

DAFTAR PUSTAKA

- Akin-Osanaiye, B.C., Nok, A.J., Ibrahim, S., Inuwa, H.M., Onyike, E., Amlabu, E., and Haruna, E. 2013. Effect of treatment with the methanol extracts of *Azadirachta indica* on the sialic acid profile of *Plasmodium berghei* infected mice. *Res. Rev. J. Pharn. Pharmac. Sci.* 2(2):1-9.
- Allen, H.K., Trachsel, J., Looft, T. and Casey, T.A. 2014. Finding alternative to antibiotics. *Ann. N. Y. Acad. Sci.* 1323 : 91-100.
- Aliakbarpour, H.R., Chamani, M., Rahimi, G., Sadeghi, A.A. and Qujeq, D. 2012. The *Bacillus subtilis* and lactic acid bacteria probiotics influences intestinal mucin gene expression, histomorfologi and growth performance broiler. *J. Anim. Sci.* 25 : 1285-1293.
- Amat, C., Planas, J.M., Moreto, M. 1996. Kinetics of hexose uptake by the small and large intestine of the chicken. *Am.J. Physiol. R.* 271: 1085-1089
- Anggitasari, S., Sjojfan, O. dan Djunaidi, I.H. 2016. Pengaruh beberapa jenis akan komersial terhadap kinerja produksi kuantitatif dan kualitatif ayam pedaging. *Buletin Peternakan* Vol. 40 (3) : 187-196.
- Anonimus. 2008. Processing histopatologi pada jaringan dengan pewarnaan *hematoksin-eosin*. Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta. Indonesia.
- Anonimus, 2010. Glycobiology : Sialic acid synthesis and signaling. *Life Sci. Biofiles.* 5(1):4-8.
- Anonimus. 2015. Livestock and Animal Health Statistics 2015. Direktorat Jenderal Peternakan dan Kesehatan Hewan, Kementerian Pertanian Republik Indonesia. Jakarta.
- Awad, W., Ghareeb, K., and Bohm, J. 2008. Intestinal structure and function of broiler chickens on diets supplemented with a synbiotics containing *Enterococcus faecium* and oligosaccharides. *Int. J. Sci.* 9 : 2205-2216.
- Bajpai, V.K., Rather, I.A., Majumder, R., Shukla, S., Aeron, A., Kim, K., Kang, S-C., Dubey, R.C., Maheswari, D.K., Lim, J., and Park, Y-H. 2016. Exopolysaccharide and lactic acid bacteria: Perception, functionality and prospects. *Bangladesh J. Pharmacol* 11:1-23.
- Bhanja, S.K., Anjali, D.C., Panda, A.K., and Shyam, S.G. 2009. Effect of post hatch feed deprivation on yolk-sac utilisation and performance of young broiler chickens. *Asian Australian Journal of Animal Sciences* 22: 1174-1180.

- Beal, R.K., Powers, T.F., Davison, and Smith, A.L. 2006. Immunological development of the avian gut. Chapter 6. Avian Gut Function in Health and Disease (ed. G.C.Perry). CAB International. p 85-103.
- Befus, A.D., Johnston, N., Leslie, G.A., and Bienenstock, J. 1980. Gut-associated lymphoid tissue in the chicken. I. Morphology, ontogeny, and some functional characteristics of peyer's patches. *J Immunol* ; 125:2626-2632.
- Bhagavat, R., and Chandra, N. 2014. Common recognition principles across diverse sequence and structural families of sialic acids binding protein. *Glycobiol.* 24(1):5-16.
- Bonnet, C., Diarrassouba, F., Brousseau, R., Masson, L., Topp, E. and Diarra, M.S. 2009. Pathotype and antibiotic resistance gene distributions of *Escherichia coli* isolates from broiler chickens raised on antimicrobial-supplemented diets. *Appl. Environ. Microbiol.* 75:6955–62.
- Butaye, P. 2003. Antimicrobial growth promoters used in animal feed: effects of less well known antibiotics on gram-positive bacteria. *Clin. Microbiol. Rev.* 16:175–188.
- Byrne, B., Donohoe, G.G. and O’Kennedy, R. 2007. Sialic acids: carbohydrate moieties that influence the biological and physical properties of biopharmaceutical proteins and living cells. *Drug discovery today*, 12(7), pp.319-326.
- Bywater, R. 2005. Identification and surveillance of antimicrobial resistance dissemination in animal production. *Poult. Sci.* 84:644–648.
- Caspary, W.F. 1992. Physiology and pathophysiology of intestinal absorption. *Am. J. Clin. Nutr.*, 55, 299S-308S
- Castanon, J.I.R. 2007. History of the use of antibiotic as growth promoters in European poultry feeds. *Poult. Sci.* 86(24): 66–71.
- Casteleyn, C., Doom, M., Lambrechts, E., Van Den Broeck, W., Simoens, P., and Cornillie, P. 2010. Locations of gut-associated lymphoid tissue in the 3-month-old chicken: a review. *Avian Pathology*, 39(3), pp.143-150.
- Chae, O., Shin, K., Chung, H., and Choe, T. 1998. Immunostimulation effects of mice fed with cell lysate of *Lactobacillus plantarum* isolated from kimchi. *Korean J Biotechnol Bioeng*, 13, pp.424-430.
- Chang, J.Y. and Chang, H.C. 2011. Growth inhibition of foodborne pathogens by Kimchi prepared with bacteriocin-producing starter culture. *J Food Sci* ;76 : (M7) : 2-8.

- Cheigh, H.S. and Park, K.Y. 1994. Biochemical, microbiological, and nutritional aspects of Kimchi (Korean fermented vegetable products). *Crit Rev Food Sci Nutr* ;34:175-203.
- Cho, E.J., Rhee, S.H., Lee, S.M. and Park, K.Y. 1997. *In vitro* antimutagenic and anticancer effects of Kimchi fractions. *J Korean Assoc Cancer Prev* ;2:113-21.
- Choi, S.M., 2001. *Antiobesity and anticancer effects of red pepper powder and kimchi* (Doctoral dissertation, PhD Thesis).
- Choi, S.M., Jeon, Y.S., Rhee, S.H., and Park, K.Y. 2002. Red pepper powder and kimchi reduce body weight and blood and tissue lipids in rats fed a high fat diet. *Nutraceuticals and food*, 7(2), pp.162-167.
- Chun, B-S., Wen, J., Ahn, N-K., Shin, H., Park, J-H., Lee, D., Jeong, H. and Han, J. 2007. Effect of culture materials of kimchi lactic acid bacteria on growth performance and prevention of PMWS in weaned pigs. Patent No. P-106.
- Chung, H.K. 1993. The physiological characteristics and immunological functions of lactic acid bacteria from kimchi. *Kimchi Sci Ind*, 2, pp.23-28.
- Conway, P.L., 1994. Function and regulation of the gastrointestinal microbiota of the pig. In: Souffrant, W.B., Hagemester, H. (Eds.), Proceedings of the VIth International Symposium on Digestive Physiology in Pigs. EAAP Publication no. 80, Dummerstof, pp. 231–240.
- Deepthi, B.V., Poornachandra, R.K., Chennapa, G., Naik, M.K., Chandrashekara, K.T. and Sreenivasa, M.Y. 2016. Antifungal Attributes of *Lactobacillus plantarum* MYS6 against Fumonisin Producing *Fusarium proliferatum* Associated with Poultry Feeds. *PLoS ONE* 11(6): e0155122.
- Dibner, J. J. and Richards, J.D. 2005. Antibiotic growth promoters in agriculture: history and mode of action. *Poult. Sci.* 84:634–43.
- Dukes, H.H. 1993. The Physiology of Domestic Animals. 9 th ed. M.J. Swenson dan W.O. Reece (eds.). Comstock Publishing Associate. Ithaca. London. P. 326.
- Fadillah, R., A. Polana, S. Alam dan E. Purwanto. 2007. Sukses Beternak Ayam Broiler. Agromedia Pustaka, Jakarta
- Fatima, M. 2013. Strategy to develop alternative to antibiotics using bacterial second messenger 3', 5' cyclic diguanylic acid as an immunostimulator

in broiler chicken. Thesis. Faculty of Graduate and Postdoctoral Studies.
University of British Columbia.

- Fellah, J.S., Jaffredo, T. and Dunon, D. 2008. Development of the avian immune system, dalam *Avian Immunology* 1^{ed}. Diedit oleh : Davison, F., Kaspers, B., and Schat, K.A. Published by Elsevier Ltd.
- Foo, H.L., Loh, T.C., Law, F.L., Lim, Y.Z., Kufli, C.N., and Rusul, G. 2003. Effects of feeding *Lactobacillus plantarum* I-UL4 isolated from Malaysian Tempeh on growth performance, faecal flora and lactic acid bacteria and plasma cholesterol concentrations in postweaning rats. *Food Science and Biotechnology* 4, 403-408.
- Furtula, V., Farrell, E.G., Diarrassouba, F., Rempel, H., Pritchard, J. and Diarra, M.S. 2010. Veterinary pharmaceuticals and antibiotic resistance of *Escherichia coli* isolates in poultry litter from commercial farms and controlled feeding trials. *Poult. Sci.* 89:180-8.
- Geyra, A., Uni, Z., and Sklan, D. 2001. Enterocyte dynamics and mucosal development in the posthatch chick. *Poultry Science*, 80(6), pp.776-782.
- Geyra, A., Uni, Z., and Sklan, D. 2001. The effect of fasting at different ages on growth and tissue dynamics in the small intestine of the young chick. *British Journal of Nutrition* 86: 53-61.
- Goldstein, J., Newbury, D.E., Echlin, P., Joy, D.C., Romig Jr, A.D., Lyman, C.E., Fiori, C. and Lifshin, E. 2012. Scanning electron microscopy and X-ray microanalysis: a text for biologists, materials scientists, and geologists. Springer Science & Business Media.
- Gunal, M., Yalyi, G., Kaya, O., Karahan, N. and Sulak, O. 2006. The effect of antibiotics growth promotor, probiotic or organic acid supplementation on performance, intestinal microflora and tissue of broiler. *J. Poult. Sci.* 5 : 149-155.
- Ha, B-J., Bae, D-J., Ku, C-S., Kim, C-H., Jang, D-I., dan Sung, H-W. 2008. Anti-viral effect of *Lactobacillus plantarum* DC 421K isolated from kimchi on the Avian Influenza Virus. *The Korean Society for Biotechnology and Bioengineering*, pp. 231-231.
- Hashemi, S.R. and Davoodi, H. 2010. Phytochemicals as new class of feed additive in poultry industry. *J. Anim. Vet. Adv.* 9 (17) : 2295-2304.
- Hasan, B.F., Ali, K.A.W., Edan, H.H., and Alssada, H.K.A. 2010. Evaluation of serum total, lipid and protein associated sialic acids levels as an

- inflammatory markers in thyphoid fever patients. *J. Al-Nahrain Univ.* 13(2): 45-53.
- Hassan, H.M.A., Mohamed, M.A., Youssef, A.W. and Hassan, E.R. 2010. Effect of using organic acids to substitute antibiotic growth promoters on performance and intestinal microflora of broilers. *Asian-Aus J Animal Sci.* 23(10):1348–1353.
- He, H., MacKinnon, K.M., Genovese, K.J., and Kogut, M.H. 2011. CpG oligodeoxynucleotide and double-stranded RNA synergize to enhance nitric oxide production and mRNA expression of inducible nitric oxide synthase, pro-inflammatory cytokines and chemokines in chicken monocytes. *Innate Immun.* 17:137-144.
- Houston EG, Nechanitzky R, Fink PJ. 2008. Cutting edge: Contact with secondary lymphoid organs drives postthymic T cell maturation. *J Immunol.* 181:5213- 5217.
- Hwang, J.H., Song, Y.O. and Cheigh, H.S. 2000. Fermentation characteristics and antioxidative effect of red mustard leaf Kimchi. *J Korean Soc Food Sci Nutr* ;29 (10) : 09-15.
- Iji, P.A., Saki, A. and Tivey, D.R. 2001. Body and intestinal growth of broiler chicks on a commercial starter diet. 1. Intestinal weight and mucosal development. *Brit. Poult. Sci.* 42 : 505-531.
- Iqbal, J., Mian, A.A., Ahmad, T., Hassan, S., and Khan, S.H. 2012. Comparative performance of different economic, traits of four imported broiler strains under local condition of Pakistan. *Pakistan J Agr Res.* 25:76-82.
- Iqbokwe, C.O., and Abah, F.C. 2009. Comparative studies on the morphology and morphometry of the Meckel's diverticulum in the Nigerian local chicken (*Gallus domesticus*) and exotic broiler-anak 2000. *Animal Science Reporter*, 3:103-109.
- Jacob, J. and Pescatore, T. 2013. Avian Digestive System. Cooperative Extension Service. University of Kentucky College of Agriculture, Food and Environment. Lexington. KY, 40546.
- Janah, S.N. 2014. Analisis keragaman bakteri asam laktat dari saluran pencernaan ayam cemani berdasarkan gen 16s rRNA dan potensi penggunaannya sebagai probiotik, Disertasi : Sekolah Pascasarjana Institut Pertanian Bogor.
- Jeurissen, S.H.M., Vervelde, L., and Janse, E.M. 1994. Structure and function of lymphoid tissues of the chicken. *Poult. Sci. Rev.* 5 : 183-207.

- Khan, I. and Kang, S.C. 2016. Probiotic potential of nutritionally improved *Lactobacillus plantarum* DGK-17 isolated from Kimchi - A traditional Korean fermented food. *Food Control*, 60 : 88-94.
- Khatua, B., Roy, S. and Mandal, C. 2013. Sialic acids siglec interaction: A unique strategy to circumvent innate immune response by pathogens. *Indian J. Med. Res.* 138(5):648-662.
- Kidd, M.T. 2004. Nutritional modulation of immune function in broiler. *Poult. Sci.* 83:650-657.
- Kim, J.Y., Lee, Y.S. 1997. The effects of kimchi intake on lipid contents of body and mitogen response of spleen lymphocytes in rats. *J Korean Soc Food Sci Nutr* ; 26 :1200–1207.
- Kim, M.J., Kwon, M.J., Song, Y.O., Lee, E.K., Yoon, H.J., Song, Y.S. 1997. The effects of kimchi on hematological and immunological parameters in vivo and in vitro. *J. Food Sci. Nutr.* 26:1208–1214.
- Kim, K.H., Kim, S.H., Park, K.Y. 2001. Effects of kimchi extracts on production of nitric oxide by activated macrophages, transforming growth factor b1 of tumor cells and interleukin-6 in splenocytes. *J. Food Sci. Nutr.* 6:126–132.
- Kim, E.K., An, S.Y., Lee, M.S., Kim, T.H., Lee, H.K., Hwang, W.S., Choe, S.J., Kim, T.Y., Han, S.J., Kim, H.J., Kim, D.J. and Lee, K.W. 2011. Fermented kimchi reduces body weight and improves metabolic parameters in overweight and obese patients. *Nutr. Res.* 31(4):36-43.
- Klasing, K.C. 2007. Nutrition and the immune system. *British Poult. Sci.* 48(5):525-537.
- Kolter, T., 2012. Ganglioside biochemistry. *Int. Schol. Res. Net. Biochem.* :1-36.
- Korver, D.R. 2006. Overview of the immune dynamics of the digestive system. *J. Appl. Poult. Res.* 15: 123-135.
- Kwon, M.J., Chun, J.H., Song, Y.S. and Song, Y.O. 1999. Daily Kimchi consumption and its hypolipidemic effect in middle-aged men. *J Korean Soc Food Sci Nutr* ; 28(11) : 44-50.
- Lacy, M., and Vest, L.R. 2000. Improving feed conversion in broiler : a guide for growers.

- Lee, H., Kim, D.Y., Lee, M.A., Jang, J-Y. and Choue, R. 2014. Immunomodulatory effects of kimchi in chinese healthy college students: a randomized controlled trial. *Clin Nutr Res.* 3 : 98-105.
- Lee, Y.M., Kwon, M.J., Kim, J.K., Suh, H.S., Choi, J.S. and Song, Y.O. 2004. Isolation and identification of active principle in Chinese cabbage Kimchi responsible for antioxidant effect. *Korean J Food Sci Technol*; 36 (1) 29-33.
- Ledezma-Torres, R., Posadas-Cantu, A., Espinosa-Leija, R., Hernandez-Escareno, J.J., Fimbres-Durazo, H., Riojas-Valdes, V.M., Santoyo de Estefano, F.A. and Picon-Rubio, F.J. 2014. Different level of probiotics to broilers diet on gastrointestinal tract development and production performance. *Afr.J. Microbiol. Res.* 9 : 892-897.
- Letran, S.E., Lee, S.J., Atif, S.M., Uematsu, S., Akira, S., and McSorley, S.J. 2011. TLR5 functions as an endocytic receptor to enhance flagellin-specific adaptive immunity. *Eur J. Immunol.* 41:29-38
- Lin, E.L.F. 2006. Effect of feeding a fermented product on the faecal microflora and egg composition in laying hens. Thesis. School of Graduate Studies, Universiti Putera Malaysia.
- Mardhiah, A., 2016. Kajian perbandingan histologi usus halus dan usus kasar antara ayam hutan (*Gallus gallus*) dan ayam ras (White leghorn). *Jurnal Edukasi dan Sains Biologi*, 4(1).
- Mason, J. R., and Clark, L. 2000. The Chemical Sense in Birds. Chapter 3. *Sturkie's Avian Physiology*. Fifth Edition. Academic Press.
- Merchant, L.E., Rempel, H., Forge, T., Kannangara, T., Bittman, S., Delaquis, P., Topp, E., Ziebell, K.A. and Diarra, M.S. 2012. Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets. *Can. J. Microbiol.* 1098:1084–1098.
- Miyoshi, E., Ito, Y., Miyoshi, Y. 2010. Involvement of Glycosylation in Thyroid Cancer. *J. Oncol.* : 1-7.
- Moon, J.J., Chu, H.H., Pepper, M., McSorley, S.J., Jameson, S.C., Kedl, R.M., and Jenkins, M.K. 2007. Naive CD4+ T cell frequency varies for different epitopes and predicts repertoire diversity and response magnitude. *Immunity.* 27:203-213.
- Mountzouris, K.C., Paraskevas, V., Tsirtsikos, P., Palamidi, I., Steiner, T., Schatzmayr, G., and Fegeros, K. 2011. Assessment of a phytogetic feed

additive effect on broiler growth performance, nutrient digestibility and caecal microflora composition. *Animal Feed Science and Technology*, 168(3), pp.223-231.

Murhalien, Achamanu, dan Kurniawan, A. 2010. Efek lama waktu pembatasan pemberian pakan terhadap performa ayam pedaging finisher. *Jurnal Ternak Tropika*. 11:88-94.

Noy, Y., and Sklan, D. 1995. Digestion and absorption in the young chick. *Poult. Sci.* 74:366–373.

Oktay, S., Uslu, L., Batirel, S., Emekli, N. 2014. The function of sialic acid as a radical scavenger in experimental hypothyroidism with and without hyperlipidemia. *J. Surg. Arts.* 7(2): 75-79.

Olah, I. and Vervelde, L. 2008. Structure of avian lymphoid system, dalam *Avian Immunology 1^{ed}*. Diedit oleh : Davison, F., Kaspers, B., and Schat, K.A. Published by Elsevier Ltd.

Park, K.Y., Kil, J.H., Jung, K.O., Kong, C.S. and Lee, L.M. 2006. Functional properties of Kimchi (Korean fermented vegetables). *Acta Horti* 706:167-72.

Park, K-Y., Jeong, J-K., Lee, Y-E., and Daily, J.W. 2014. Health Benefits of Kimchi (Korean Fermented Vegetables) as a Probiotic Food. *J. Med. Food* 17 (1):6–2.

Pelicano, E.R.L., Souza, P.A., Souza, H.B.A., Figueiredo, D.F., Boiago, M.M., Carvalho, S.R. and Bordon, V.F. 2005. Intestinal mucosa development in broiler chickens fed natural growth promoters. *Revista Brasileira de Ciencia Avicola*, 7(4), pp.221-229.

Rather, I.A., Choi, K-H., Bajpai, V.K. and Park, Y-H. 2015. Antiviral mode of action of *Lactobacillus plantarum* YML009 on influenza virus H1N1. *Bangladesh J Pharmacol.*; 10: 475-482.

Rather, I.A., Seo, B.J., Kumar, V.J.R., Choi, U-H., Choi, K-H., Lim, J.L. and Park, Y.H. 2013. Biopreservative potential of *Lactobacillus plantarum* YML007 and efficacy as a replacement for chemical preservatives in animal feed. *Food Sci. Biotechnol.* 23(1).

Rebole, A., Ortiz, L.T., Rodriguez, M.L., Alzueta, C., Trevino, J., Velasco, S. 2010. Effects of inulin and enzyme complex, individually or in combination, on growth performance, intestinal microflora, cecal fermentation characteristics, and jejunal histomorphology in broiler chickens fed a wheat- and barley-based diet. *Poultry Science* 89:276– 86.

- Resende, R. 2010. Synthesis of novel sialidase inhibitors of target Influenza A Virus and Changas' Disease [Thesis]. University of Bath.
- Risnajati, D. 2012. Perbandingan bobot akhir, bobot karkas dan presentase karkar berbagai strain broiler. *Jurnal Sains Peternakan*. 10:11-14.
- Rodgers, N.J., Choct, M., Hetland, H., Sundby, F. and Svihus, B. 2012. Extent and method of grinding of sorghum prior to inclusion in complete pelleted broiler chicken diets affects broiler gut development and performance. *Anim.Feed Sci. Technol.* 171:60–67
- Rougière, N. and Carré, B. 2010. Comparison of gastrointestinal transit times between chickens from D+ and D- genetic lines selected for divergent digestion efficiency. *Animal* 4:1861–1872.
- Samanta, S., Haldar, S. and Ghosh, T.P. 2010. Comparative efficacy of organic acid blend and bacitracin methylene disacylate as growth promoters in broiler chicken : Effect on performance, gut histology and small intestinal milieu. *Veterinary Medicine International*. Vol. 2010. Article ID 645150, 8 pages. doi:10.4061/645150.
- Seo, B.J., Rather, I.A., Kumar, V.J.R., Choi, U.H., Moon, M.R., Lim, J.H. and Park, Y.H. 2012. Evaluation of *Leuconostoc mesenteroides* YML003 as a probiotic against low-pathogenic avian influenza (H9N2) virus in chickens. *J Appl Microbiol* 113, 163–171.
- Shin, K., Chae, O., Park, I., Hong, S. and Choe, T. 1998. Antitumor effects of mice fed with cell lysate of *Lactobacillus plantarum* isolated from Kimchi. *Korean J Biotechnol Bioeng*;13:357-63.
- Shinder, D.,D. Lunger, M. Rusal, V. Rzepakovsky, V. Bresler, and S. Yahav. 2002. Early Age Cold Conditioning in Broiler Chickens (*Gallus domesticus*) : Thermotolerance and Growth Responses. *Journal of Thermal Biology* 27 : 571-532.
- Sidadolog, J.H.P. 2001. Manajemen Ternak Unggas. Laboraturium Ilmu Ternak Unggas. Fakultas Peternakan. Universitas Gadjah Mada, Yogyakarta.
- Sklan, D., and Noy, Y. 2000. Hydrolysis and absorption in the intestine of newly hatched chicks. *Poultry Science* 79: 1306-1310
- Soeharsono. 2010. Fenomena dan nomena dasar dari fungsi serta interaksi organ pada hewan, dalam fisiologi ternak . Widya Padjajaran. Bandung.

- Soeparno. 2005. Ilmu dan Teknologi Daging. Edisi ke-2. Gadjah Mada University Press. Yogyakarta
- Suprijatna, E., U. Atmomarsojana, dan R. Kartosudjana. 2005. Ilmu Dasar Ternak Unggas. Penebar Swadaya. Jakarta. Hal. 35
- Svihus, B., Juvik, E., Hetland, H. and Krogdahl, Å. 2004. Causes for improvement in nutritive value of broiler chicken diets with whole wheat instead of ground wheat. *Br. Poult. Sci.* 45:55–60.
- Svihus, B. 2011. Effect of digestive tract conditions, feed processing and ingredients on response to NSP enzymes, dalam *Enzymes in farm animals nutrition*, 2nd Edition (eds M.R. Bedford and G.G. Partridge). ©CAB International. Cambridge. USA. p 129-159.
- Svihus, B. 2014. Function of Digestive System. *J. Appl. Poult. Res.* 23 : 306-314. <http://dx.doi.org/10.3382/japr.2014-00937>.
- Swithraa, C., Sumathi, S.S., Annapurna, K., Asmathulla, S. 2014. Evaluation of oxidative stress and protein bound sialic acid in diabetes with and without retinopathy. *Int. J. Rec. Trends Sci. Techno.* 13(1): 183-186.
- Tao, F., Zhang, Y., Ma, C., Xu, P., 2010. Biotechnology production and application of N-acetyl-D-Neuraminat Acid : Current state and perspective. *Appl. Microbiol. Biotechnol.* 87 : 1281-1289.
- Thanh, N.T., Loh, T.C., Foo, H.L., Hair-Bejo, M., and Azhar, B.K. 2009. Effects of feeding metabolite combinations produced by *Lactobacillus plantarum* on growth performance, faecal microbial population, small intestine villus height and faecal volatile fatty acids in broilers. *British poultry science*, 50(3), pp.298-306.
- Thu, T.V., Loh, T.C., Foo, H.L., Yaakub, H., and Bejo, M.H. 2011. Effects of liquid metabolite combinations produced by *Lactobacillus plantarum* on growth performance, faeces characteristics, intestinal morphology and diarrhoea incidence in postweaning piglets. *Tropical animal health and production*, 43(1), pp.69-75.
- Tsai, Y.T., Cheng, P.C. and Pan, T.M. 2012. The immunomodulatory effects of lactic acid bacteria for improving immune functions and benefits. *Appl Microbiol Biotechnol*, 96:853–862.
- Uni, Z., Ganot, S., and Sklan, D. 1998. Posthatch development of mucosal function in the broiler small intestine. *Poultry Science* 77:75–82.

- Uni, Z., 1999. Functional development of the small intestine in domestic birds: Cellular and molecular aspects. *Poultry and Avian Biology Reviews*, 10(3), pp.167-179.
- Uni, Z., Geyra, A., Ben-Hur, H. and Sklan, D. 2000. Small intestinal development in the young chick: crypt formation and enterocyte proliferation and migration. *British poultry science*, 41(5), pp.544-551.
- Pelicano, E.R.L., Souza, P.A., Souza, H.B.A., Figueiredo, D.F., Boiago, M.M., Carvalho, S.R., Bordon, V.F. 2005. Intestinal Mucosa Development in Broiler Chickens Fed Natural Growth Promoters. *Brazilian J. Poult. Sci.* 7 (4):221-229.
- Wang, H., Gao, Y., and Shih, C.H., 2008. Effect of dietary supplementation of keratinase on growth performance, nitrogen retention and intestinal morphology of broiler chickens fed diets with soybean and cottonseed meals. *Animal Feed Science and Technology* 140:376-384.
- Wang, R., Dillon, C.P., Zhichang, L., Milasta, S., Carter, R., Finkelstein, D., McCormick, L.L., Fitzgerald, P., Chi, H., Munger, J., and Green, D. 2011. The Transcription Factor Myc Controls Metabolic Reprogramming upon T Lymphocyte Activation. *Immunity* 35, 871–882.
- Wasik, B.R., Barnard, K.N., and Parrish, C.R. 2016. Effect of sialic acids modification on virus binding and infection. *Trends in Microbiology*, 24 (12):991-1001.
- Woolhouse, M., Ward, M., van Bunnik B. and Farrar, J. 2014. Animal resistance in humans, livestock and the wider environment. *Phil. Trans. R. Soc. B* 370: 20140083. <http://dx.doi.org/10.1098/rstb.2014.0083>
- Yamauchi, K.E. 2002. Review on chicken intestinal villus histological alterations related with intestinal function. *The Journal of Poultry Science*, 39(4), pp.229-242.
- Yoon, J.H., Kang, S.S., Mheen, T.I., Ahn, J.S., Lee, H.J., Kim, T.K., Park, C.S., Kho, Y.H., Kang, K.H. and Park, Y.H. 2000. *Lactobacillus kimchii* sp. nov., a new species from Kimchi. *Int J Syst Evol Microbiol* ;50 (17) : 89-95.
- Yoon, J.Y., Jung, K.O., Kim, S.H., and Park, K.Y. 2004. Antiobesity effect of baek-kimchi (whitish baechu kimchi) in rats fed high fat diet. *J Food Sci Nutr* ; 9:259–264.