

- Aceves, C., Romero, C., Sahagun, L. and Valverde R. C. 1987. Thyroid hormone profile in dairy cattle acclimated to cold or hot environmental temperatures. *J. Acta Endocrinologica*, 114 : 201-207.
- Adil, A., Sedata, B. and Ali, C. 2010. Determination of critical period for dairy cows using temperature humidity index . *J. Anim. and Vet Adv.* , 9 : 1824-1827.
- AGRI- FLAVORS.INC.1978.Anise flavor 2x dry.
<http://agriflavors.com/sitebuildercontent/sitebuilderfiles/aniseflavor2xdry.pdf>
- Aii, T., Takahashi, S., Kurihara, M. and Kume, S. 1998. The economical evaluation of a mist and fan system for dairy cows based on milk production increases . *Japan J. Zootech. Sci.*, 59:637-642.
- Allain, C. C., Poon, L . S . , Chon , C. S .G ., Richmond , W. and Fu , p. C . 1974. Enzymatic deter mination of total serum cholesterol . *Clin .Chem .*, 20 : 270 – 475.
- Amir, K. and Mohammad, R.M. 2009. Spatial analysis of humidity and temperature of Iran . *proc. of the int. conf. computational science and its applications: part I* : 94–106.
- A.O.A.C. Association of Official Analytical Chemists. 1975 . Official method of analysis12th Ed. Washington , D.C. USA.
- Archer, R. K. 1965. Haematological Techniques For Use on Animals. Oxford: Blackwell Scientific-Publications .Vol. 7:571: 573.
- Armstrong, D.V., Wise, M.E., Torabi, M.T.and Wiersma, F. 1988. Effect of Different cooling system on milk production of late lactating Holstein cows during high ambient temperature. *J. Dairy Sci.*, 71 (Suppl.1), 212.

- Asator, A. M. and King, E. J. 1954. Simplified colorimetric blood sugar method. *Biochem. J.* 56: 44 – 46.
- Ashe , J. R. ; J.L. Mangan and G.S. Sidhn .1984. Nutritional availability of amino acid from cross - linked protect against degradation in the rumen . *Br. Nutr.*, 52: 247-289.
- Avendano-Reyes, L., Alvarez-Valenzuela, F., Correa-Calderon, A.D., Saucedo-Quintero, J.S., Robinson, P.H. and Fadel, J.G. 2006 . Effect of cooling Holstein cows during the dry period on postpartum performance under heat stress conditions . *Livestock Sci.*, 105 : 198-206 .
- Baumgard, L.H., Rhoads RP. 2007. The effects of hyperthermia on nutrient partitioning. In: *Proc. Cornell Nutr. Conf. Cornell University, Ithaca, NY.*;p. 104.
- Baumgard, L.H. and Rhoads, R. B. 2009. The effects of heat stress on nutritional and management Decisions: Western Dairy Management Conference. Department of Animal Sciences University of Arizona . www.wdmc.org
- Baumgard, L.H., Wheelock, J.B., Sanders, S.R., Moore, C.E., Green H.B., Waldron M.R. and Rhoads R.P. 2011. Postabsorptive carbohydrate adaptations to heat stress and monensin supplementation in lactating Holstein cows. *J. Dairy Sci.*, 94 : 5620–5633.
- Baynes, J. and Dominiczak, M. 2010. *Medical Biochemistry*. 3rd Edn . Elsevier Limited . www.us.elsevierhealth.com/biochemistry
- Berman, A. 2005. Estimates of heat stress relief needs for Holstein dairy cows. *J. Anim. Sci.* 83:1377–1384.
- Berman A. 2006. Extending the potential of evaporative cooling for heat-stress relief. *J. Dairy Sci.* 89:3817–3825.
- Bianca, W. 1962. Relative importance of dry- and wet-bulb temperatures in causing heat stress in cattle. *J. Nature.*, 195:251–252.

- Bianca, W.1968. Thermoregulation. in adaptation of domestic animals.
E. S. E. Hafez (ed.) Philadelphia: Lea and Febiger.
- Blanch, A. 1999. Getting the color of yolk and skin right Worlds. Poult.
Sci. J., 15 (9): 32- 33.
- Blumenthal, M. 1998. The complete German commission Emonographs:
Therapeutic guide to herbal medicines Austin, TX: American
Botanical Council.
- Bohmanova, J. 2006. Studies on genetics of heat stress in us Holsteins.
pHD Thesis . Czech University of Agriculture.
- Bohmanova, J., Misztal, I. and Cole, J.B. 2007. Temperature-humidity
indices as indicators of milk production losses due to heat stress.
J. Dairy Sci., 90:1947-1956 .
- Bolocan , E. 2009. Effects of heat stress on sexual behavior in heifers.
Lucrări științifice Zootehnie și Biotehnologii, 42: 141-148.
- Bouraoui R. , Lahmara M. , Majdoub A. , Djemali M. and Belyea R.
2002. The relationship of temperature-humidity index with milk
production of dairy cows in a Mediterranean climate. *Anim.*
*Res.*51 : 479–491.
- Bown, D. 1995. Encyclopedia of herbs and their uses. New York Dk
Publishing, Inc. pp. 364.
- Bray, D.R. and Bucklin, R. 1996. Recommendations for cooling systems
for dairy cattle. Fact Sheet DS-29. University of Florida
Cooperative Extension Service, Gainesville .
- Broadwater, N. 2008. Dairy cows need lots of water. [www. thecattlesite.
com/news/22428/](http://www.thecattlesite.com/news/22428/).
- Brooks, J. R. and Ross, C. V. 1962. The influence of the thyroid gland
and ambient temperatures on fertility of rams. *Mo. Agr. Exp. Sta.*
Res. Bul. 801.

- Bucklin, R.A., Turner, L.W., Beede, D.K., Bray, D.R. and Hemken, R.W. 1991. Methods to relieve heat stress for dairy cows in hot, humid climates. *Appl. Eng. Agric.*, 7 : 241-247.
- Bush, B. M. 1998. Plasma albumin . In: Interpretation of Laboratory Results For Small Clinicians . Bush, B. M.(Ed.)2nd.edn. Blackwell Science Ltd. Oxford OEL, pp. 250-254.
- Busquet, M., Calsamiglia S., Ferret A., Kamel C. 2005. Screening for the effects of natural plant extracts and secondary plant metabolites on rumen microbial fermentation in continuous culture. *Anim. Feed Sci. Technol.* ;123/124:597–613
- Busquet, M., Calsamiglia S., Ferret A., Kamel C. 2006. Plant extracts affect in vitro rumen microbial fermentation. *J. Dairy Sci.*;89:761–771
- Cabuk, M. , Alcicek, A.; Bozkurt, M. and Imre, N. 2003. Antibacterial properties essential oils isolated from aromatic plant and using possibility as alternative feed additives. II. National Animal Nutrition Congress., 18- 20 September, PP. 184- 187.
- Calsamiglia S. , M. Busquet, P. W. Cardozo, L. Castillejos, and A. Ferret. 2007.Essential oils as modifiers of rumen microbial fermentation. Invited Review: *J. Dairy Sci.* 90:2580–2595.
- Cardozo PW.,Calsamiglia S, Ferret A., Kamel, C. 2004. Effects of natural plant extracts on protein degradation and fermentation profiles in continuous culture. *J. Anim. Sci.* 82:3230–3236
- Cardozo PW., Calsamiglia S, Ferret A, Kamel C. 2005. Screening for the effects of natural plant extracts at different pH on in vitro rumen microbial fermentation of a high-concentrate diet for beef cattle. *J. Anim. Sci.* ;83:2572–2579
- Cardozo PW., Calsamiglia S, Ferret A, Kamel C. 2006. Effects of alfalfa extract, anise, capsicum and a mixture of cinnamaldehyde and

- eugenol on ruminal fermentation and protein degradation in beef heifers fed a high concentrate diet. *J. Anim. Sci.*;84:2801–2808
- Castillejos L., Calsamiglia S, Ferret A, Losa R. 2005. Effects of a specific blend of essential oil compounds and the type of diet on rumen microbial fermentation and nutrient flow from a continuous culture system. *Anim. Feed Sci. Technol.* ;119:29–4
- Castleman, M. 1991. The Healing Herbs- The ultimate guide to the curative power of Nature's Medicine. ISBN 0-8785-7-934-6. PP. 49- 52.
- Chanchai, W., Chanpongsang, S. and Chaiyabutr, N. 2010. Effects of misty-fan cooling and supplemental rbST on rumen function and milk production of crossbred Holstein cattle during early, mid and late lactation in a tropical environment. *J. Anim. Sci.*, 81: 230–239.
- Chevallier, A. 1996. The Encyclopedia of Medicinal Plant. Dorling, Kindersley, London p: 310 .
www.amazon.com/The-Encyclopedia-Medicinal-Plants-
- Ciftci, M., Guler, T., Dalkilic, B. and Ertas, O. N. 2005. The effect of anise oil (*Pimpinella anisum L.*) on broiler performance. *International J. Poult. Sci.*, 4(11): 851-855.
- Coles, E. H. 1986. Veterinary Clinical Pathology. 4th edn. W. D. Saunders Company. Philadelphia. U.S.A..
- Collier , R.J. ,Dahl , G.E. and VanBaale , M.J. 2006. Major advances associated with environmental effects on dairy cattle. *J. Dairy Sci.*, 89:1244–1253 .
- Correa-Calderon, A., Armstrong, D., Ray, D., DeNise, S., Enns, M. and Howison, C. 2004. Thermoregulatory responses of Holstein and Brown Swiss heat-stressed dairy cows to two different cooling systems. *Int. J. Biometeorol.*, 48 : 142-148.

- Curtis, S. E. 1983. Environmental management in animal agriculture. Iowa State University Press, Ames, Iowa .
- De Weerth, C., Zijl, R. and Buitelaar, J. 2003. Development of cortisol circadian rhythm in infancy . *Early. Hum. Dev.*, 73 : 39–52.
- Dikmen, S. and Hansen, P.J. 2009. Is the temperature-humidity index the best indicator of heat stress in lactating dairy cows in a subtropical environment. *J. Dairy Sci.*, 92:109–116 .
- Do Amaral , B. C., Connor, E. E., TAO, S., Hayen, J., Bubolz , J. and Dahl, G. E. 2009. Heat-stress abatement during the dry period: Does cooling improve transition into lactation ? *J. Dairy Sci.*, 92 :5988–5999.
- Do Amaral , B. C., Connor, E. E., TAO, S., Hayen, J., Bubolz , J. and Dahl, G. E..2011 . Heat stress abatement during the dry period influences metabolic gene expression and improves immune status in the transition period of dairy cows. *J. Dairy Sci.*94: 86- 96.
- Duke, J. A. 2000. Medicinal phospholipids vesicles containing glycerol on the fertilizing ability of rabbit spermatozoa. *Pro. Soc. Exp. Biol. Med.*, 152: 257- 261.
- Duncan, D.D. 1955. Multiple range and multiple F-test *Biometrics* , 11: 1-42.
- El-Nouty, F. D., Al-Haidary, A.A. and Salah, M. S. 1990. Spray cooling effect on milk production; some blood parameters and thyroid hormones of Holstein cows in the semi-arid environment . *Indian J. Anim. Sci.*, 63 360-364 .
- El-Shobaki, F. A., Saleh, Z. A. and Saleh, N. 1990. The effect of some beverage extracts on intestinal iron absorption. *Z. Ernährungswis.*, 29: 264- 269.
- Facciola, S. 1990. Cornucopia-A source Book of Edible plants. Kampong publications. ISBN 0-9628087-0-9.

- Flamenbaum, I., Wolfenson, D., Mamen, M. and Berman, A. 1986 .
Cooling dairy cattle by combination of sprinkling and forced
ventilation and its implementation in the shelter system . *J.
Dairy Sci.*, 69:3140- 3147 .
- Frandsen , R.D., 2009 . Anatomy and Physiology of Farm Animals. 7th
edn. Wiley-Blackwell . ISBN: 978-0-8138-1394-3.
- Frank Wierama 1990. Temperature humidity index (THI) for dairy cows.
Department of Agricultural Engineering, The University of
Arizona, Tucson, Arizona.
- Garcia, A. 2006. Dealing with heat stress in dairy cows .
<http://www.agbiopubs.sdstate.edu/articles/ExEx4024.pdf>
- Green , S.A., JenKins , S.J. and Clark , P.A. 1982. Acomparison of
chemical and electrophoretic methods of serum protein
determination in clinically normal domestic animals of various
ages. *Cornell Vet.*, 72: 416-426.
- Gruenwald, J., Brendler, T. and Jaenicke, C. 2000. PDR for Herbal
Medicines. Montvale. N. J: Medical Economic Company.
- Gwatibaya, S., Svotwa, E. and Jambwa, D. 2007. Potential effects and
management options for heat stress in dairy cows in Zimbabwe : a
review . *Ejeafche*, 6: 2066-2074.
- Hagiwara, K., Hiura, C. and Koutomi, S. 2002. Development of practical
method in the early stage discovery of the heat stressed dairy cows
and proof of its effective counter measures . (In Japanese). *Bulletin
of the Kochi Prefectural Livestock Experiment Station* 18: 36-46.
- Hahn, GL. 1981. Housing and management to reduce climat impacts on
livestock . *J. Anim. Sci.*, 52 :172-186 .
- Hahn, GL. 1999. Dynamic responses of cattle to thermal heat loads,
Journal of Animal Science, 77 (supp. 2): 10-20.

- Hansen, P. J. and Arechiga, C. F. 1999. Strategies for managing reproduction in the heat-stressed dairy cow . *J. Anim. Sci.*, 77: (Suppl.) .
- Hansen,P.J. 2007. Exploitation of genetic and physiological determinants of embryonic resistance to elevated temperature to improve embryonic survival in dairy cattle during heat stress. *Theriogenology*, 68 : 242– 249.
- Harborn, J. B. 1984. Textbook of phytochemical methods. A guide to modern Techniques of plant analysis. 2nd ed., London, New York Chapman and Hall. PP. 196- 197.
- Hassan, S.A. and Al-Sultan, A.A..1995.Awssi lambs responses to dietary supplement of rumen degradable protein 1-Effect of forage to concentration ratio. *IPA.J. Agric.Res.*,5:80-99.
- Hassan , S.A., Al-Ani, A.N., Al-Jassim R.A. and Abdullah, N.S. 1990. Effects of roughage to concentrate ratios and rumen undegradable protein supplementation on growth of lambs. *Small Rumin. Res.*, 3:317-324.
- Henry, B.J. 2001. Clinical diagnosis and Management by laboratory methods. 20th edition, Saunders, Philadelphia, PA.
- Henz, A. and Holde, I. 1969. The albumin-alphaglobulin ration in various physiological states in cattle. *Br. Vet. J.*,125:326-329 .
- Her, E. Wolfenson, D., Flamenbaum, I., Folman, Y., Kaim, M. and Berman, A. 1988. Thermal, productive, and reproductive responses of high yielding cows exposed to short-term cooling in summer. *J. Dairy Sci.*, 71:1085-1092.
- Hernandez, F., Madrid, J., Garcia, V., Orengo, J. and Megias, M. D. 2004. Influence of two plant extract on broiler performance, digestibility, and digestive organ size. *Poult. Sci.*, 83: 169- 174.

- Hodgson, J. M., Puddey, I. B., Burke, V., Beilin, L. J. and Jordan, N. 1999. Effect on blood pressure of drinking green and black tea. *J.Hypertens.*,17:457- 463.
- Igono, M. D., Johnson, H. D., Steevens, B.J., Krause, G.F. and Shanklin, M.D. 1987. Physiological, productive, and economic benefits of shade, spray, and fan system versus shade for Holstein cows during summer heat . *J. Dairy Sci.*, 70:1069-1079 .
- Igono, M. O. and Johnson,H. D.1990. Physiological stress index of lactating dairy cows based on diurnal pattern of rectal temperature. *J. Interdisciplinary Cycle Res.*, 21:303-320.
- Jamroz, D. and Kamel, C. 2002. Plant extracts enhance broiler performance non ruminant nutrition: Antimicrobial agent and plant extracts on immunity. Health and Performance *J. Anim. Sci.*,80(1): 41-46.
- Johnson, H.D. 1965. Ennvironmental temperature and lactation. *Inter. J. Biomet.* , 9:103-116.
- Johnson, H.D. 1987.Bioclimate effects on growth reproduction and milk production . Bioclimatology and the adaptation of livestock . Elsevier Sci. Publ. B. V., Amsterdam, Netherlands ,pp:35-57.
- Jones, G. and Stallings, C. 1999. Reducing heat stress for dairy cattle. *Virginia Tech. Magazine.*, 404-200 .
<http://www.ext.vt.edu/pubs/dairy/404-200/404-200.html>.
- Jovanovic, M. 1984. Physiology of domestic animals. Medicinska knjiga, Beograd - Zagreb, p. 34 (In Serbian)
- Jung , H.G. and Fahey, G.C. 1981 . Effect of phenolic compound removal on invitro forage digestibility . *J.Agr food chem* . 29:817 .
- Jung, H.G., Fahey G.C. and Garst, J.E. 1983 . Simple phenolic monomers of forags and effects of invitro fermentation on cell wall phenolics . *J.Agr food chem.* 57 (5): 1294-1305 .

- Kadzere, C.T., Murphy, M.R., silanikove, N. and Maltz, E. 2002 . Heat stress in lactating dairy cows: a review . *Livestock Prod. Sci.*, 77: 59-91.
- Kaneko, J., Harvey, W. Bruss, M. 2008 . Clinical Biochemistry of Domestic Animals. 6ed 30 corporate drive , suit 400 .Burlington, Ma 01803. U.S.A.
- Karaali, A. and Basoglu, N. K. 1994. Essential oil of Turkish anise seed and their use in the aromatization of raki. University Faculty of chemistry metrology, Department of Food Engineering.
- Keister, Z.O., Moss, K.D., Zhang, H.M., Teegerstrom, T., Edling, R.A., Collier, R.J., 2002. Physiological responses in thermal stressed Jersey cows subjected to different management strategies. *J. Dairy Sci.* ;85:3217–3224.
- Kendall, P.E., Verkerk, G.A., Webster, J.R. and Tucker, C.B. 2007. Sprinklers and shade cool cows and reduce insect-avoidance behavior in pasture-based dairy systems. *J. Dairy Sci.*, 90:3671-3680 .
- Kind , P.R.N. and King , E.J. 1954 . Estimation of plasma phosphatase by determination of hydrolyzed phenol with amino-antipyrine . *J.Clin. Path.*,7: 322-326.
- Larry, E. Ch. 2000. Climate change impacts on dairy cattle. Department of Animal Science Cornell University, Ithaca, NY 14853. www.climateandfarming.org/pdfs/FactSheets/III.3Cattle.pdf .
- Larry, F. 2008 . Preparing for summer on the dairy heat stress prevention. *Veterinary Extension newsletter*. Vol.1, no. 4.
- Legrand, A., Schtz,K.E. and Tucker,C.B. 2011. Using water to cool cattle: Behavioral and physiological changes associated with voluntary use of cow showers . *J. Dairy Sci.* 94 : 3376-3386.

- Leung, A. Y. and Foster, S. 1996. Encyclopedia of common natural ingredients used in food, drugs and cosmetics, 2nd ed, New York; John Wiley and Sons, Inc. P. 36- 38.
- Lphsi, 1990 . Livestock and poultry heat stress indices. Agriculture Engineering Guide. Clemson University, Clemson SC., 29634, USA. 29634, USA.
- Liu, Y.X., Zhou, X., Li, D.Q., Cui, Q.W. and Wang. G.L. 2010. Association of *ATPIA1* gene polymorphism with heat tolerance traits in dairy cattle. *Gen. Mol. Res.*, 9 : 891-896 .
- Lumsden, J. H., Mullen, K. and Rowe, R. 1980. Hematology and biochemistry reference values for female Holstein cattle . *Can . J. Comp. Med.* 44:24-31.
- Mader, T. L., Davis, M. S. and Brown-Brandl, T. 2006. Environmental factors influencing heat stress in feedlot cattle . *J. Anim. Sci.*, 84:712–719.
- Marcillac-Embertson, N.M., Robinson, P.H., Fadel, J.G. and Mitloehner, F.M. 2009. Effects of shade and sprinklers on performance, behavior, physiology, and the environment of heifers . *J. Dairy Sci.*, 92:506-517 .
- McDonald, P., Edwards, R.A., Grenhalgh, J.F.D. and Morgan, C.A. 2002. Animal Nutrition . 6th edn. Edinburgh Gate . Harlow.
- McGuire, M. A., Beede, D. K., Collier, R. J., Buonomo, F. C., DeLorenzo, M. A., Wilcox, C. J. Huntington, G. B. and Reynolds, C. K. 1991. Effects of acute thermal stress and amount feed intake on concentrations of somatotropin, insulin-like growth factor (IGF)-I and IGF-II, and thyroid hormones in plasma of lactating Holstein cows. *J. Anim. Sci.*, 69:2050–2056 .
- McGuffin, M., Hobbs, C. and Upton, R. 1997. American herbal products association's Botanical safety Handbook. CRC press, Boca Raton, FL.

- Mitsunori, K. and Shigeru, S .2003. Dairy cattle management in a hot environment. National Institute of Livestock and Grassland Science . Japan . www.agnet.org/library/eb/529.
- Morrison, R.T. and R.N. Boyd . 1983 . Organic Chemistry . Allyn and Bacon, Inc . Boston , 4th ed.
- Morsy, T.A., Kholif, S.M., Matloup, O.H. Abdo, M.M. and El_Shafie,M.H. 2012. Impact of Anise , Clove and Juniper Oils as feed additives on the productive performance of lactating Goats. *Int. J. Dairy Sci.*, 7:20-28.
- Muldoon, M. F., Manuck, S. B., Mendeisohn, A. B., Kaplan, J. R. and Belle, S. H. 2001. Cholesterol reduction and non- illness mortality: meta- analysis of randomized clinical trials. *B. M. J.*, 322: 11- 15.
- Nasrat, N. A. 2005. Effect of diosgenin extract from *Trigonella foenum graecum* on lipid metabolism in male quails. PhD. Thesis. College of Veterinary Medicine, University of Baghdad.
- Nassuna-Musoke, M. G., Kabasa, J. D. and King, J. M. 2007. Response of Friesian cows to microclimate on small farms in warm tropical climates . *J. Anim. Vet. Adv.*, 6 : 899-906 .
- National Health Service (N.H.S.).2010. High cholesterol levels . <http://www.nhs.uk/conditions/cholesterol/Pages/Introduction.aspx>.
- NRC. National Research Council of the National Academy of Science.N.R.C.1978.Nutrient requirements of dairy cattle.Washington, D.C.
- Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicines: A guide for health care professionals. London: The pharmaceutical press.
- Nixon, D.A., Akasha, M.A. and Anderson, R.R. 1988 . Free and total thyroid hormones in serum of Holstein cows. *J. Dairy Sci.*, 71: 1152-1160 .

- Patton,C.J.and S.R. Crouch 1977. Determination of Urea . Analytical Chemistry. 49:464 .
- Pennington, J. A. and Van Devender, K. 1997. Heat stress in dairy cows. University of Arkansas, U.S.A. www.extension.org/pages/11047
- Peter, G.G. and Peter, D. C. 2002. Clinical examination of farm animals. appendix 3 laboratory reference values : Biochemistry. by Blackwell Science Ltd.
- Pridharm, J.B. 1963 . Enzyme Chemistry of Phenolic Compounds . Pergamon press LTD. London .
- Promma, S. 2006. Approach nutrition management to alleviate heat stress in dairy cattle . Chiang Mai Livestock Research Center, Sunpatong Chiangmai 50120 . <http://ags.kku.ac.th/AnimalOLD>
- Ravagnolo, O., Misztal, I. and Hoogenboom, G. 2000. Genetic component of heat stress in dairy cattle, development of heat index function. *J. Dairy Sci.*, 83:2120-2125.
- Reist, M., Erdin, D., Von Euw, D., Tschuemperlin, K., Leunberger, H., Chilliard, H., Hammon, M., Morel, C. Philopona, C., Zbinder, Y., Kuenzi, N. and Blum, J.W. 2002: Estimation of energy balance at the individual and herd level using blood and milk traits in high-yielding dairy cows. *J. Dairy Sci.*, 85: 3314-3327.
- Reitman, S and Frankel, S. 1957. Acolorimetric methods for determination of serum glutamic oxaloacetic and glutamic pyruvic transaminase .Am .J.Clin. Path., 28:56-63.
- Rhoads, M. L., Rhoads, R. P., VanBaale, M. J. Collier, R. J. Sanders, S. R. Weber, W. J. Crooker, B. A. and Baumgard, L. H. 2009. Effects of heat stress and plane of nutrition on lactating Holstein cows : I Production, metabolism, and aspects of circulating somatotropin . *J. Dairy Sci.*, 92:1986-1997.
- Ryan, D.P., Boland, M.P., Kopel, E., Armstrong, D., Munyakazi, L., Godke, R.A. and Ingraham, R.H. 1992. Evaluating two different

- evaporative cooling management system for dairy cows in hot, dry climate . *J. Dairy Sci.*, 75:1052-1059.
- Salo, P. and Weste, I. 2005. Low- fat formulations of plant stanols and sterols. *Am. J. Cardiol.*, 96: 51- 54.
- Sapolsky, R.M., Romero, L.M.and Munck, A.U. 2000. How do glucocorticoids influence stress responses? Integrating permissive, suppressive, stimulatory, and preparative actions . *Endocrine Review.*, 21: 55-89 .
- Sartori, R., Sartor-Bergfelt, R., Mertens, S.A. Guenther, J.N. Parrish, J.J. and Wiltbank, M.C. 2002. Fertilization and early embryonic development in heifers and lactating cows in summer and lactating and dry cows in winter. *J. Dairy Sci.*, 85: 2803-2813 .
- SAS .2004. SAS/STAT User's Guide for Personal Computers . Release 7.0 SAS Institute Inc. , Cary , N. C. , USA .
- Schreiner, D. 2008. It's never too soon to focus on heat stress . *Genetic Trends.*, 68. (2) . www.accelgen.com/geneticrends .
- Schutz K. E. , A. R. Rogers , Y. A. Poulouin , N. R. Cox and C. B. Tucker . 2010. The amount of shade influences the behavior and physiology of dairy cattle. *J. Dairy Sci.* 93 :125–133.
- Shearer, J. K., Bray, D.R. and Bucklin, R.A. 1999. The management of heat stress in dairy cattle : what we have learned in Florida . www2.dasc.vt.edu/extension/nutritioncc/shear99b.pdf
- Shiao T.F. , J.C. Chen , D.W. Yang, C.F. Lee , S.N. Lee and W.T.K. Cheng. 2011. Feasibility assessment of a tunnel-ventilated, water-padded barn on alleviation of heat stress for lactating Holstein cows in a humid area. *J. Dairy Sci.*94: 5393-5404.
- Shubber, A. M. H., Abdulkareem, T. A. and Eidan, S. M. 2014 . Normal physiological values in different animal species. College of Agriculture, University of Baghdad.

- Shubbur, A., Goffaux, M. and Thibier, M. 1989. Seasonal evaluation of blood levels of thyroxine and triiodothyronine in the post-pubertal bull in France and Iraq concomitant variations of LH and testosterone . *Repor.d.Nutr.Dev.*, 29 : 309-315 .
- Singh, G., Kapoor, I. P., Pandey, S. K., Singh, U. K. and Singh, R. K. 2002. Studies on essential oils: part 10; antibacterial activity of volatile oils of some species. *Ohytother. Res.*, 16: 680- 682.
- Singh, K. P., Johnson , H. D. and Rag sdale, A.S. 1967. Effect of high environmental temperature on bovine serum protein and its fractions. *Indian J.Dairy Sci.*, 19:137-142 .
- Small, E. 1997. Culinary Herbs. Ottawa: NRC Research Press.Canada. p:710.
- Smith, J. Brook, M. and Waldner, D. 2001^a. Managing milk composition: Normal source of variation. Dairy Research and Extension News. 2: P4.
- Smith, J., Harner, J., Dunham, D., Stevenson, J., Shirley, J., Stokka, G. and Meyer, M. 2000. Coping with summer weather : Dairy management strategies to control heat stress . Kansas State University. www.ksre.ksu.edu/library/lvstk2/mf2319.pdf
- Smith, J., Harner, J. Brouk, M. 2001^b. Keeping cows cool, where do i start?. Kansas State University. Agricultural Experiment Station and Cooperative Extension Service. www.ksre.ksu.edu/library/lvstk2/ep77.pdf
- Speroni M., G. Pirlo and S. Lolli. 2006. Effect of automatic milking systems on milk yield in a hot environment. *J. Dairy Sci.* 89:4687–4693.
- Srikandakumar, A. and Johanson, E.H. 2004. Effect of heat stress on milk production , rectal temperature, respiratory rate and blood

- chemistry in Holstein , Jersey, and Australian milking Zebu cow. *Trop. Anim. Health and Prod.* 36 : 685-692.
- St-Pierre, N. R., Cobanov, B. and Schnitkey, G. 2003. Economic loses from heat stress by US livestock industries. *J. Dairy Sci.*, 86:52-77.
- Strickland, J.T., Bucklin, R. A., Nordstedt, R. A., Beede, D. K. and Bray, D. R. 1989. Sprinkler and fan cooling system for dairy cows in hot humid climates. *Applied Engineering in Agric.*, 5:231-236.
- Sturkie, P.D. 1986. Avian Physiology . Itheca , New York : Comstock publishing associates .
- Swain , T. and W.E. Hillis .1959. The phenolic constituents of *Prunus domestica* 1-the quantitative analalys of phenolic contituents . *J.Sci. Food Agric* . 10:63-68 .
- Talaro, K., Talaro , A. 1996 . Microbiology . Times Mirror Higher Education Group, Inc. USA .
- Tao S. , J.W. Bubolz, B.C. do Amaral, I.M. Thompson, M.J Hayen, S.E. Johnson and G.E. Dahl . 2011. Effect of heat stress during the dry period on mammary gland development *J. Dairy Sci.*. 94(12) :5976-5986.
- Toda, K., Nakai, F., Ieki, H. Fuzioka, K., Watanabe, H. Iuchi, T. and Terada, F. 2002 . Effect of "effective temperature" on milk yield of Holstein cows in hot and humid environments. *Japan Society of Anim. Sci.*, 73 : 63-100.
- Thatcher, W.W., Flamenbaum, I., Block1, J. and Bilby, T.R. 2010. Interrelationships of heat stress and reproduction in lactating dairy cows. High Plains Dairy Conference.
- Tucker, A. O. and DeBaggio, T. D. 2000. The Big Book of Herbs. Loveland, Co., Interweave Press.

- Turner, L. W. 1992. Reducing heat stress in dairy cows through sprinkler and fan cooling . *Ap. Eng. Agri.* 8: 251-256 .
- Urdaz, J.H., Overton, M.W., Moore, D. A. and Santos, J.E.P. 2006. Technical Note : Effects of adding shade and fans to a feedbunk sprinkler system for preparturient cows on health and performance. *J. Dairy Sci.*, 89 : 2000-2006.
- Valero, M. and Salmeron, M. C. 2003. Antibacterial activity of II essential oils against bacillus cereus in tyndallized carrot broth. *Int. J. Food Microbiol.*, 85: 73- 81.
- VanKampen, E.L. and Zijlstra, W.G. 1965 . Determenation of blood Hemoglobin, Cyanomethmoglobin. *Ad. Clin. Chem.* 8:141-143.
- Varley, H., Gowenlock, A. H. and Bell, M. 1980. Practical Clinical Biochemistry. 5th ed. William Heinemann Medical Books LTD. , London.
- Verpoorte, R. and Alfermann, A. W. 2000. Metabolic engineering of plant secondary metabolism. Kluwer Academic publication. Dardrecht. Boston. London.
- Walker , J.F. 1981. Formaldehyde. 3rd ed. Reinhold Publishing Corporation Chapman and Han Ltd. London .
- Wang J.P., D.P. Bu and J.Q. wang. 2010. Effect of saturated fatty acid supplementation on production and metabolism indices in heat-stressed mid-lactation dairy cows. *J. Dairy Sci.* 93: 4121-4127.
- Warner , A.S. 1964. Production of volatile fatty acid in the rumen methods of measurements . *Nutrition Abstract Review* , 34 , pp. 339-343 .
- West, J.W. 1995. Managing and feeding lactating dairy cows in hot weather. www.caes.uga.edu/Publications

- West, J.W. 2002. Physiological effects of heat stress on production and reproduction . Tri-State Dairy Nutrition Conference .Grand Wayne Center Fort Wayne, Indiana .
- West, J. W. 2003. Effects of heat-stress on production in dairy cattle . *J. Dairy Sci.*, 86:2131-2144.
- West, J. W., Mullinix, B. G. and Bernard, J. K. 2003. Effects of hot, humid weather on milk temperature, dry matter intake, and milk yield of lactating dairy cows. *J. Dairy Sci.*, 86:232-242.
- Weingartner, O., Bohm, M. and Laufs, U. 2008. Plant sterols as dietary supplement for the prevention of cardiovascular diseases. *Dtsch Med. Wochenschr*, 133: 1201- 1204.
- Wheelock J.B., Rhoads R.B.,Vanballe M.S.,Sanders S.R. and Baumgard L.H.2010. Effects of heat stress on energetic metabolism in lactating Holstein cows. *J. Dairy Sci.*93: 644-655.
- Wildman C. D., J. W. West,¹ and J. K. Bernard. 2007. Effects of dietary cation-anion difference and potassium to sodium ratio on lactating dairy cows in hot weather. *J. Dairy Sci.* 90:970–977.
- William, O. 1997. Physiology of Domestic Animals (National Veterinary Medical Series) Lippincott Williams & Wilkins .
- Williams J. L.2006. Selection to Improve Performance of Cattle in Subtropical Regions Using Heat Tolerance EPD. Review of Literature 2006.
- Wise, M.E., Armstrong, D.V., Huber, J.T., Hunter, R. and Wiersma, F. 1988. Hormonal alterations in the lactating dairy cow in response to thermal stress . *J Dairy Sci.*, 71:2480-2485.
- Wolfenson, D., Flamenbaum, I. and Berman, A.. 1988. Dry period heat stress relief effects on prepartum progesterone, calf birth weight, and milk production . *J. Dairy Sci.*, 71:809-818.

- Zimbelman, R. B. 2010 . Management strategies to reduce effects of thermal stress on lactating dairy cattle. *View*.
<http://gradworks.umi.com> .
- Zimbelman, R. B., Baumgard, L. H and Collier, R. J. 2010 . Effects of encapsulated niacin on evaporative heat loss and body temperature in moderately heat-stressed lactating Holstein cows. *J. Dairy Sci.*, 93 : 2387-2394 .
- Zimbelman, R. B., Collier, R. J., Bilby, T. R. and Barton, B. A. 2008 . Encapsulated niacin helps with heat stress . *Feed Stuffs* .,80 (23).
- Zunszain, P.A., Ghuman, J., Komatsu, T., Tsuchida, E. and Curry, S. 2003. Crystal structural analysis of human serum albumin complexed with hemin and fatty acid . *BMC Struct. Biol.* 3: 6 .
<http://www.biomedcentral.com/1472-6807/3/6/> .