REFERENCES

ALLRED, D.R. 2007. Dynamics of anemia progression and recovery in *Babesia bigemina* infection is unrelated to initiating parasite burden. *Veterinary Parasitology,* 146:170-174.

ALLSOPP, B.A., BEZUIDENHOUT, J.D. & PROZESKY, L. 2004. Heartwater, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 507-535.

ANON. 2002a. Cell-Dyn® 3700 System Operator's Manual. 9140320C. Technicon H1 ADVIA®.

ANON. 2002b. *FAMACHA© Information pamphlet*. Faculty of Veterinary Science, University of Pretoria, the Onderstepoort Veterinary Institute, the Worm Workshop of the South African Veterinary Association & Intervet South Africa, Republic of South Africa.

ANON. 2009a. Anaemia. http://www.wikipedia.org.

ANON. 2009b. Seasonal forecasts. Kenya Meteorological Department. http://www.meteo.go.ke.

ASKONAS, B.A. 1984. Interference in general immune function by parasite infections; African trypanosomiasis as a model system. *Parasitology*, 88:633-638.

ASSOKU, R.K.G. & GARDINER, P.R. 1989. Detection of antibodies to platelets and erythrocytes during infection with haemorrhage-causing *Trypanosoma vivax* in Ayrshire cattle. *Veterinary Parasitology,* 31:199-216.

AUBRY, P. & GEALE, D.W. 2010. A review of bovine anaplasmosis. *Transboundary and Emerging Diseases*, 58:1-30.

BEJON, P., MWANGI, T.W., LOWE, B., PESHU, N., HILL, A.V.S. & MARSH, K. 2008. Helminth infection and eosinophilia and the risk of *Plasmodium falciparum* malaria in 1- to 6-year-old children in a malaria endemic area. *Public Library of Science - Neglected Tropical Diseases*, doi:10.1371/journal.pntd.0000164.

BEKKER, C.P.J., DE VOS, S., TAOUFIK, A., SPARAGANO, O.A.E. & JONGEJAN, F. 2002. Simultaneous detection of *Anaplasma* and *Ehrlichia* species in ruminants and detection of *Ehrlichia ruminantium* in *Amblyomma variegatum* ticks by reverse line blot hybridization. *Veterinary Microbiology*, 89:223-238.

BISHOP, R., SOHANPAL, B., KARIUKI, D.P., YOUNG, A.S., NENE, V., BAYLIS, H., ALLSOPP, B.A., SPOONER, P.R., DOLAN, T.T. & MORZARIA, S.P. 1992. Detection of a carrier state in *Theileria parva*-infected cattle by the polymerase chain reaction. *Parasitology*, 104:215-232.

BLAND, J.M. & ALTMAN, D.G. 1986. Statistical methods for assessing agreement between two methods of clinical measurement. *Lancet*, i:307-310.

BOCK, R., JACKSON, L., DE VOS, A. & JORGENSEN, W. 2004. Babesiosis of cattle. *Parasitology*, 129:S247-S269.

BOYD, K.L. & BOLON, B. 2010. Embryonic and fetal hematopoeisis, *in Schalm's veterinary hematology*, edited by D.J. Weiss & K.J. Wardrop. Ames, Iowa: Wiley-Blackwell, 3-7.

BRADLEY, J.E. & JACKSON, J.A. 2008. Measuring immune system variation to help understand host-pathogen community dynamics. *Parasitology*, 135:807-823.

BROWN, W.C. NORIMINE, J., KNOWLES, D.P. & GOFF, W.L. 2006. Immune control of *Babesia bovis* infection. *Veterinary Parasitology*, 138:75-87.

BRUN-HANSEN, H.C., KAMPEN, A.H. & LUND, A. 2006. Hematologic values in calves during the first 6 months of life. *Veterinary Clinical Pathology*, 35:182-187.

BUDDLE, B.M., JOWETT, G., GREEN, R.S., DOUCH, P.G.C. & RISDON, P.L. 1992. Association of blood eosinophilia with the expression of resistance in Romney lambs to nematodes. *International Journal for Parasitology,* 22:955-960.

CALLOW, L.L., McGREGOR, W., PARKER, R.J. & DALGLIESH, R.J. 1974. Immunity of cattle to *Babesia bigemina* following its elimination from the host, with observations on antibody levels detected by the indirect fluorescent antibody test. *Australian Veterinary Journal*, 50:12-15.

CALLOW, L.L. & DALGLIESH, R.J. 1982. Immunity and immunopathology in babesiosis, in *Immunology of parasitic infections,* Second Edition, edited by S. Cohen & K.S. Warren. Oxford: Blackwell Scientific Publications, 15:475-526.

CLARK, I.A. 2001. Heterologous immunity revisited. *Parasitology*, 122:S51-S59.

CONNOR, R.J. & VAN DEN BOSSCHE, P. 2004. African animal trypanosomoses, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 251-296.

COX, F.E.G 1987. Interactions in protozoan infections. *International Journal of Parasitology,* 17:569-573.

COX, F.E.G. 1993. Immunology, in *Modern Parasitology*, edited by F.E.G. Cox. Oxford: Blackwell Scientific Publications, 193-218.

COX, F.E.G. 2001. Concomitant infections, parasites and immune response. *Parasitology*, 122:S23-S38.

CRAWLEY, M.J. 2007. *The R book*. Chichester: John Wiley & Sons Ltd.

DARGIE, J.D., MURRAY, P.K., MURRAY, M., GRIMSHAW, W.R.T. & McINTYRE, W.I.M. 1979. Bovine trypanosomiasis: the red cell kinetics of Ndama and Zebu cattle infected with *Trypanosoma congolense*. *Parasitology*, 78:271-286.

DAVIS, C.E., ROBBINS, R.S., WELLER, R.D. & BRAUDE, A.I. 1974. Thrombocytopenia in experimental trypanosomiasis. *Journal of Clinical Investigation*, 53:1359-1367.

DAWKINS, H.J.S., WINDON, R.G. & EAGLESONS, G.K. 1989. Eosinophil response in sheep selected for high and low responsiveness to *Trichostrongylus colubriformis. International Journal for Parasitology,* 19:199-205.

DE VOS, A.J., DALGLIESH, R.J. & CALLOW, L.L. 1987. *Babesia*, in *Immune responses in parasitic infections: Immunology, immunopathology, and immunoprophylaxis. Volume III. Protozoa*, edited by E.J.L. Soulsby. Boca Raton, Florida: CRC Press, 183-222.

DE VOS, A.J., DE WAAL, D.T. & JACKSON, L.A. 2004. Bovine babesiosis, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 406-424.

DEEM, S.L., PERRY, B.D., MATENDE, J.M., McDERMOTT, J.J., MAHAN, S.M., MALOO, S.H., MARZARIA, S.P., MUSOKE, A.J. & ROWLANDS, G.J. 1993. Variations in prevalence rates of tick-borne diseases in Zebu cattle by agroecological zone: implications for East Coast fever immunization. *Preventative Veterinary Medicine*, 16:171-187.

DEPNER, R.A., GAVIÃO, A.A., CECIM, M., ROCHA, R. & MOLENTO, M.B. 2007. Desempenho de cordeiros naturalmente infectados com parasitas gastrintestinais utilizando o tratamento seletivo com o metodo FAMACHA e o tratamento preventivo *(Growth performance in naturally infected lambs under selective treatment with FAMACHA method and preventive treatment). Archives of Veterinary Science,* 11:32-37.

DODGE, Y. 2003. *The Oxford Dictionary of Statistical Terms*, Oxford: Oxford University Press.

DOLIGALSKA, M., MOSKWA, B., STEAR, M.J. 1999. Relationships among peripheral eosinophilia, eosinophil peroxidase activity, interleukin-5 concentration and faecal nematode egg count during natural, mixed gastrointestinal nematode infection. *Veterinary Immunology and Immunopathology,* 70:299-308.

DOWNIE, N.M. & HEATH, R.W. 1970. *Basic statistical methods*. New York: Harper & Row.

DUNCAN, J.R., PRASSE, K.W. & MAHAFFEY, E.A. 1994. *Veterinary laboratory medicine*, Third edition. Ames: Iowa State University Press.

DU PLESSIS, J.L. & MALAN, L. 1987. Problems with the interpretation of epidemiological data in heartwater: a study on 23 farms. *Onderstepoort Journal of Veterinary Research*, 54:427-433.

EJLERTSEN, M., GITHIGIA, S.M., OTIENO, R.O. & THAMSBORG, S.M. 2006. Accuracy of an anaemia scoring chart applied on goats in sub-humid Kenya and its potential for control of *Haemonchus contortus* infections. *Veterinary Parasitology*, 141:291-301.

FALL, A., DIACK, A., DIATÉ, A., SEYE, M. & D'IETEREN, G.D.M. 1999. Tsetse challenge, trypanosome and helminth infection in relation to productivity of village Ndama cattle in Senegal. *Veterinary Parasitology*, 81:235-247.

FANDUMA, P., MARCOTTY, T., BRANDT, J.R.A., DUCHALEAU, L., SPEYBROECK, N., DOLAN, T.T & BERKVENS, D. 2007. Red blood cell volume as a predictor of fatal reactions in cattle infected with *Theileria parva* Katete. *Onderstepoort Journal of Veterinary Research*, 74:37-43.

FAO. 1996. *Agro-ecological zoning: Guidelines*. *FAO Soils Bulletin 73*. Rome: Food and Agriculture Organization of the United Nations. http://www.fao.org/docrep/W2962E/w2962e00.

FENTON, A., LAMB, T. & GRAHAM, A.L. 2008. Optimality analysis of Th1/Th2 immune responses during microparasite-macroparasite co-infection with epidemiological feedbacks. *Parasitology*, 135:841-853.

FINUCANE, M.M., SAMET, J.H. & HORTON, N.J. 2007. Translational methods in biostatistics: linear mixed effect regression models of alcohol consumption and HIV disease progression over time. *Epidemiologic Perspectives & Innovations*, doi:10.1186/1742-5573-4-8.

GACHOHI, J.M., NGUMI, P.N., KITALA, P.M. & SKILTON, R.A. 2010. Estimating seroprevalence and variation to four tick-borne infections and determination of associated risk factors in cattle under traditional mixed farming system in Mbeere District, Kenya. *Preventive Veterinary Medicine*, 95:208-223.

GALE, K.R., DIMMOCK, C.M., GARTSIDET, M. & LEATCH, G. 1996a. *Anaplasma marginale*: Detection of carrier cattle by PCR-ELISA. *International Journal for Parasitology*, 26:103-109.

GALE, K.R., LEATCH, G., DE VOS, A.J. & JORGENSEN, W.K. 1996b. *Anaplasma marginale*: effect of challenge of cattle with varying doses of infected erythrocytes. *International Journal of Parasitology*, 26:1417-1420.

GALE, K.R., LEATCH, G., DIMMOCK, C.M. & GARTSIDE, M.G. 1997. Increased resistance to *Anaplasma marginale* infection in cattle chronically infected with *Theileria buffeli* (syn. *T. orientalis*). *Veterinary Parasitology*, 69:187-196.

GHOSH, K. & GHOSH, K. 2007. Pathogenesis of anemia in malaria: a concise review. *Parasitology Research*, 101:1463-1469.

GITAU, G.K., PERRY, B.D., KATENDE, J.M., McDERMOTT, J.J., MORZARIA, S.P. & YOUNG, A.S. 1997. The prevalence of serum antibodies to tick-borne infections in cattle in smallholder dairy farms in Murang'a District, Kenya; a cross-sectional study. *Preventive Veterinary Medicine*, 30:95-I07.

GITAU, G.K., PERRY, B.D. & McDERMOTT, J.J. 1999. The incidence, calf morbidity and mortality due to *Theileria parva* infections in smallholder dairy farms in Murang'a District, Kenya. *Preventative Veterinary Medicine*, 39:65-79.

GITAU, G.K., McDERMOTT, J.J., KATENDE, J.M., O'CALLAGHAN, C.J., BROWN, R.N. & PERRY, B.D. 2000. Differences in the epidemiology of theileriosis on smallholder dairy farms in contrasting agro-ecological and grazing strata of highland Kenya. *Epidemiology and Infection*, 124:325-335.

GOOSSENS, B., OSAER, S., KORA, S., JAITNER, J., NDAO, M. & GEERTS, S., 1997**.** The interaction of *Trypanosoma congolense* and *Haemonchus contortus* in Djallonké sheep. *International Journal for Parasitology*, 27:1579-1584.

GUBBELS, J.M., DE VOS, A.P., VAN DER WEIDE, M., VISERAS, J., SCHOULS, L.M., DE VRIES, E., & JONGEJAN, F. 1999. Simultaneous detection of bovine *Theileria* and *Babesia* species by reverse line blot hybridization. *Journal of Clinical Microbiology*, 37:1782-1789.

GRACE, D., HIMSTEDT, H., SIDIBE, I. RANDOLPH, T. & CLAUSEN, P.H. 2007. Comparing FAMACHA© eye color chart and haemoglobin color scale tests for detecting anemia and improving treatment of bovine trypanosomosis in West Africa. *Veterinary Parasitology*, 147:26-39.

GRAY, G.D., CONNELL, J.G. & PHIMPHACHANHVONGSOD, V. 2012. Worm in smallholder livestock systems: technologies and practices that make a difference. *Veterinary Parasitology*, 186:124-131.

GREINER, M., PFEIFFER, D. & SMITH, R.D. 2000. Principles and practical application of the receiver-operating characteristic analysis for diagnostic tests. *Preventive Veterinary Medicine*, 45:23-41.

HARVEY, J.W. 1989. Erythrocyte metabolism, in *Clinical biochemistry of domestic animals,* Fourth edition, edited by J.J. Kaneko. San Diego: Academic Press, Inc., 8:185-234.

HAWKEY, C.M., HART, M.G. & FITZGERALD, A.K. 1984. Haematological values in mouflon (*Ovis musimon*): influence of age, sex, season and vitamin E status. *Research in Veterinary Science*, 36:37-42.

HILL, R.R.H. & MATSON, B.A. 1970. The haematology of *experimental Theileria lawrencei* infection. *Journal of the South African Veterinary Medical Association*, 41:275-284.

HOLMES, P.H., MAMMO, E., THOMSON, A., KNIGHT, P.A., LUCKEN, R., MURRAY, P.K., MURRAY, M., JENNINGS, F.W. & URQUHART, G.M. 1974. Immunosuppression in bovine trypanosomiasis. *Veterinary Record*, 95:86-87.

HOWARD, S.C., DONNELLY, C.A. & CHAN, M.S. 2001. Methods for estimation of association between multiple species parasite infection. *Parasitology*, 122:233-251.

IHAKA, R. & GENTLEMAN, R. 1996. R: A language for data analysis and graphics. *Journal of Computational and Graphical Statistics,* 5:299-314.

IRVIN, A.D. 1983. Clinical and diagnostic features of East Coast fever (*Theileria parva*) infection of cattle. *Veterinary Record*, 27:192-198.

IRVIN, A.D. 1985. Immunity in theileriosis. *Parasitology Today,* 1:124-128.

IRVIN, A.D. & MORRISON, W.I. 1987. Immunopathology, immunology, and immunoprophylaxis of *Theileria* infections, in *Immune responses in parasitic infections: Immunology, immunopathology, and immunoprophylaxis. Volume III. Protozoa*, edited by E.J.L. Soulsby. Boca Rota, Florida: CRC Press, 223-272.

JAETZOLD, R. & SCHMIDT, H. 1983. *Farm management handbook of Kenya. Volume II. Natural conditions and farm management information*. Nairobi: Ministry of Agriculture, Kenya.

JAIN, N.C. 1993. *Essentials of veterinary hematology*. Philadelphia: Lea & Febiger.

JANKOVIC, D., LIU, Z. & GAUSE, W.C. 2001. Th1- and Th2-cell commitment during infectious disease: asymmetry in divergent pathways. *Trends in Immunology*, 22:450-457.

JOLLES, A.E., EZENWA, V.O., ETIENNE, R.S., TURNER, W.C. & OLFF, H. 2008. Interactions between macroparasites and microparasites drive infection patterns in free-ranging African buffalo. *Ecology*, 89:2239-2250.

KAMAL, S.M. & EL SAYED KHALIFA, K. 2006. Immune modulation by helminthic infections: worms and viral infections. *Parasite Immunology,* 28:483-496.

KAMANI, J., SANNUSI, A., EGWU, O.K., DOGO, G.I., TANKO, T.J., KEMZA, S., TAFARKI, A.E. & GBISE, D.S. 2010. Prevalence and significance of haemoparasitic infections of cattle in North-Central Nigeria. *Veterinary World*, 3:445-448.

KAPLAN, R.M., BURKE, J.M., TERRILL, T.H., MILLER, J.E., GETZ, W.R., MOBINI, S., VALENCIA, E., WILLIAMS, M.J., WILLIAMSON, L.H., LARSEN, M. & VATTA, A.F. 2004. Validation of the FAMACHA© eye color chart for detecting clinical anemia in sheep and goats on farms in the southern United States. *Veterinary Parasitology*, 123:105-120.

KARESH, W.B., JANSSEN, D.L. & OOSTERHUIS, J.E. 1986. Neonatal haematology of selected species of Cervidae and Bovidae. *Journal of Zoo Animal Medicine*, 17:138-146.

KARIUKI, D.P. 1990. Current status of Theileriosis in Kenya -1989, in *Progress towards the control of East Coast fever (Theileriosis) in Kenya*, edited by A.S. Young, J.J. Mutugi & A.C. Maritim. Nairobi: KARI, 17-26.

KATENDE, J.M., GODDEERIS, B.M., MORZARIA, S.P., NKONGE, C.G., & MUSOKE, A.J. 1990. Identification of a *Theileria mutans*-specific antigen for use in an antibody and antigen detection ELISA. *Parasite Immunology*, 12:419-433.

KATENDE, J.M., MORZARIA, S.P., TOYE, P., SKILTON, R., NENE, V., NKONGE, C.G. & MUSOKE, A.J. 1998. An enzyme-linked immunosorbent assay for detection of *Theileria parva* antibodies in cattle using a recombinant polymorphic immunodominant molecule. *Parasitology Research*, 84:408-416.

KAUFMANN, J. 1996. *Parasitic infections of domestic animals*. Basel: Birkhäuser Verlag.

KAUFMANN, J., DWINGER, R.H., HALLEBEEK, A., VAN DIJK, B. & PFISTER, K. 1992. The interaction of *Trypanosoma congolense* and *Haemonchus contortus* infections in trypanotolerant N'Dama cattle. *Veterinary Parasitology*, 43:157-170.

KENYA NATIONAL BUREAU OF STATISTICS (KNBS). 2010. Kenya Census 2009. Livestock Population. htpp://www.knbs.or.ke. Accessed 26 Feb 2011.

KNOWLES, T.G., EDWARDS, J.E., BAZELEY, K.J., BROWN, S.N., BUTTERWORTH, A. & WARRISS, R.D. 2000. Changes in the blood biochemical and haematological profile of neonatal calves with age. *Veterinary Record*, 147:593-598.

KOCH, H.T., KAMBEVA, L., NORVAL, R.A.I., OCAMA, F.G.R., MASAKA, S., MUNATSWA, F.C., HONHOLD, N. & IRVIN, A.D. 1990. Age resistance to *Theileria parva bovis* infection in calves. *Veterinary Parasitology*, 37:197-206.

LATIF, A.A., ROWLANDS, G.J., PUNYUA, D.K., HASSAN, S.M. & CAPSTICK, P.B. 1995. An epidemiological study of tick-borne diseases and their effects on productivity of zebu cattle under traditional management on Rusinga Island, western Kenya. *Preventative Veterinary Medicine*, 22:169-181.

LAWRENCE, J.A., PERRY, B.D. & WILLIAMSON, S.M. 2004a. East Coast Fever, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 448-467.

LAWRENCE, J.A., PERRY, B.D. & WILLIAMSON, S.M. 2004b. Corridor disease, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 468-471.

L□PEZ, C., SARAVIA, C., GOMEX, A., HOEBEKE, J. & PATARROYO, M.A. 2010. Mechanisms of genetically-based resistance to malaria. *Gene*, 467:1-12. doi: 10.1016/j.gene.2010.07.008.

LOUTFY, M.R., WILSON, M., KEYSTONE, J.S., & KAIN, K.C. 2002. Serology and eosinophil count in the diagnosis and management of strongyloidiasis in a non-endemic area. *American Journal of Tropical Medicine and Hygiene,* 66:749-752.

LUMLEY, T. 2007. *The Survival Package (R help guide).* http://r-forge.r-project.org

MacKENZIE, P.K.I., BOYT, W.P., EMSLIE, V.W., LANDER, K.P. & SWANEPOEL, R. 1975. Immunosuppression in ovine trypanosomiasis. *Veterinary Record*, 6:452-453.

MAGONA, J.W. & MAYENDE, J.S.P. 2002. Occurrence of concurrent trypanosomosis, theileriosis, anaplasmosis and helminthosis in Friesian, Zebu and Sahiwal cattle in Uganda. *Onderstepoort Journal of Veterinary Research*, 69:133-140.

MAGONE, J.W., WALUBENGO, J., ANDERSON, I., OLAHO-MUKANI, W., JONSSON, N.N. & EISLER, M.C. 2004. Portable haemoglobinometers and their potential for penside

detection of anaemia in bovine disease diagnosis: a comparative evaluation. *Veterinary Journal*, 168:343-348.

MAGONA, J.W., WALUBENGO, J., OLAHO-MUKANI, W., JONSSON, N.N., WELBURN, S.C. & EISLER, M.C. 2008a. Clinical features associated with seroconversion to *Anaplasma marginale, Babesia bigemina* and *Theileria parva* infections in African cattle under natural tick challenge. *Veterinary Parasitology*, 155:273-280.

MAGONA, J.W., WALUBENGO, J.T. & ODIMIN. 2008b. Acute haemorraghic syndrome of bovine trypanosomosis in Uganda. *Acta Tropica*, 107:186-191.

MAHONEY, D.F., WRIGHT, I.G. & MIRRE, G.B. 1973. Bovine babesiasis: The persistence of immunity to *Babesia argentina* and *B. bigemina* in calves (*Bos taurus*) after naturally acquired infection. *Annals of Tropical Medicine and Parasitology*, 67:197-203.

MAIZELS, R.M. & YAZDANBAKHSH, M. 2003. Immune regulation by helminth parasites: cellular and molecular mechanism. *Nature Reviews: Immunology*, 3:733-744.

MALOO, S.H., ROWLANDS, G.J., THORPE, W., GETTINGBY, G. & PERRY, B.D. 2001a. A longitudinal study of disease incidence and case-fatality risks on small-holder dairy farms in coastal Kenya. *Preventive Veterinary Medicine*, 52:17-29.

MALOO, S.H., THORPE, W., KIOO, G., NGUMI, P., ROWLANDS, G.J. & PERRY, B.D. 2001b. Seroprevalences of vector-transmitted infections of small-holder dairy cattle in coastal Kenya. *Preventive Veterinary Medicine*, 52:1-16.

MANSFIELD, J.M. & PAULNOCK, D.M. 2005. Regulation of innate and acquired immunity in African trypanosomiasis. *Parasite Immunology*, 27:361-371.

MARUFU, M.C., CHIMONYO, M., DZAMA, K. & MAPIYE, C. 2010. Seroprevalence of tick-borne diseases in communal cattle reared on sweet and sour rangelands in semi-arid area of South Africa. *Veterinary Journal*, 184:71-76.

MAUDLIN, I. 2006. African trypanosomiasis. *Annals of Tropical Medicine & Parasitology*, 100:679-701.

MAXIE, M.G., DOLAN, T.T., JURA, W.G.Z., TABEL, H. & FLOWERS, M.J. 1982. A comparative study of the disease in cattle caused by *Theileria parva* or *T. lawrencei*: II. Hematology, clinical chemistry, coagulation studies and complement. *Veterinary Parasitology*, 10:1-19.

MBASSA, G.K., BALEMBA, O., MASELLE, R.M. & MWAGA, N.V. 1994. Severe anaemia due to haematopoietic precursor cell destruction in field cases of East Coast Fever in Tanzania. *Veterinary Parasitology*, 52:243-256.

MCKEEVER, D.J. 2006. *Theileria parva* and the bovine CTL response: down but not out? *Parasite Immunology*, 28:339-345.

MINJAUW, B. & McLEOD, A. 2003. Tick-borne diseases and poverty. The impact of ticks and tick-borne diseases on the livelihood of small-scale and marginal livestock owners in

India and eastern and southern Africa. Research report, DFID (Department for International Development) Animal Health Programme, Centre for Tropical Veterinary Medicine, University of Edinburgh, UK.

MOHRI, M., SARRAFZADEH, F., SEIFI, A. & FARZANEH, N. 2004. Effects of oral iron supplementation on some haematological parameters and iron biochemistry in neonatal dairy calves. *Comparative Clinical Pathology*, 13:39-42.

MOHRI, M., SHARIFI, K. & EIDI, S. 2007. Hematology and serum biochemistry of Holstein dairy calves: Age related changes and comparison with blood composition in adults. *Research in Veterinary Science*, 83:30-39.

MOLL, G., LOHDING, A. & YOUNG, A.S. 1984. Epidemiology of theileriosis in the Trans-Mara division, Kenya: Husbandry and disease background and preliminary investigations on theileriosis in calves. *Preventative Veterinary Medicine*, 2:801-831.

MOLL, G., LOHDING, A., YOUNG, A.S & LEITCH, B.L. 1986. Epidemiology of theileriosis in calves in an endemic area of Kenya. *Veterinary Parasitology*, 19:255-273.

MOORS, E. & GAULY, M. 2009. Is the FAMACHA© chart suitable for every breed? Correlations between FAMACHA© scores and different traits of mucosa colour in naturally parasite infected sheep breeds. *Veterinary Parasitology*, 166:108-111.

MORRISON, W.I. 2009. Progress towards understanding the immunobiology of *Theileria* parasites. *Parasitology*, 136:1415-1426.

MURAGURI, G.R., McLEOD, A., McDERMOTT, J.J. & TAYLOR, N. 2005. The incidence of calf morbidity and mortality due to vector-borne infections in smallholder dairy farms in Kwale District, Kenya. *Veterinary Parasitology*, 130:305-315.

MURRAY, M., MORRISON, W.I. & WHITELAW, D.D. 1982. Host susceptibility to African Trypanosomiasis: Trypanotolerance. *Advances in Parasitology*, 21:1-69.

MURRAY, M. & DEXTER, T.M. 1988. Anaemia in bovine African trypanosomiasis. *Acta Tropica*, 45:389-432.

MWACHARO, J.M., OKEYO, A.M., KAMANDE, G.K. & REGE, J.E.O. 2006. The small East African Shorthorn zebu cows in Kenya. I: Linear body measurements. *Tropical Animal Health and Production,* 38:65–74. doi:10.1007/s11250-006-4266-y.

MWACHARO, J.M. & DRUCKER, A.G. 2005. Production objectives and management strategies of livestock keepers in south-east Kenya: implications for a breeding programme. *Tropical Animal Health and Production,* 37:635–652.

NAESSENS, J., TEALE, A.J. & SILEGHEM, M. 2002. Identification of mechanisms of natural resistance to African trypanosomiasis in cattle. *Veterinary Immunology and Immunopathology*, 87:187-194.

NAGEL, R.L. 1990. Innate resistance to malaria: the intraerythrocytic cycle. *Blood Cells*, 16:321-339.

NORVAL, R.A.I., PERRY, B.D. & YOUNG, A.S. 1992. *The epidemiology of theileriosis in Africa*. London: Academic Press.

ODUYE, O.O. & OKUNAIYA, O.A. 1971. Haematological studies on the white Fulani and N'Dama breeds of cattle. *Bulletin of epizootic diseases of Africa*, 19:213-218.

OIE. 2005. *Manual of diagnostic tests and vaccines for terrestrial animals.* http://www.oie.int/fr/normes/mmanual.

OKELLO-ONEN, J., HEUER, C., PERRY, B.D., TUKAHIRWA, E.M., SENYONGA, G.S.Z., HEINONEN, R. & BODE, E. 1995. Evidence of endemic stability of cattle to East Coast fever on a commercial ranch in Uganda. *Proceedings & abstracts of the Second International Conference on Tick-borne pathogens at the host-vector interface – A Global Perspective, Kruger National Park, South Africa, 1995.*

OKUTHE, O.S. & BUYU, G.E. 2006. Prevalence and incidence of tick-borne diseases in smallholder farming systems in the western-Kenya highlands. *Veterinary Parasitology*, 141:307-312.

OURA, C.A.L., BISHOP, R.P., WAMPANDE, E.M., LUBEGA, G.W. & TAIT, A. 2004. Application of a reverse line blot assay to the study of haemoparasites in cattle in Uganda. *International Journal for Parasitology*, 34:603-613.

PANTANOWITZ, L. 2003. Mechanisms of thrombocytopenia in tick-borne diseases. *The internet journal of infectious diseases*, 2:2.

PARKER, R.J., SHEPHARD, R.K., TRUEMAN, K.F., JONES, G.W., KENT, A.S. & POLKINGHORNE, I.G. 1985. Susceptibility of *Bos indicus* and *Bos taurus* to *Anaplasma marginale* and *Babesia bigemina* infections. *Veterinary Parasitology,* 17:205-213.

PARSONS, S.D.C., PENZHORN, B.L., REYERS, F., STEYL, J.C.A. & BECKER, P.J. 2006. Erythrocyte morphology and haemoglobin types of neonatal roan antelopes (*Hippotragus equinus*) with hypochromic poikilocytic anaemia. *Journal of Comparative Pathology*, 134:152-60.

PASVOL, G., WEATHERALL, D.J., WILSON, R.J., SMITH, D.H. & GILLES, H.M. 1976. Fetal haemoglobin and malaria. *Lancet,* i:1269-1272.

PERRY, B.D. & YOUNG, A.S. 1995. The past and future roles of epidemiology and economics in the control of tick-borne diseases of livestock in Africa: the case of theileriosis. *Preventative Veterinary Medicine*, 25:107-120.

PETNEY, T.N. & ANDREWS, R.H. 1998. Multiparasite communities in animals and humans: frequency, structure and pathogenic significance. *International Journal for Parasitology*, 28:377-393.

PHIRI, B.J., BENSCHOP, J. & FRENCH, N.P. 2010. Systematic review of causes and factors associated with morbidity and mortality on smallholder dairy farms in Eastern and Southern Africa. *Preventive Veterinary Medicine*, 94:1-8.

PISHCHANY, G. & SKAAR, E.R. 2012. Taste for blood: Hemoglobin as a nutrient source for pathogens. *Public Library of Science: Pathogens*, 8(3):e1002535. doi:10.1371/journal.ppat.1002535. Accessed 30/03/2012.

POTGIETER, F.T. & STOLTSZ, W.H. 2004. Bovine anaplasmosis, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 594-616.

REGE, J.E.O., KAHI, A.K., OKOMO-ADHIAMBO, M., MWACHARO, J. & HANOTTE, O. 2001. Zebu cattle of Kenya: Uses, performance, farmer preferences, measures of genetic diversity and options for improved use. Animal Genetic Resources Research 1 International Livestock Research Institute, Nairobi. http://www.ilri.org/InfoServ/Webpub/fulldocs/AnGenResCD/docs/Zebucattle/. Accessed 14 Jan 2012

REINECKE, R.K. 1983. *Veterinary helminthology*. Pretoria: Butterworth Publishers.

REYNECKE, D.P., VAN WYK, J.A., GUMMOW, B., DORNY, P. & BOOMKER, J. 2011. Application of ROC curve analysis to FAMACHA© evaluation of haemonchosis on two sheep farms in South Africa. *Veterinary Parasitology*, 177:224-230.

RIOND, B., WEISSENBACHER, S., HOFMANN-LEHMANN, R. & LUTZ, H. 2011. Performance evaluation of the Sysmex pocH-100iD Diff hematology analyser for analysis of canine, feline, equine, and bovine blood. *Veterinary Clinical Pathology*, 40:484-495.

ROBERTS, I.A.G. 2011. Neonatal haematology, in *Postgraduate haematology*, edited by A.V. Hoffbrand, D. Catovsky, E.G.D. Tuddenham & A.R. Green. Chichester: Wiley-Blackwell, 971-984.

RUBAIRE-AKIIKI, C.M., OKELLO-ONEN, J., MUSUNGA, D., KABAGAMBE, E.K., VAARST, M., OKELLO, D., OPOLOT, C., BISAGAYA, A., OKORI, C., BISAGATI, C., ONGYERA, S. & MWAYI, M.T. 2006. Effect of agro-ecological zone and grazing system on incidence of East Coast Fever in calves in Mbale and Sironko Districts of Eastern Uganda. *Preventive Veterinary Medicine*, 75:251-266.

SCHEUERLE, M., MAHLING, M., MUNTWYLER J. & PFISTER, K. 2010. The accuracy of the FAMACHA©-method in detecting anaemia and haemonchosis in goat flocks in Switzerland under field conditions. *Veterinary Parasitology,* 170:71-77.

SHIAO, S.-Y.P. & OU, C.N. 2006. Accurate measurements of fetal haemoglobin for neonates with different gestational ages. *Hemoglobin*, 30:419-435.

SING, T., SANDER, O., BEERENWINKEL, N. & LENGAUER, T. 2005. ROCR: visualizing classifier performance in R. *Bioinformatics,* 21:3940-3941.

STEWART, C.G. 1992. Bovine ehrlichiosis, in *Tick vector biology, Medical and veterinary aspects*, edited by B. Fivaz, T. Petney & I. Horak. Berlin: Springer-Verlag, 101-108.

STEWART, C.G. & PENZHORN, B.L. 2004. Coccidiosis, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 319-331.

STOTT, G.J. & LEWIS, S.M. 1995. A simple and reliable method for estimating haemoglobin. *Bulletin of the World Health Organization*, 73:369-373.

SUMPTION, K.J. & SCOTT, G.R. 2004. Lesser-known rickettsias infecting livestock, in *Infectious diseases of livestock*, edited by J.A.W. Coetzer & R.C. Tustin. Cape Town: Oxford University Press, 536-549.

SWAI, E.S., FRENCH, N.P., BEAUCHAMP, G., FITZPATRICK, J.L., BRYANT, M.J., KAMBARAGE, D. & OGDEN, N.H. 2005a. A longitudinal study of sero-conversion to tick-borne pathogens in smallholder dairy youngstock in Tanzania. *Veterinary Parasitology*, 131:129-137.

SWAI, E.S., FRENCH, N.P., KARIMURIBO, E.D., FITZPATRICK, J.L., BRYANT, M.J., BROWNE, P.E. & OGDEN, N.H. 2005b. Spatial and management factors associated with exposure of smallholder dairy cattle in Tanzania to tick-borne pathogens. *International Journal for Parasitology*, 35:1085-1096.

SWAI, E.S., KARIMURIBO, E.D., KAMBARAGE, D.M. & MOSHY, W.E. 2009. A longitudinal study on morbidity and mortality in youngstock smallholder dairy cattle with special reference to tick borne infections in Tanga region, Tanzania. *Veterinary Parasitology*, 160:34-42.

TELFER, S., BIRTLES, R., BENNETT, M., LAMBIN, X., PATERSON, S. & BEGON, M. 2008. Parasite interactions in natural populations: insights from longitudinal data. *Parasitology*, 135:767-781.

THUMBI, S.M., MCODIMBAM, F.A., MOSI, R.O. & JUNG'A, J.O. 2008. Comparative evaluation of three PCR based diagnostic assays for the detection of pathogenic trypanosomes in cattle blood. *Parasites and Vectors*, doi:10.1186/1756-3305-1-46.

THURANIRA-McKEEVER, C., SHAW, A., MACHILA, N., EISLER, M., WELBURN, S. & MAUDLIN, I. 2010. Seasonal influences on livestock keeping in a sedentary crop-livestock system. *Tropical Animal Health and Production*, 42:705-717.

TRAIL, J.C.M., D'IETEREN, G.D.M., MURRAY, M., ORDNER, G., YANGARI, G., COLLARDELLE, C., SAUVEROCHE, B., MAILLE, J.C. & VIVIANI, P. 1993. Measurement of trypanotolerance criteria and their effect on reproductive performance of N'Dama cattle. *Veterinary Parasitology*, 45:241-255.

TVEDTEN, H. 2010. Laboratory and clinical diagnosis of anaemia, *in Schalm's veterinary hematology*, edited by D.J. Weiss & K.J. Wardrop. Ames, Iowa: Wiley-Blackwell, 152-161.

UILENBERG, G. 1995. International collaborative research: significance of tick-borne hemoparasitic diseases to world animal health. *Veterinary Parasitology*, 57:19-41.

UILENBERG, G. 1998. *A field guide for the diagnosis, treatment and prevention of African animal trypanosomosis*. Rome: Food and Agriculture Organization of the United Nations.

URQUHART, G.M. & HOLMES, P.H. 1987. African Trypanosomiasis, in *Immune responses in parasitic infections: immunity, immunopathology & immunoprophylaxis. Volume III. Protozoa*, edited by E.J.L. Soulsby. Boca Rotan, Florida: CRC Press, 1-24.

VALERO, M.A., GIRONÈS, N., GARCIA-BODELÓN, M.A., PERIAGO, M.V., CHICO-CALERO, I., KHOUBBANE, M., FRESNO, M. & MAS-COMA, S. 2008. Anaemia in advanced chronic fasciolosis. *Acta Tropica*, 108:35-43.

VAN DEN BOSSCHE, P. 2001a. Some general aspects of the distribution and epidemiology of bovine trypanosomosis in southern Africa. *International Journal for Parasitology,* 31:592-598.

VAN DEN BOSSCHE, P., MUDENGE, D., MUBANGA, J. & NORVAL, A. 1999. The parasitological and serological prevalence of tsetse-transmitted bovine trypanosomosis in the Eastern Caprivi (Caprivi District, Namibia). *Onderstepoort Journal of Veterinary Research*, 66:103-110.

VAN DEN BOSSCHE, P. & ROWLANDS, G.J. 2001b. The relationship between the parasitological prevalence of trypanosomal infections in cattle and herd average packed cell volume. *Acta Tropica*, 78:163–170.

VAN DER WAAIJ, E.H., HANOTTE, O., VAN ARENDONK, J.A.M., KEMP, S.J., KENNEDY, D., GIDSON, A. & TEALE, A. 2003. Population parameters for traits defining trypanotolerance in an F2 cross of N'Dama and Boran cattle. *Livestock Production Science*, 84:219-230.

WALLER, P.J. 1997. Sustainable helminth control of ruminants in developing countries. *Veterinary Parasitology*, 71:195-207.

WARUIRU, R.M., THAMSBORG, S.M., NANSEN, P., KYVSGAARD, N.C., BOGH, H.O., MUNYUA, W.K. & GATHUMA, J.M. 2001. The epidemiology of gastrointestinal nematodes of dairy cattle in central Kenya. *Tropical Animal Health and Production*, 33:173-187.

WARUIRU, R.M., WEDA, E.H., OTIENO, R.O. & NGOTHO, J.W. 2002. Seasonal availability of gastrointestinal nematode larvae to cattle on pasture in the central highlands of Kenya. *Onderstepoort Journal of Veterinary Research*, 69:141-146.

WELLDE, B.T., KOVATCH, R.M., CHUMO, D.A. & WYKOFF, D.E. 1978. *Trypanosoma congolense*: Thrombocytopenia in experimentally infected cattle. *Experimental Parasitology*, 45:26-33.

WICKHAM, H. 2009. *ggplot: Elegant graphics for data analysis*. http://had.co.nz/ggplot2/book. New York: Springer.

WOOD, S. 2006. *Generalized additive models: An introduction with R*. Boca Raton, Florida: Chapman and Hall/CRC Press.

WRIGHT, P.F., NILSSON, F., VAN ROOIJ, E.M.A., LELENTA, M., & JEGGO, M.H. 1993. Standardisation and validation of enzyme-linked immunosorbent assay techniques for the detection of antibody in infectious disease diagnosis. *Revue Scientifique et Technique, Office Internationale des Epizooties*, 12:435-450.

YACOB, H.T., TEREFE, G., JACQUIET, P., HOSTE, H., GRISEZ, C., PREVOT, F., BERGEAUD, J.P. & DORCHIES, P. 2006. Experimental concurrent infection of sheep with *Oestrus ovis* and *Trichostrongylus colubriformis*: Effects of antiparasitic treatments on interactions between parasite populations and blood eosinophilic responses. *Veterinary Parasitology*, 187:184-188.

YOUNG, A.S., PURNELL, R.E., PAYNE, R.C., BROWN, C.G.D. & KANHAL, G.K. 1976. Studies on the transmission and course of infection of a Kenyan strain of *Theileria mutans. Parasitology*, 76:99-115.

YOUNG, A.S., LEITCH, B.L., NEWSON, R.M. & CUNNINGHAM, M.P. 1986. Maintenance of *Theileria parva parva* infection in an endemic area of Kenya. *Parasitology*, 93:9-16.

YOUNG, A.S., MUTUGI, J.J., KARIUKI, D.P., MARITIM, A.C., LINYONYI, A., MINING, S.K., KWENA, A., NGUMI, P.N., NDUNGU, S.G., LESAN, A.C., LAMPARD, D., AWICH, J.R., STAGG, D.A., LEITCH, B.J., WILLIAMSON, S.M. & GROOTENHUIS, J.G. 1990a. The epidemiology of theileriosis and other tick-borne diseases in relation to immunization against East Coast Fever, in *Progress towards the control of East Coast Fever (Theileriosis) in Kenya*, edited by A.S. Young, J.J. Mutugi & A.C. Maritim. Nairobi: KARI, 49-63.

YOUNG, A.S. & MUTUGI, J.J. 1990b. History of East Coast fever research, in *Progress towards the control of East Coast fever (Theileriosis) in Kenya*, edited by A.S. Young, J.J. Mutugi & A.C. Maritim. Nairobi: KARI, 12-14.

YOUNG, A.S., MUTUGI, J.J., MARITIM, A.C. & LINYONYI, A. 1990c. Problems associated with the use of drugs and safety in the infection and treatment immunization, in *Progress towards the control of East Coast fever (Theileriosis) in Kenya*, edited by A.S. Young, J.J. Mutugi & A.C. Maritim. Nairobi: KARI, 30-64.