lett. Appl. Microbiol. 32:47.
- Emmanuel, B. 1978. The relative contribution of propionate, and long-chain odd-numbered fatty acids in rumen bacteria. Biochem. Biophys. Acta. 528:239.
- Erwin J., and K. Bloch. 1963. Lipid metabolism of ciliated protozoa. J. Biol. Chem. 238:1618.
- Ferry, J.G. 1995. Methanogenesis: Ecolgy, physiology, biochemistry & genetics. The Quarterly Review of Biology. 70: 80
- Finlay, B.J. 1994. Some rumen ciliate have endosymbiotic methanogens. FEMS. Microbiol. Lett. 117:157.
- Fulco, A.J. 1983. Fatty acid metabolism in baceria. Prog. Lipid Res. 22:133.
- Galbraith, H., and T.B. Miller. 1973. Effect of metal cations and pH on the antibacterial activity and uptake of long chain fatty acids. J. Appl. Bacteriol. 36:635.
- Gerson, T.A. John, and A.S.D. King. 1985. The Effect of dietary starch and fiber on the in vitro rates of lipolysis and biohydrogenation by sheep rumen digesta. J. Agric. Sci. (Camb). 105:27.
- Giger-reverdin, S., P. Morand-Fehr, and G Tran. 2003. Literature survey of the influence of dietary fat composition on methane production in dairy cattle. Livest. Prod. Sci. 82:73.

- Goering, H.K., and Van Soest. 1970. Forage fiber analysis (apparatus, reagent, procedures and some application). Washington, D.C.: Agric. Handbook No. 379, ARS, U.S.A. Department of Animal and Rang Science. New Mexico State University.
- Griinari, J.M., B.A. Corl, and S.H. Lacy. 2000. Conjugated linoleic acid in synthesized endogenously in lactating dairy cows by $\Delta 9$ -desaturase. *J. Nutr.* 130:2285.
- Gutierrez, J., R.E. Davis, and E.J. Warwick. 1960. The rumen ciliates and their relationship to the host. Proc Conf. on Radioactive Isotopes in Agriculture, Oklahoma, U.S. Atomic Energy Commission, p. 197.
- Harfoot, C.G., R.C. Noble, and J.H. Moore. 1973. Food particle as a site for biohydrogenation of unsaturated fatty acids in the rumen. *Biochem. J.* 132:829.
- Harfoot, C.G., R.C. Noble, and J.H. Moore. 1975. The role of plant particles, bacteria and cell-free supernatant fractions of rumen contents in the hydrolysis of trilinolein and the subsequent hydrogenation of linoleic acid. *Ant. Va Leewenhoek J. Microbiol. Serol.* 41:533.
- Harfoot, C.G., M.L. Crouchman, R.C. Noble, and J.H. Moore. 1974. Competition between food particles and rumen bacteria in the uptake of long-chain fatty acids and triglycerides. *J. Appl. Bacteriol.* 37:633.
- Hart, F.J., and M. Wanapat. 1992. Physiology of digestion of urea-treated rice straw in swamp buffaloes. *Asian-Aust. J. Anim. Sci.* 5:617.
- Hazlewood, G.P., P. Kemp, D. Lander, and R.M.C. Dawson. 1976. C18 unsaturated fatty acid hydrogenation patterns of some rumen bacteria and their ability to hydrolyse exogenous phospholipids. *Br. J. Nutr.* 35:293.
- Henderson, C. 1973. The effect of fatty acids on pure cultures of rumen bacteria. *J. Appl. Bacteriol.* 36:187.
- Hobson, P.N. 1969. Rumen bacteria. *Meth. Microbe.* 3B:53.
- Houseknecht, K.L., J.P.V. Heuvel, and S.Y.M. Camarena. 1998. Dietary conjugated linoleic acid normalizes impaired glucose tolerance in the Zucker diabetic fatty fa/fa rat. *Biochem. Biophys. Res. Commun.* 244:678.
- Huque, Q.M.E., and C. Stem. 1994. A review on urea molasses block technology in Bangladesh and possibility of methane emission reduction in ruminants and mitigation effects of global warming. *Asian Livestock*, II:20.
- Hungate, R.E. 1966. The Rumen and Its Microbes. Academic Press. New York and London.

- Hungate, R.E. 1969. A Role Tube Method for Cultivation of strict Anaerobes. In: Methods in Microbiology. (Eds., J.R. Norris and D.W. Ribbons). New York, Academic. NY. 313p.
- IAEA. 1997. Determination of purine derivative in urine. In: Estimation of the rumen microbial protein production from purine derivatives in rumen. Animal Production and Health Section. Vienna, Austria. 49p.
- Ikwuegbu, O.A., and J.D. Sutton. 1982. The effect of varying the amount of linseed oil supplementation on rumen metabolism in sheep. Br. J. Nutr. 48:365.
- Immig, V.I., S.J. Wirth, G.A. Wolf, and H. Abel. 1991. Quantifizierung der cellulaseaktivitat und nachweis von fettsaure-coating-effekten im pansen von schafen. J. Anim. Physiology. Anim. Nutr. 66:45.
- Islam, M.R., and J. Begum. 1997. Short review of global methane situation and of facilities to reduce in ruminants in third world countries. Asian-Aust. J. Anim. Sci. 10: 157.
- Ivan, M., P.S. Mir, K.M. Koenig, L.M. Rode, L. Neill, T. Entz, and Z. Mir. 2001. Effects of dietary sunflower seed oil on rumen protozoa population and tissues concentration of conjugated linoleic acid in sheep. Small Rum. Res. 41:215.
- Jenkins, T.C. 1993. Lipid metabolism in the rumen. J. Dairy Sci. 76:3851.
- Jenkins, T.C., and D.L. Palmquist. 1984. Effect of fatty acids or calcium salts on rumen and total nutrient digestibility of dairy rations. J. Dairy Sci. 67:978.
- Jenkins, T.C., and N. Fotouhi, 1990. Effects of lecithin and corn oil on site of digestion, ruminal fermentation and microbial protein synthesis in sheep. J. Anim. Sci. 68:460.
- Joblin, K.N. 1981. Isolation, enumeration and maintenance of rumen anaerobic fungi in roll tube. Appl. Environ. Microbiol. 42:1119.
- Johnson, K.A., and D.E. Johnson. 1995. Methane emissions from cattle. J. Anim. Sci. 73:2483.
- Kamio, Y., Y. Itoh, and Y. Terawaki. 1981. Chemical structure of peptidoglycan in *Selenomonas ruminantium*: Cadaverine links covalently to the D-glutamic acid residue of peptidoglycan. J. Bacteriol., 146:49.
- Kemp, P., and D.J. Lander. 1984. Hydrogenation in vitro of alpha-linoleinic acid to steric acid by mixed cultures of pure strains of rumen bacteria. J. Gen. Microbiol. 130: 527.

- Kemp, P., R.W. White, and D.J. Lander. 1975. The hydrogenation of unsaturated fatty acids by five bacterial isolates from the sheep rumen, including a new species. *J. Gen. Microbiol.* 90:100.
- Kepler, C.R., K.P. Hiron, J.J. McNeill, and S.B. Tove. 1966. Intermediates and products of the biohydrogenation of linoleic acid by *Butyrivibrio fibrisolvens*. *J. Biol. Chem.* 241:1350.
- Khampa, S., M. Wanapat, C. Wachirapakorn, N. Nontaso, M.A. Watiaux, and P. Rowlinson. 2006. Effect of levels of sodium DL-malate supplementation on ruminal fermentation efficiency of concentrates containing high levels of cassava chip in dairy steers. *Asian-Aust. J. Anim. Sci.* 3:368.
- Kim, Y.J., R.H. Liu, D.R. Bond, and J.B. Russell. 2000. Effect of linoleic acid concentration on conjugated linoleic acid production by *Butyrivibrio fibrisolvens* A38. *Appl. Environ. Microbiol.* 66:5226.
- Knight, R., J.D. Sutton, J.E. Story, and P.E. Brumby. 1979. Rumen microbial synthesis of long-chain fatty acids. *Proc. Nutr. Soc.* 38:4A.
- Kreuzer, M., M. Kirchgessner, and H.L. Muller. 1986. Effect of defaunation on the loss of energy in wethers fed different quantities of cellulose and normal or steam flaked maize starch. *Anim. Feed Sci. Technol.* 16:233.
- Latham, M. J., J. E. Storry, and M. E. Sharpe. 1972. Effect of low-roughage diets on the microflora and lipid metabolism in the rumen. *Appl. Microbiol.* 24:871.
- Leng, R.A. 1991. Improving Ruminant Production and Reducing Methane Emissions from Ruminants by Strategic Supplementation. United National Environment Protection Agency/400/1-91/004, New York.
- Lennarz, W.J. 1966. Lipid metabolism in the bacteria. *Adv. Lipid Res.* 4:175.
- Loor, J.J., K. Ueda, A. Ferlay, Y. Chilliard, and M. Doreau. 2005. Intestinal flow and digestibility of trans fatty acids and conjugated linoleic acid (CLA) in dairy cows fed a high-concentrate diet supplemented with fish oil, linseed oil, or sunflower oil. *Anim. Feed Sci. Technol.* 119:203.
- Lovett, D., S. Lovell, L. Stack, J. Callen, M. Finlay, J. Conolly, and F.P. O'Mara. 2003. Effect of forage/concentrate ratio and dietary coconut oil level on methane output and performance of finishing beef heifers. *Livest. Prod. Sci.* 84:135.
- Machmuller, A., C.R. Soliva, and M. Kreuzer. 2003. Effect of coconut oil and defaunation treatment on methanogenesis in sheep. *Reprod. Nutr. Dev.* 43:41.

- Machmuller, A., D.A. Ossowski, and M. Kreuzer. 2000. Comparative evaluation of the effects of coconut oil, oilseeds and crystalline fat on methane release, digestion and energy balance in lambs. *Anim. Feed Sci. Technol.* 85:41.
- Machmuller, A., D.A., Ossowski, M. Wanner, and M. Kreuzer. 1998. Potential of various fatty feed to reduce methane release from rumen fermentation in vitro (Rusitec). *Anim. Feed Sci. Technol.* 71:117.
- Maeng, W. J., C. J. Van Nevel, R. L. Baldwin, and J. G. Morris. 1976. Rumen microbial growth rates and yields: effect of amino acids and protein. *J. Dairy Sci.* 59:68.
- Moate, P.J. 1989. Defaunation increases milk yield of dairy cows. In: Recent Advances in Animal Nutrition in Australia. University of New England, Armidale, NSW.
- Morgavi, D.P., J.P. Jouany, C. Martin, and M.J. Ranilla. 2006. Archaeal community structure diversity in the rumen of faunated and defaunated sheep. *International Congress Series.* 1293: 127.
- Murray, R.K., D.K. Granner, P.A. Mayes, and V.W. Rodwell. 1990. Harper's Biochemistry. 23rd ed. Connecticut: Appleton and Lange Company. 142-153.
- Newbold, C.J., B.Lassalas, and J.P. Jouany. 1995. The importance of methanogens associated with ciliate protozoa in ruminal methane production in vitro. *Lett. Appl. Microbiol.* 21:230.
- Ngarmsang, A., M. Wanapat, and C. Wachirapakorn. 2000. A comparative study of 2 and 5% urea-treated rice straw on ruminal ecology, digestibility and dry matter intake in swamp buffaloes. In Proc. The 9th congress of the Asian-Australasian Association of Animal Production Society of Animal Production, University of New South Wales, Sydney, Australia, July 3-7. 13:544.
- Noble, R.C. 1978. Digestion, absorption and transport of lipids in ruminant animals. *Progress in Lipid Research.* 17:55.
- Orpin, C.G. 1975. Studies on the rumen flagellate *Neocallimastix frontalis*. *J Gen. Microbiol.* 91:249.
- Orpin, C.G. 1989. Ecology of rumen anaerobic fungi in relation to the nutrition of the host animal. In The Role of Protozoa and Fungi in Ruminant Digestion (OECD/UNE International Seminar), pp. 1-10. Edited by J.V. Nolan, R.A. Leng, and D.I. Demeyer. Armidale, New South Wales: Penambul.
- Ørskov, E.R., W.P. Flatt, and P.W. Moe. 1968. Fermentation balance approach to estimate extent of fermentation and efficiency of volatile fatty acid formation in ruminant. *J. Dairy Sci.* 51:1429.
- Palmquist, D.L., and T.C. Jenkins. 1980. Fat in lactation rations. *J. Dairy Sci.* 63:1.

- Patton, R.A., R.D. McCarthy, and L.C. Griel. 1970. Lipid synthesis by rumen microorganisms. II. Further characterization of the effects of methionine. *J. Dairy Sci.* 53:460.
- Preston, T.R., and R.A. Leng. 1987. Matching Ruminant Production Systems with Available Resources in the Tropic and Sub-tropics. Penambull Book Armidale, Australia. 245p.
- Resines. J.A., M.J. Arin, and M.T. Diez. 1992. Determination of creatinine and purine derivatives in ruminants urine by reverse phase high performance liquid chromatography. *J. Liquid Chromatogr.* 607:199.
- Saadullah, M. 1992. Livestock- its importance, problems and potential and its linkage with agriculture and energy. Proceeding of the Bangladesh Animal Husbandry Association 4:106.
- Sackmann, J.R., S. Duckett, M. Gillis, C. Realini, A. Parks, and R. Eggelston. 2003. Effects of forage and sunflower oil levels on ruminal biohydrogenation of fatty acids and conjugated linoleic acid formation in beef steers fed finishing diets. *J. Anim. Sci.* 81:3174.
- Samuel, M., S. Sagathewan, J. Thomas, and G. Mathen. 1997. An HPLC method for estimation of volatile fatty acids of ruminal fluid. *Indian J. Anim. Sci.* 67:805.
- Santra, A., and A. Karim. 2002. Nutrient utilization and growth performance of defaunated and faunated lambs maintained on complete diets containing varying proportion of roughage and concentrate. *Anim. Feed Sci. Technol.* 101: 87.
- SAS, User's Guide: Statistic, Version 5. Edition. 1985. SAS. Inst Cary, NC., U.S.A.
- Satter, L.D., and L.L. Styler. 1974. Effect of ammonia concentration on ruminal microbial protein production in vitro. *Br. J. Nutr.* 32:199.
- Schnieder, B.H., and W.P. Flatt. 1975. The Evaluation of Feed through Digestibility Experiment Athens: The Univ. of Georgia Press. Georgia, U.S.A.
- Singh, S., and J.C. Hawke. 1979. The in vitro lipolysis and biohydrogenation of mono-Galactosyldiglycerides by whole rumen contents and its fractions. *J. Sci. Food Agric.* 30:603.
- Soliva, C.R., I.K. Hindrichsen, L. Meile, M. Kreuzer, and A. Machmuller. 2003. Effects of mixtures of lauric and myristic acid on rumen methanogens and methanogenesis in vitro. *Lett. Appl. Microbiol.* 37: 35-39.

- Soliva, C.R., L. Meile, I.K. Hindrichsen, M. Kreuzer, and A. Machmuller. 2004. Myristic acid supports the immediate inhibitory effect of lauric acid on ruminal methanogens and methane release. *Anaerobe*. 10:269.
- Song, M.K. 2000. Fatty acid metabolism by rumen microorganisms. *Asian-Aust. J. Anim. Sci.* 13:137.
- Steel, R.G.D., and J.H. Torrie. 1980. *Principles and Procedures of Statistics*. New York: McGraw-Hill Book Co.
- Takahashi, J. 2001. Nutritional manipulation of Methanogens in ruminants. *Asian-Aust. J. Anim. Sci.* 14, special issue: 131.
- Takahashi, J., B. Mwenya, B. Santoso, C. Sar, K. Umetsu, T. Kishimoto, K. Nishizaki, K. Kimura, and O. Hamamoto. 2005. Migration of methane emission and energy recycling in animal agricultural systems. *Asian-Aust. J. Anim. Sci.* 18: 1199.
- Theodorou, M.K., S.E. Lowe, and A.P.J. Trinci. 1991. Anaerobic fungi and the rumen ecosystem. In: *The Fungal Community*, pp. 43-71. Edited by G. C. Carroll & D. T. Wicklow. New York: Marcel Dekker.
- Ushida, K., and J.P. Jouany. 1996. Methane production from ciliated rumen protozoa and its effect on protozoal activity. *Lett. Appl. Microbiol.* 23:129.
- Van Kessel, J.A.S., and J.B. Russell. 1996. The effect of pH on ruminal methanogenesis. *FEMS Microbiology, Ecology*, 20:205.
- Van Soest, P.J. 1994. *Nutritional Ecology of the Ruminant*. Second ed. Cornell University Press, Ithaca, NY. 476p.
- Verbic, J., X.B. Chen, N.A. Macleod, and E.R. Øskov. 1990. Excretion of purine derivative by ruminants: Effect of microbial nucleic acid infusion onpurine derivative excretion by steers. *J. Agric. Sci. (Cambridge)*:114.
- Verhulst, A., G. Semjen, U. Meerts, G. Janssen, G. Parmentier, S. Asselberghs, H. Van Hespen, and H. Eyssen. 1985. Biohydrogenation of linoleic acid by Clostridium sporogenes, Clostridium bifermentans, Clostridium sordellii and Bacteroides sp. *FEMS Microbiol. Ecol.* 31:267.
- Wainman, F.W., and P.J.S. Dewey. 1987. The energy value to sheep of saturated fat fed singly or in combination. *Anim. Prod.* 44:227.
- Wanapat, M. 1983. Alkali treatments of crop residues in Norway. In: P. T. Doyle (Editor), *The utilization of fibrous agricultural residues as animal feed*. University of Melbourne Printing Services, Parkville.

- Wanapat, M. 1999. Feeding of ruminants in the tropics based on local feed resources. Khon Kaen Publ. Comp. Ltd., Khon Kaen, Thailand. 236 pp.
- Wanapat, M., and C. Wachirapakorn. 1990. Utilization of roughage and concentrate by feedlot swamp buffaloes (*B. bubalis*). Asian-Aust. J. Anim. Sci. 3:195.
- Wanapat, M., F. Sundstol, and T.M. Garmo. 1985. A comparison of alkali treatment methods to improve the nutritive value of straw. I. Digestibility and metabolizability. Anim. Feed Sci. Technol. 12:295.
- Wanapat, M., F. Sundstol, and J.M.R.Hall. 1986. A comparison of alkali treatment methods to improve the nutritive value of straw. II. In sacco and in vitro degradation relative to in vivo digestibility. Anim. Feed. Sci. Technol. 14:215.
- Wanapat, M., and K. Sommart. 1993. Supplementation of high quality feed bock (HQFB) for swamp buffaloes fed rice straw based diets. In: Proc. The VII World Conference on Animal Production, Edmonton, Canada
- Wanapat, M., O. Pimpa, K. Sommart, S. Uriyapongson, W. Toburan, D.S. Parker, and P. Rowlinson. 1995. Effects of energy sources on rumen fermentation, degradability and rice straw intake in swamp buffaloes. In: The FAO International Workshop on Draft Animal Power. Khon Kean University, Thailand.
- Wanapat, M., K. Sommart, O. Pimpa, and S. Boonsorn. 1996. Supplementation of high quality feed pellet to increase milk productivity at small-holder farmers level. Proc. The 8th AAAP Animal Science Congress, Japanese Society of Zootechnical Sci., Tokyo, 2:158.
- Wang, J.H., S.H. Choi, K.W. Lim, K.H. Kim, and M.K. Song. 2006. Effect of the mixed oil and monensin supplementation, and feeding duration of supplements on c9, t11-CLA contents in plasma and fat tissues of Korean Native (Hanwoo) steers. Asian-Aust. J. Anim. Sci. 10:1464.
- Williams, A.G., and G.S. Coleman. 1992. The Rumen Protozoa. Springer-Verlag, New York, USA.
- Yeom, K.H., J.T. Schonewille, H. Everts, J.M. Zoet, and A.C. Beynen. 2003. Impact of soybean oil versus medium-chain triglycerides on plasma fatty acids in goats. Small Rum. Res. 48:201.
- Yokoyama, M.T., and R.A. Johnson. 1988. Microbiology of the rumen and intestine. In: The Ruminant Animal: Digestive Physiology and Nutrition. Church, D. C. (Ed.), Prentice Hall. New Jersey, USA.