

REFERENCES

- A Karim N, Mohd Yusof S, Hashim JK, Din M, Haslinda S, Harun Z, Saleh Hudin R, Salim F, Ngadikin M, Norazlin S. 2008. Food consumption patterns: findings from the Malaysian Adult Nutrition Survey (MANS). *Malaysian Journal of Nutrition* 14:25-39.
- Allen DG. 2001. Eccentric muscle damage: mechanisms of early reduction of force. *Acta physiologica Scandinavica* 171:311-319.
- Allen, C. D., S. M. Russell, and D. L. Fletcher. 1997. The relation of broilers breast meat color and pH to shelf-life and odor development. *Poult. Sci.* 76:1042-1046.
- Anadón, H. L. S. (2002). Biological, nutritional, and processing factors affecting breast meat quality of broilers (Doctoral dissertation, Virginia Polytechnic Institute and State University).
- Azahan, E. E. 1994. The red and black-red native chickens of Malaysia. *MARDI Res. J.*
- Barbut, S., Gordon, A., & Smith, A. 1996. Effect of cooking temperature on the microstructure of meat batters prepared with salt and phosphate. *LWT-Food Science and Technology*, 29(5), 475-480.
- Barbut, S. 1997. Problem of pale soft exudative meat in broiler chickens. *British Poultry Science*, 38(4), 355-358.
- Barbut, S. 2002. *Poultry Products Processing (An Industry Guide)*. CRC Press LLC. Florida. USA.
- Barbut, S., L. Zhang and M. Marcone. 2005. Effects of pale, normal, and dark chicken breast meat on microstructure, extractable proteins, and cooking of marinated fillets. *Poult. Sci.* 84: 797-802.
- Barbut, S., 2014. Review: Automation and meat quality-global challenges. *Meat science*, 96(1), 335-345.
- Belew, J.B. , J.C. Brooks, D.R. McKenna, J.W. 2003. Savell, Warner–Bratzler shear evaluations of 40 bovine muscles, *Meat Science*, Vol. 64: 507-512.
- Berchtold MW, Brinkmeier H, Mantener M. 2000. Calcium ion in skeletal muscle: its crucial role for muscle function, plasticity, and disease. *Physiological reviews* 80:1215-1265.
- Beutler, A. 2007. *Introduction to Poultry Production in Saskatchewan*, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 5A8.
- Bramfeld, J.M.; Fahey, A.J.; Langley-Evans, S.C.; Buttery, P.J. 2003. Nutritional and hormonal control of muscle growth and fat deposition. *Arch. Tierz.* 46, Special Issue, 143-156

- Casas, E., White, S. N., Wheeler, T. L., Shackelford, S. D., Koohmaraie, M., Riley, D. G., ... & Smith, T. P. L. 2006. Effects of and μ -markers in beef cattle on tenderness traits. *Journal of Animal Science*, 84(3), 520-525.
- Castellini, C., Berri, C., Le Bihan-Duval, E., & Martino, G. 2008. Qualitative attributes and consumer perception of organic and free-range poultry meat. *World's Poultry Science Journal*, 64(04), 500-512.
- Chai LC, Robin T, Ragavan UM, Gunsalam JW, Bakar FA, Ghazali FM, Radu S, Kumar MP. 2007. Thermophilic *Campylobacter* spp. in salad vegetables in Malaysia. *International Journal of Food Microbiology* 117:106-111.
- Cheng, Q., & Sun, D. W. (2008). Factors affecting the water holding capacity of red meat products: A review of recent research advances. *Critical reviews in food science and nutrition*, 48(2), 137-159.
- Chipondeni, T. 2015. A determination of the effectiveness of community based vaccination system in the prevention of newcastle disease in chickens: a case study of Bindura and Mazowe Districts (Doctoral dissertation).
- Cooke R, Wien R. 1971. The state of water in muscle tissue as determined by proton nuclear magnetic resonance. *Biophysical journal* 11:1002-1017.
- Dadgar, S., Lee, E. S., Leer, T. L. V., Burlingette, N., Classen, H. L., Crowe, T. G., & Shand, P. J., 2010. Effect of microclimate temperature during transportation of broiler chickens on quality of the pectoralis major muscle. *Poultry science*, 89(5), 1033-1041.
- Dadgar, S., 2010. Effect of cold stress during transportation on post-mortem metabolism and chicken meat quality (Doctoral dissertation, University of Saskatchewan Saskatoon).
- Dalle Zotte A. 2002. Perception of rabbit meat quality and major factors influencing the rabbit carcass and meat quality. *Livestock Production Science* 75:11-32.
- Dayton, W. R., Schollmeyer, J. V., Lepley, R. A., & Cortés, L. R. 1981. A calcium-activated protease possibly involved in myofibrillar protein turnover. Isolation of a low-calcium-requiring form of the protease. *Biochimica et Biophysica Acta (BBA)-Enzymology*, 659(1), 48-61.
- Debut, M., Berri, C., Baeza, E., Sellier, N., Arnould, C., Guemene, D., ... & Le Bihan-Duval, E. (2003). Variation of chicken technological meat quality in relation to genotype and preslaughter stress conditions. *Poultry Science*, 82(12), 1829-1838.
- Delany, M. E. 2003. Genetic Diversity and Conservation of Poultry. *Poultry Genetics, Breeding, and Biotechnology*, 257.

- Diwyanto, K., & Iskandar, S. 1999. 1. KAMPUNG CHICKENS: A KEY PART OF INDONESIA'S LIVESTOCK SECTOR. *Livestock Industries of Indonesia prior to the Asian Financial Crisis*, 1.
- Dunner, S., Sevane, N., García, D., Cortés, O., Valentini, A., Williams, J. L., & GeMQual Consortium, 2013. Association of genes involved in carcass and meat quality traits in 15 European bovine breeds. *Livest. Sci.*, 154(1), 34-44.
- Fanatico, A. C., Pillai, P. B., Emmert, J. L., & Owens, C. M. 2007. Meat quality of slow-and fast-growing chicken genotypes fed low-nutrient or standard diets and raised indoors or with outdoor access. *Poultry Science*, 86(10), 2245-2255.
- Felício, A. M., Boschiero, C., Balieiro, J. C. C., Ledur, M. C., Ferraz, J. B. S., Michelin Filho, T., & Coutinho, L. L., 2013. Identification and association of polymorphisms in CAPN1 and CAPN3 candidate genes related to performance and meat quality traits in chickens. *Genetics and Molecular Res.*, 472-482.
- Fletcher, D. L., 2002. Poultry meat quality. *World's Poultry Sci. J.*, 58(02), 131-145.
- Frazer, K. A., Ballinger, D. G., Cox, D. R., Hinds, D. A., Stuve, L. L., Gibbs, R. A., ... & Pasternak, S., 2007. A second generation human haplotype map of over 3.1 million SNPs. *Nature*, 449(7164), 851-861.
- Froning, G. W., 1995. Color of poultry meat. *Poult. Avian Bio. Reviews*. 6 (1): 83-93.
- Grandin, T., & Gallo, C., 2007. Cattle Transport. *Livestock handling and transport*, 134.
- Geesink G.H. & Koohmaraie M. 1999. Effect of calpastatin on degradation of myofibrillar proteins by mu-calpain under postmortem conditions. *J. Anim. Sci.* 77: 2685-2692.
- Gerbens-Leenes PW, Nonhebel S. 2002. Consumption patterns and their effects on land required for food. *Ecological Economics* 42:185-199.
- Goldewijk KK. 2001. Estimating global land use change over the past 300 years: the HYDE database. *Global Biogeochemical Cycles* 15:417-433.
- Goll D.E., Thompson V.F., Li H., Wei W., et al. 2003. The calpain system. *Physiol. Rev.* 83: 731-801.
- Grunert KG. 2005. Food quality and safety: consumer perception and demand. *European Review of Agricultural Economics* 32:369-391.
- Hasnah Hassan S. 2011. Consumption of functional food model for Malay Muslims in Malaysia. *Journal of Islamic Marketing* 2:104-124.

- Hartschuh, J. K., J. Novakofski, and F. K. McKeith. 2002. Practical aspects of the glycolytic potential assay. In Proceedings of the 55th Annual Reciprocal Meat Conference, American Meat Science Association (pp. 39-42), 28-31 July, 2002. Michigan, USA.
- Intarachot, U., T. Aob-aon and S. Siangjaew. 1997. Age and size of Thai native crossbred chickens raising for self consumption. The report of animal research for 1996. Department of Livestock Develop., Bangkok, Thailand. 298-319.
- Jaturasitha S., Kayan A., and M. Wicke. 2008. Carcass and meat characteristics of male chickens between Thai indigenous compared with improved layer breeds and their crossbred. *Archiv Fur Tierzucht* 51. 3: 283.
- Jaturasitha, S., Srikanchai, T., Kreuzer, M., & Wicke, M. 2008. Differences in carcass and meat characteristics between chicken indigenous to northern Thailand (Black-boned and Thai native) and imported extensive breeds (Bresse and Rhode Island Red). *P. science*, 87(1): 160-169.
- Jayaraman K, Munira H, Chowdhury D, Iranmanesh M. 2008. The preference and consumption of chicken lovers with race as a moderator-an empirical study in Malaysia. *International Food Research Journal* 20:165-174.
- Jeon HJ, Choe JH, Jung Y, Kruk ZA, Lim DG, Jo C. 2010. Comparison of the chemical composition, textural characteristics, and sensory properties of North and South Korean native chickens and commercial broilers. *Korean J Food Sci An.* 30:171-178.
- Kadhim, K.K., Bakar, Z.A., Mustapha, N.M., Babjee, M.A., & Saad, M.Z. 2014. The Enzyme Activities of Pancreas and Small Intestinal Contents in the Malaysian Village Chicken and Broiler Strains. *Pertanika Journal of Tropical Agricultural Science*, 37(2).
- Karlsson AH, Klont RE, Fernandez X. 1999. Skeletal muscle fibres as factors for pork quality. *Livestock Production Science* 60:255-269.
- Khor GL, Sharif ZM. 2003. Dual forms of malnutrition in the same households in Malaysia-a case study among Malay rural households. *Asia Pacific Journal of Clinical Nutrition* 12:427-437.
- Koohmaraie M. 1992. Role of the neutral proteinases in postmortem muscle protein degradation and meat tenderness. In: *Proc. Recip. Meat Conf.* p 63.
- Koohmaraie M. 1994. Muscle proteinases and meat aging. *Meat. Sci.* 36: 93-104.
- Koohmaraie M. 1996. Biochemical factors regulating the toughening and tenderization processes of meat. *Meat. Sci.* 43S1: 193-201.

- Lambio AL, Capitan SS, Dagaas CT. 2010. PRODUCTION OF NATIVE CHICKENS AND OTHER POULTRY SPECIES. Poultry Production in the Tropics:160.
- Laville E, Sayd T, Morzel M, Blinet S, Chambon C, Lepetit J, Renand G, Hocquette JFo. 2009. Proteome changes during meat aging in tough and tender beef suggest the importance of apoptosis and protein solubility for beef aging and tenderization. *Journal of agricultural and food chemistry* 57:10755-10764.
- Lawrie, R. A. 1998. *Lawrie's Meat Science*. 6th ed. Woodhead Publishing Ltd., Abington, England.
- Le Bihan-Duval, E., Millet, N., & Remignon, H. 1999. Broiler meat quality: effect of selection for increased carcass quality and estimates of genetic parameters. *Poultry Science*, 78(6), 822-826.
- Le Bihan-Duval, E., Berri, C., Baeza, E., Millet, N., & Beaumont, C. 2001. Estimation of the genetic parameters of meat characteristics and of their genetic correlations with growth and body composition in an experimental broiler line. *Poultry Science*, 80(7), 839-843.
- Liao J-H, Lin IL, Huang K-F, Kuo P-T, Wu S-H, Wu T-H. 2014. Carnosine Ameliorates Lens Protein Turbidity Formations by Inhibiting Calpain Proteolysis and Ultraviolet C-Induced Degradation. *Journal of agricultural and food chemistry* 62:5932-5938.
- Locker, R.H., & Hagyard, C.J., 1963. A cold shortening effect in beef muscles. *Journal of the Science of Food and Agriculture*, 14(11), 787-793.
- Lokman, I.H., Goh, Y.M., Sazili, A.Q., Noordin, M.M., & Zuki, A.B.Z. 2015. Meat Characteristics of Red Jungle Fowl (*Gallus gallus Spadiceus*), Malaysian Domestic Chickens (*Gallus gallus Domesticus*) and Commercial Broiler. *Pertanika Journal of Tropical Agricultural Science*, 38(4).
- Lyon, C. E. and R. J. Buhr., 1999. Biochemical basis of meat texture. In *Poultry Meat Science*. (eds R. I. Richardson and G. C. Mead). CABI Publishing. NY. USA.
- Mackay TFC, Stone EA, Ayroles JF. 2009. The genetics of quantitative traits: challenges and prospects. *Nature Reviews Genetics* 10:565-577.
- Maltin C, Balcerzak D, Tilley R, Delday M. 2003. Determinants of meat quality: tenderness. *Proceedings of the Nutrition Society* 62:337-347.
- Manap, M. N., 2012. Functional polymorphisms: Bovine calpastatin gene and meat tenderness (Doctoral dissertation, University of Nottingham).
- McCurdy, R., S. Barbut, and M. Quinton. 1996. Seasonal effects on PSE in young turkey breast meat. *Food Res. Int.* 29: 363-366.

- Monti RJ, Roy RR, Hodgson JA, Edgerton VR. 1999. Transmission of forces within mammalian skeletal muscles. *Journal of biomechanics* 32:371-380.
- Muchenje V, Dzama K, Chimonyo M, Strydom PE, Hugo A, Raats JG. 2009. Some biochemical aspects pertaining to beef eating quality and consumer health: A review. *Food Chemistry* 112:279-289.
- Odeh, F. M. T., 2003. Quantitative inheritance of Calpastatin activity as an assessment measure for meat tenderness in Brahman steers (Doctoral dissertation, Louisiana State University).
- Offer, G., and P. Knight. 1988. The structural basis of water-holding in meat. Pages 63-243 in *Developments in Meat Science*, Vol. 4 R. Lawrie, ed. Elsevier, London.
- OKUMURA, F., SHIMOGIRI, T., KAWABE, K., OKAMOTO, S., NISHIBORI, M., YAMAMOTO, Y., & MAEDA, Y. 2006. Gene constitution of South-East Asian native chickens, commercial chickens and jungle fowl using polymorphisms of four calpain genes. *Animal Science Journal*, 77(2), 188-195.
- Page B.T., Casas E., Heaton M.P., Cullen N.G., et al. 2002. Evaluation of single-nucleotide polymorphisms in CAPN1 for association with meat tenderness in cattle. *J. Anim. Sci.* 80: 3077-3085.
- Popkin BM, Gordon-Larsen P. 2004. The nutrition transition: worldwide obesity dynamics and their determinants. *International journal of obesity* 28:S2-S9.
- Qiao M, Fletcher DL, Smith DP, Northcutt JK. 2001. The effect of broiler breast meat color on pH, moisture, water-holding capacity, and emulsification capacity. *Poultry Science* 80:676-680.
- Ribeca, C., Bonfatti, V., Cecchinato, A., Albera, A., Maretto, F., Gallo, L., & Carnier, P. 2013. Association of polymorphisms in CAPN1, (mu/I) large subunit, calpastatin, and cathepsin D genes with meat quality traits in double-muscled Piemontese cattle. *Animal genetics*, 44(2), 193-196.
- Rosenvold, K., & Andersen, H. J., 2003. Factors of significance for pork quality—a review. *Meat science*, 64(3), 219-237.
- Sams, A. R., 1999. Meat quality during processing. *Poult. Sci.* 78: 798-803.
- Smith J, Bruley CK, Paton IR, Dunn I, Jones CT, Windsor D, Morrice DR, Law AS, Masabanda J, Sazanov A. 2000. Differences in gene density on chicken macrochromosomes and microchromosomes. *Animal genetics* 31:96-103.
- Sun, Y., Zhao, G., Liu, R., Zheng, M., Hu, Y., Wu, D., ... & Wen, J., 2013. The identification of 14 new genes for meat quality traits in chicken using a genome-wide association study. *BMC genomics*, 14(1), 1.

- Swatland, H. J. 1994. The conversion of muscle to meat. In *Structure and Development of Meat Animals and Poultry*. Technomic Publishing Co., Inc. Lancaster, PA, USA.
- Troy DJ, Kerry JP. 2010. Consumer perception and the role of science in the meat industry. *Meat Science* 86:214-226.
- Vidalenc, P., Cottin, P., Merdaci, N., & Ducastaing, A., 1983. Stability of two Ca²⁺-dependent neutral proteinases and their specific inhibitor during post-mortem storage of rabbit skeletal muscle. *Journal of the Science of Food and Agriculture*, 34(11), 1241-1250.
- Wattanachant S, Benjakul S, Ledward DA. 2004. Composition, color, and texture of Thai indigenous and broiler chicken muscles. *Poult Sci.*; 83:123–128.
- White, S. N., Casas, E., Wheeler, T. L., Shackelford, S. D., Koohmaraie, M., Riley, D. G., ... & Smith, T. P. L. 2005. A new single nucleotide polymorphism in extends the current tenderness marker test to include cattle of and crossbred descent. *Journal of animal science*, 83(9), 2001-2008.
- Yousif, I. A. 2015. Assessment of Population Structure and Genetic Diversity of Sudanese Native Chickens Using Microsatellite Markers (Doctoral dissertation, UOFK).
- Zayas, J. F. (1997). Water holding capacity of proteins. In *Functionality of proteins in food* (pp. 76-133). Springer Berlin Heidelberg.
- Zhang, Z. R., Zhu, Q., Jiang, X. S., & Du, H. R. 2007a. Study on correlation between single nucleotide polymorphism of CAPN1 gene and muscle tenderness and carcass traits in chicken. *Yi chuan*, 29(8), 982-988.
- Zhang Z.R., Zhu, Q., and Liu, Y.P. 2007b. Correlation analysis on single nucleotide polymorphism of CAPN1 gene and meat quality and carcass traits in chickens. *Agric. Sci. China* 6: 749-754.
- Zhang Z.R., Liu Y.P., Jiang X., Du H.R. & Zhu, Q. 2008. Study on association of single nucleotide polymorphism of CAPN1 gene with muscle fibre and carcass traits in quality chicken populations. *J. Anim. Breed. Genet.* 125: 258-264.
- Zhao C, Ge B, De Villena J, Sudler R, Yeh E, Zhao S, White DG, Wagner D, Meng J. 2001. Prevalence of *Campylobacter* spp., *Escherichia coli*, and *Salmonella* serovars in retail chicken, turkey, pork, and beef from the Greater Washington, DC, area. *Applied and Environmental Microbiology* 67:5431-5436.