# RESPONDING TO THE INCREASING GLOBAL DEMAND FOR ANIMAL PRODUCTS

## Theatre Sessions
## Tuesday 12 November

**09:00** **Formal Opening and Introduction**
*Rector UADY, Representatives of MSAP, BSAS, ASAS*

10:30 Coffee

## PRESENTATION CASE STUDIES

**Chair - Dr Wyn Richards**

**11:00** *Dr Simon Anderson,*
*Dr Steve Staal,*
*Dr Jonathan Rushton,*
*Mr Pradeep Man Tuluchan*

12:30 Lunch

## INTRODUCTORY SESSION

**Chair - Dr Raul Godoy-Montanez**

**14:00** **1** **Increasing global demand for animal products**
H. Steinfeld
*Food and Agriculture Organisation, Viale delle Terme di Caracalla, 00100 – Rome, Italy*

**15:00** **2** **Responding to the increasing global demand for animal products: Implications for livelihood of livestock producers in developing countries.**
[1]D. Rangnekar and [2]D. Thomas
*[1]Consultant, National Dairy Development Board, Anand – 388 001, Gujerat, India*
*[2] Sustainable Agriculture Group, NRI, University of Greenwich, Chatham Maritime, UK*

**15:40** **3** **Mapping livestock and poverty: a tool for targeting research and development**
P.K. Thornton, P.M. Kristjanson, R.L. Kruska and R.S. Reid
*International Livestock Research Institute (ILRI), PO Box 30709, Nairobi 00100, Kenya*

16:00 Coffee and Poster viewing - all posters

# Theatre Sessions
# Wednesday 13 November

## THEME 1 HOW DO TRADE AGREEMENTS MAKE LIVESTOCK PRODUCERS VULNERABLE?

**Chair - Dr Assefaw Tewolde-Medhin**

**09:00** **4** **How do trade regimes make livestock producers vulnerable?**
S. Holden,
*The Livestock and Wildlife Group, Department for International Development, 1 Palace Street, London, SWIE 5HE, UK*

09:50 Coffee

**10:20** **5** **The impact of trade agreements on livestock producers**
[1]M. Upton and [2]J. Otte
*[1]Department of Agricultural and Food Economics, The University of Reading, Reading, U.K. RG6 6AR, [2]FAO, AGAL, Via delle Terme di Caracalla, 00100 Rome, Italy*

**10:40** **6** **Meeting the increased demand for animal products in Asia: opportunities and challenges for research**
C. Devendra
*(International Livestock Research Institute, P.O. Box 30709 Nairobi, Kenya) Contact address: Dr. C. Devendra, 130A Jalan Awan Jawa, 58200 Kuala Lumpur, Malaysia.*

**11:00** **7** **A note on livestock production and consumption in Europe**
A. L. Aumaitre and J. G. Boyazoglu
*European Association for Animal Production, Via Nomentana 134, Rome 00162 Italy*

**11:20** **8** **The potential impact of Vietnam's entry to the WTO on the livelihoods of smallholder pig producers and small pig traders**
A. McLeod [1], N. Taylor[1], L.T.K. Lan[2], N. T. Thuy[2], D. H. Dung[2], P. Q. Minh[2]
*[1]VEERU, School of Agriculture Policy and Development, The University of Reading , Earley Gate, P.O. Box 237, Reading RG6 6AR, UK [2]Veterinary Project Management Unit, Strengthening of Veterinary Services Vietnam Project, Department of Animal Health, Hanoi, Vietnam.*

**11:40** **9** **Funding of developing countries for increased supplies of animal products and improved livestock performance**
R. T. Wilson
*Bartridge House, Umberleigh, Devon EX37 9AS, UK*

12:00 Discussion
12:30 Lunch

13:30 **Poster viewing Themes 1 and 2**

## THEME 2 WHAT IS THE ECOLOGICAL IMPACT OF PRODUCTION SYSTEMS (SMALL HOLDER, INTENSIVE AND EXTENSIVE)?

**Chair - Dr Steve Staal**

**14:30** **10** **The contribution of livestock to smallholder livelihoods**
C. M. Arriaga-Jordán [1] and R.A. Pearson [2]
*[1] Coordinación General de Investigación y Estudios Avanzados, Universidad Autónoma del Estado de México, Instituto Literario No. 100, Col. Centro, 50000 Toluca, Estado de México, Mexico.*
*[2] Brooke Hospital for Animals, Broadmead House, 21 Panton Street, London SW1Y 4DR, UK*

**15:00** **11** **Livestock, land use change, and environmental outcomes**
R. W. Blake[1] and C. F. Nicholson[2]
*Department of Animal Science[1] and Department of Applied Economics and Management[2], Cornell University, Ithaca, NY 14853 USA*

**15:30** **12** **Effect of intensification on feed management of dairy cows in the Central Highlands of Kenya**
C. Utiger[1,4], R. Kaitho[1], P. Thorne[3], S. Staal[1], A. Wokabi[2], L. Njoroge[1], L. Chege[2], J. Kirui[2], D. Kamotho[2] and D. Romney[1]
*[1] International Livestock Research Institute (ILRI), PO Box 30709, Nairobi, Kenya.*
*[2] Ministry of Agriculture and Rural Development, PO Box 30082, Nairobi, Kenya*
*[3] Stirling Thorne Associates, PO Box 23, Llangefri, Ynys Mon LL74 8ZE, UK*
*[4]Institute of Animal Sciences, ETH, CH-8092 Zurich, Switzerland*

**15:50** **13** **Ecological Impacts of Sustainable Systems for Smallholders in Vietnam**
B. Ogle[1] and T. R. Preston[2]
[1]*Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences, Box 7024, 750 07 Uppsala, Sweden*
[2]*University of Tropical Agriculture Foundation, Chamkar Daung, Phnom Penh, Cambodia*

**16:10** **14** **An impact assessment of methane, nitrogen and phosphorus excretion on the environment**
E. Kebreab, J. A. N. Mills, L.A. Crompton and J. France
*School of Agriculture, Policy and Development, University of Reading, Earley Gate, Reading RG6 6AR,UK*

**16:30** **15** **Demand-driven crop-ruminant intensification: transregional analysis to understand patterns of change using village level data from three continents**
I. Baltenweck, S. Staal and M.N.M. Ibrahim
*International Livestock Research Institute, P.O. Box 30709, Nairobi 00100, Kenya*

16:50 Discussion
17:30 End of session

# Theatre Sessions
# Thursday 14 November

## SPECIAL SESSION - NUTRITION PART 1

**Chair - Professor Bob Orskov**

**09:00** **16** **21st Century feeds – 19th Century techniques**
F.L. Mould
*School of Agriculture, Policy & Development, University of Reading, Earley Gate, PO Box 237, Reading RG6 6AR, UK*

**09:20** **17** **Nitrogen retention in Creole pigs and improved breed of pigs fed with maize and forage.**
W. Trejo Lizama[1], R. H. Santos Ricalde[1], R. B. Casso[1]and S. Anderson[2]
[1]*Facultad de Medicina Veterinaria y Zootecnia – UADY, Apartado Postal 4-116 Itzimna, C.P. 97000, Merida, Yucatan, Mexico.*
[2]*Imperial College, University of London, Ashford, Kent, TN25 5AH, UK*

**09:40** **18** **Lablab forage for supplementation of crop residue based diets in smallholder dairy production systems**
A. J. Kitalyi[1], L. A. Mtenga[2] and E. Owen[3]
[1]*Regional Land Management Unit/Sida, PO Box 63403, Nairobi, Kenya*
[2]*Department of Animal Science and Production, Sokoine University of Agriculture, PO Box 3004, Morogoro, Tanzania*
[3]*School of Agriculture, Policy and Development, University of Reading, Earley Gate, PO Box 237, Reading RG6 6AR, UK*

**10:00** **19** **Ruminal acidosis affects performance of tropical hair sheep**
J. Pacheco-Aguirre[1], M.L. Murguía-Olmedo[2] and A.F. Castellanos-Ruelas[1]
[1]*Facultad de Ingeniería Química, Universidad Autónoma. de Yucatán*
[2]*Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias-SAGARPA. Apdo. postal 1226-A. Mérida, Yucatán. México*

**10:20** **20** **Relationship between short- and long-term intake level in broilers**
R. Nava-Montero[1] and R. Belmar[2]
[1]*CRUPY, Universidad Autónoma Chapingo, Apartado Postal 50, Cordemex, Mérida, Yucatán, México C.P. 97310,*
[2]*Universidad Autónoma de Yucatán, Apartado Postal 4-116, Itzimná, Mérida, Yucatán, México C.P. 97100*

10:40 Coffee

## Special Session - Nutrition Part 2

**Chair - Professor Bob Orskov**

**11:00** **21** **Effects of pattern of feeding of forage and concentrate on productivity of dairy cattle fed diets based on barley straw and Napier grass (*Pennisetum purpureum*)**
J. N. Methu[1], J. N. Kariuki[2,3] and D. L. Romney[2],
[1]*Land O' Lakes, P. O. Box 45006, Nairobi, Kenya*
[2]*International Livestock Research Institute (ILRI), P.O. Box 30709, Nairobi, Kenya*
[3]*Kenya Agricultural Research Institute (KARI), National Animal Husbandry Research Centre, P. O. Box 25 Naivasha*, Kenya

**11:20** **22** **The effect of feed supplementation on reproductive performance and milk yield of cows in a smallholder farming area of Zimbabwe**
H. Hamudikuwanda[1], E. Garwe[1], P. Ball[2] and C.Mutisi[1]
[1]*Department of Animal Science, University of Zimbabwe, MP 167 Mount Pleasant, Zimbabwe*
[2]*Scottish Agricultural College, Auchincruive, Ayr KA6 5HW, UK*

**11:40** **23** **Estimation of apparent energetic and economic efficiency of cows with different levels of *Bos Taurus/B. indicus* blood, using a simulation model, on dual purpose herds in the tropics of Mexico**
R. J. Estrada, M. Parra-Bracamonte, J. G. Magaña, J. Santos and C. Aguilar
*Departamento de Reproducción y Mejoramiento Genético, Facultad de Medicina Veterinaria y Zootecnia, UADY. Km. 15.5 Carretera Mérida-Xmatkuil CP 4-116, Mérida, Yucatán, México*

**12:00** **24** **Combining tree diversity and cattle productivity on seasonally dry pastures in Colombia**
[1]Y. S. Cajas-Girón, [2]M. Jones and [2]F.L. Sinclair
[1]*Corporación Colombiana de investigación agropecuaria (CORPOICA), A.A. 602 Montería, Córdoba, Colombia, S.A.*
[2]*School of Agricultural and Forest Sciences, University of Wales, Bangor, Gwynedd, LL57 2UW, UK*

12:30 Lunch

## Special Session - Biotechnology

**Chair - Dr Octavio Parades-Lopez**

**09:00** **25** **GM technology: its contribution to meeting the increased demand for livestock products**
R.H. Phipps
*Centre for Dairy Research, School of Agriculture, Policy and Development, The University of Reading, Reading RG6 6AR,UK*

**09:20** **26** **The use of wood ash to overcome detrimental effects of tannins on *in vitro* fermentation of tree fruits**
V. Mlambo, F. L. Mould, T. Smith, E. Owen and I. Mueller-Harvey
*School of Agriculture, Policy and Development, The University of Reading, Earley Gate, P O Box 237, Reading, RG6 6AR, UK*

**09:40** **27** **Effects of infection with maize streak virus, and cultivar, on yield and quality of maize forage, and on yield of grain**
B. A. Lukuyu[1], J. Njuguna[1], D. M. Mwangi[1], A. J. Murdoch[2], F. L. Mould[2], E. Owen[2] and D. L. Romney[3]
[1]*Kenya Agricultural Research Institute, National Agricultural Research Centre, Muguga, PO Box 30148, Nairobi, Kenya*
[2]*School of Agriculture, Policy and Development, Earley Gate, PO Box 237, Reading RG6 6AR, U.K.*
[3]*International Livestock Research Institute, PO Box 30709, Nairobi, Kenya*

**10:00** **28** **Degradation characteristics and metabolisable energy supply of maize weeds, used as forage in smallholder maize-livestock production systems of Central Mexico, in different growing period**
O. Castelán-Ortega, J. Estrada-Flores, L. Carretero-Roque, A. Viera-Santiago, N. Martínez-Silva & C. Arriaga-Jordán
*CICA-UAEM. Instituto Literario No.100, colonia Centro. CP.50000, Toluca Estado de México, México*

**10:20** **29** **Supplementation of lactating goats grazing a star grass pasture (*Cynodon nlemfuensis*) with Ramon (*Brosimun alicastrum*): effect on kid growth**
S.T. Ryan[2]., A.J. Ayala-Burgos[1], F.J. Torres-Acosta[1], C. Aguilar-Perez[1] and , F.D.DeB. Hovell[1,2].
[1] *Facultad de Medicana Veterinaria y Zootecnia, Universidad Autonoma de Yucatan, Xmatkuil, Mérida, Yucatan. Mexico.*
[2] *Department of Agriculture and Forestry, University of Aberdeen, Aberdeen, AB24 5UA, Scotland, UK*

10:40 Coffee

## Special Session - Livestock and Livelihoods

**Chair - Dr Erasmo Gutierrez-Ornelas**

**11:00** **30** **Increasing the productivity of indigenous goat production systems through participatory research in ethno-veterinary medicine: a case study from India**
C. Conroy[1] and Y. A. Thakur[2]
[1] *Natural Resources Institute, University of Greenwich, Central Avenue, Chatham Maritime, Kent, ME4 4TB, UK*
[2] *BAIF Institute for Rural Development (Karnataka), 'Maitri' S.B.I Colony, Kelgery Road, Kusumnagar, Dharwad, Karnataka. 580 008, India*

**11:20** **31** **Using livestock to improve the livelihoods of landless and refugee-affected livestock keepers in Bangladesh and Nepal**

A. McLeod [1], M. Saadullah[2], M.L. Jayaswal[3], J.Best[1], D.Barton[1] C. Rymer[1] B.N.Regmi[4] T.R. Noor[5,]
[1]*VEERU, School of Agriculture Policy and Development, The University of Reading , Earley Gate, P.P. Box 237, Reading RG6 6AR, UK.*
[2]*Dept. of Animal Science, Bangladesh Agricultural University, Mymensigh 2202, Bangladesh,*
[3]*New ERA, P.O. Box 722, Kalapol, Kathmandu.*
[4]*Nepal Agroforestry Foundation, P.O. Box 9594, Kathmandu, Nepal.*
[5]*PRA Promoters Forum, Dhaka, Bangladesh*

**11:40** **32** **Small animal species in the livelihoods of small-scale farmers in tropical Bolivia**

R. T. Paterson[1] and F. Rojas[2]
[1]*Natural Resources Institute (NRI), Chatham Maritime, Kent ME4 4TB, U.K.*
*Current address, 13 Damer Gardens, Henley-on-Thames, Oxfordshire RG9 1HX, U.K*
[2]*Centro de Investigación Agrícola Tropical (CIAT), Casilla 247, Santa Cruz, Bolivia*

**12:00** **33** **The crop-livestock subsystem and livelihood dynamics in the Harar Highlands of Ethiopia**

H. Kassa[1], R. W. Blake[2], and C. F. Nicholson [2]
[1] *Alemaya University, P.O. Box 138, Dire Dawa, Ethiopia*
[2] *Cornell University, Ithaca, NY 14853 USA*

12:30 Lunch

## Special Session - Animal Science

**Chair - Dr Reg Preston**

**09:00** **34** **Meat quality of chevon from unimproved indigenous goats and its acceptability to South African consumers**

L. Simela[1], E. C. Webb[1], M.J.C. Bosman[2] and E. Pienaar[2]
[1]*Department of Animal and Wildlife Sciences, Faculty of Agricultural and Natural Sciences, University of Pretoria, Hatfield, Pretoria 0002, South Africa*
[2] *Department of Nutrition and Consumer Sciences, Potchefstroom University for Christian Higher Education, P. Bag X6001, Potchefstroom 2520, South Africa*

**09:20** **35** **Improving resiliance and resistance against nematode infections through maize supplementation in Criollo kids**

I. Gutiérrez-Segura, J.F. Torres-Acosta, A. Aguilar-Caballero, L. Canul-Ku, I. Lozano-Argaez, L. Cob-Galera
*Facultad de Medicina Veterinaria y Zootecnia, Universidad Autónoma de Yucatán, km 15.5 carr. Mérida-Xmatkuil, Mérida, Yucatán, México*

**09:40** **36** **Reproductive and productive evaluation of dual purpose herds in South Eastern Mexico.**

M. Parra-Bracamonte, R. J. Estrada, J. G. Magaña, R. Delgado and J. C. Segura-Correa.
*Departamento de Reproducción y Mejoramiento Genético, Facultad de Medicina Veterinaria y Zootecnia, UADY. Km 15.5 Carretera Mérida–Xmatkuil, AP 4-116, Mérida, Yucatán, México.*

**10:00** **37** **Milk secretion rate and udder volume of tropical dual purpose cattle (*Bos taurus* x *B. indicus*).**

H. Magaña-Sevilla and C.A. Sandoval-Castro
*Facultad de Medicina Veterinaria y Zootecnia, Universidad Autónoma de Yucatán, México, Apdo 4-16 itzimná, Mérida, Yucatán, 97100, México.*

**10:20** **38** **Body weight and preweaning growth rate of pure indigenous, Toggenburg goat breeds and their crosses under smallholder production systems in Kenya**

C. O. Ahuya[1], A. M. Okeyo[2], R. O. Mosi[2], F. M. Murithi[3] and F. M. Matiri[4]
*[1]Farm Africa-Dairy Goat and Animal Healthcare Project, P.O. Box 2980, Meru , Kenya*
*[2]University of Nairobi, Dept. of Animal Production, P.O. Box 29053, City Square 00200 Nairobi, Kenya*
*[3]Kenya Agricultural Research Institute, Headquarters, Kaptagat Rd., P.O Box 57811 City Square 00200, Nairobi, Kenya*
*[4] Kenya Agricultural Research Institute, Regional Research Centre, P.O Box 29 Embu , Kenya*

10:40 Coffee

**11:00** **39** **Sustainable dairy calf management: allowing the calves to suckle**

L. Lidfors[1], J. Loberg[1], J. Jung[1], K. Svennersten-Sjaunja[2] and C. Berg[1]
*[1]Department of Animal Environment and Health, Swedish University of Agricultural Sciences, P.O.Box 234, SE-532 23 Skara, Sweden*
[2]Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences, Kungsängen Research Centre, SE-753 23 Uppsala, Sweden

**11:20** **40** **Milk production in a low external inputs agro-pastoral systems of the Hindu Kush-Karakoram-Himalayan region of Pakistan**

R. Abdur[1], A.J. Duncan[1], I.J. Gordon[1], I. A. Wright[1], D.W.Miller[2], P. Frutos[3], R. Atiq[4]
*[1]Macaulay Institute, Craigiebuckler, Aberdeen, AB15 8QH, Scotland, UK*
*[2]Department of Agriculture & Forestry, University of Aberdeen, King Street, Aberdeen AB24 5UA,U.K.*
*[3]Estacion Agricola Experimental, Consejo Superior de Investigaciones Cientificas (CSIC) Apdo788, 24080-Leon, Spain*
*[4]Animal Science Institute, National Agriculture Research Council (NARC), Park Road, Islamabad, Pakistan*

**11:40** **41** **Societal and professional implications of industrialized farming of livestock and poultry**

P. R. Cheeke
*Department of Animal Sciences, Oregon State University, Corvallis, OR 97331 USA*

**12:00** **42** **Improving the productivity of donkeys in Ethiopia**

F. Ochieng[1], M. Alemayahu[2] and D. Smith[3]
*[1]Kenya Network for Draught Animal Technology (KENDAT), P.O. Box 2859, 00200, Nairobi- Kenya*
*[2]Ethiopian Agricultural Research Organisation (EARO), P.O. Box 2003, Addis Ababa, Ethiopia*
*[3]Centre for Tropical Veterinary Medicine, University of Edinburgh (CTVM), Easter Bush, Edinburgh, UK*

**12:20** **43** **A systems study of livestock production in the Northern Areas of Pakistan**

I.A. Wright[1], A.J Duncan[1], J. Clemens[2], A. Rahman[1], O.Raja[1], I.J. Gordon[1], A.J. Hester[1], S.M. Raffique[3], Atiq-ur-Rehman[4], F. Ali[5] and A. Baig.[5]
*[1]Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH, UK*
*[2]Department of Geography, University of Bonn, Meckenheimer Allee 166, D-53115, Bonn Germany(Present address: South Asia Institute, Ruprecht Karls University, Im Neuenheimer Feld 330, D-69120 Heidelberg,Germany)*
*[3]Pakistan Forest Institute, University Town, Peshawar, 25120, NWFP, Pakistan*
*[4]Pakistan Agricultural Research Council, Plot No 20, G5/1, PO Box 1031, Islamabad, Pakistan*
*[5]Aga Khan Rural Support Programme, PO Box 506, Gilgit, Pakistan*

12:40 Lunch

**12:40** **Half day optional visit to different production systems in Yucatan (pigs/poultry/village dual purpose)**

**13:30** **Poster viewing special sessions**

21:00 Conference Dinner - Hacienda Teya

# Theatre Sessions
# Friday 15 November

## THEME 3 - WHAT IS THE ROLE OF ANIMAL SCIENCE?

**Chair - Professor Emyr Owen and Dr Mario Herrero**

**09:00** **44** **Animal science research for poverty alleviation in the face of industrialisation of livestock production**
A. Waters-Bayer[1] and W. Bayer[2]
[1] *ETC Ecoculture, POB 64, NL-3830 AB Leusden, Netherlands*
[2] *Independent advisor, Rohnsweg 56, D-37085 Göttingen, Germany*

09:50 Coffee

**10:20** **45** **Livestock disease prioritisation: listening to the voices of the poor**
C. Heffernan
*Veterinary Epidemiology and Economics Research Unit, School of Agriculture, Policy and Development, University of Reading, RG6 6AR, UK*

**10:40** **46** **Adaptation of the Farmer Field School methodology to improve adoption of livestock health and production interventions**
B. Minjauw[1], H.G. Muriuki[2] and D. Romney[1]
*International Livestock Research Institute, PO Box 30709, Nairobi, Kenya*
*Ministry of Agriculture and Rural Development, PO Box 30028, Nairobi, Kenya*

**11:00** **47** **Research, extension and training for sustainable farming systems in the tropics**
T. R. Preston and L. Rodríguez
*University of Tropical Agriculture Foundation, Phnom Penh 3, PO Box 2423, Cambodia*

**11:20** **48** **Use of a common spatial graphic representation model as a tool to discuss integrated crop livestock alternatives in the uplands of Northern Vietnam**
Cedric Martin [1,2], Yann Eguienta [1,2,4], Jean-Christophe Castella [2, 3], Hoang Lan Anh[2], Tran Trong Hieu[2] and Philippe Lecomte [1]
[1] *Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Av. Agropolis, 34398 Montpellier Cedex 5, France.*
[2] *Mountain Agrarian Systems Program, Vietnam Agricultural Science Institute (VASI), Thanh Tri, Hanoi, Vietnam*
[3] *Institut de Recherche pour le Développement (IRD), 213 rue Lafayette, 75480 Paris Cedex 10, France, and International Rice Research Institute (IRRI), Los Banos, Laguna, Philippines.*
[4] *Centre National d'Etudes Agronomiques des Regions Chaudes (CNEARC), Av. Agropolis, 34398 Montpellier Cedex 5, France.*

**11:40** **49** **Analysis of indigenous technical knowledge and inclusion of local peoples' expertise into a working selection index for Chiapas wool sheep**
R. Perezgrovas[1], H. Castro[2], L. Zaragoza[1] and G. Rodríguez[1]
[1]*Instituto de Estudios Indígenas-UNACH, Centro Universitario Campus III, San Cristóbal L.C., 29200 Chiapas, México*
[2]*Facultad de Medicina Veterinaria y Zootecnia-UNAM, Ciudad Universitaria, 04510 México D.F.*

12:00 Discussion
12:30 Lunch
**13:30** **Poster viewing - Theme 3**

| | | |
|---|---|---|
| **14:30** | **Workshops on case studies** | *Leaders* |
| | i) Differential demand for milk across different urban sectors | *Dr Carlos Arriaga-Jordan & Dr Alfredo Abimer* |
| | ii) Stakeholder negotiation between farmers and milk buyers | *Dr Reg Preston & Dr Juan Ku Vera* |
| | iii) Technologies/policies for tightening labour markets through the expansion of the milk sector | *Prof Bob Blake & Dr Dickon Hovell* |
| | iv) Pro-poor policies for milk development | *Dr Andres Aluja Schonemann & Dr Mario Herrero* |

15:45 Coffee

**16:30** **Feedback from workshops and conference review**
Chair: *Professor David Leaver and Dr Juan Ku*

**17:30** **Final plenary and closing ceremony**
Chair: *Dr Raul Godoy-Montanez*

# Poster Sessions
# on view throughout the meeting

## THEME 1 HOW DO TRADE AGREEMENTS MAKE LIVESTOCK PRODUCERS VULNERABLE?

**Authors in attendance 13:30-14:30, Wednesday 13 November**

**50** **The effective method of pricing for animal products**
V. G. Narushin
*Poultry Consultant Office, 35, Lenin Ave. 145-B, Zaporozhye 69035, Ukraine*

**51** **The economics of cattle discourages pasture improvement on small-scale farms in the Brazilian Eastern Amazon**
B. Rischkowsky[1], M. Siegmund-Schultze[1], C. M. Braga Sarmento[2], J. Bastos da Veiga[2] and J. M. King[1]
*[1]Georg-August-University, Kellnerweg 6, D-37077 Göttingen, Germany*
*[2]Embrapa Amazônia Oriental, Caixa Postal 48, CEP 66095-100, Belém, PA, Brazil*

**52** **Added value of inter-project dialogue: a 'Link Project' on goat keeping in Africa and India.**
P. J. Buttery[1], T. Smith[2], E.Owen[2] and J. I. Richards[3]
*[1]Division of Nutritional Biochemistry, School of Biosciences, University of Nottingham, Sutton Bonnington Campus, Loughborough LE12 5RD, UK*
*[2]School of Agriculture, Policy and Development, University of Reading, Earley Gate, PO Box 237, Reading RG6 6AR, UK*
*[3]Natural Resources International Ltd., Park House, Aylesord, Kent ME20 6SN, UK*

## THEME 2 WHAT IS THE ECOLOGICAL IMPACT OF PRODUCTION SYSTEMS

**Authors in attendance 13:30-14:30, Wednesday 13 November**

**63** **Evaluation of the productivity of yak in the southern Qinghai area**
Xiaolin Luo, Jingtao Xu, Quan Li, Yaping Wei
*Qinghai Academy of Animal & Veterinary Sciences, Xining, Qinghai, 810003, P.R.China*

**64** **An open nucleus cross-breeding system for dual purpose cattle in the tropics. Milk production, resistance and calf growth**
M. M. Osorio
*Campus Tabasco, Colegio de Postgraduados, Apdo. Postal 24,Cardenas, Tabasco, Mexico*

**65** **Soil, plant and cattle nutrient dynamics on pastures of the western Amazon of Brazil**
B. Rueda[1], R. W. Blake[2], E. Fernandes[2], C. F. Nicholson[2], and J. F. Valentim[3]
*[1] INIFAP, Melchor Ocampo 234, Veracruz, VE 91700, México*
*[2] Cornell University, Ithaca, NY 14853, USA*
*[3] Embrapa-Acre, Caixa Postal 321, Rio Branco, AC 69908-970, Brazil*

**66** **Increasing the contribution that goats can make to the livelihoods of resource poor livestock keepers in Nepal**
C. Rymer[1], A. McLeod[2], M. L. Jayaswal[3], K. P. Neupane[4], T. S. Dhaubhadel[5], V. C. Jha[6], N. M. Taylor[2]
*[1]ADAS Nutritional Sciences Research Unit, School of Agriculture, Policy and Development, University of Reading, Earley Gate, PO Box 236, Reading, RG6 6AR,UK*
*[2]PAN Livestock Services Ltd, School of Agriculture, Policy and Development,University of Reading, Earley Gate, PO Box 237, Reading, RG6 6AR, UK*
*[3] New ERA,PO Box 722,Kalopool,Sifal,Kathmandu,Nepal*
*[4] Nepal Agroforestry Foundation, Khoteshwor, Phoolbari, PO Box 9594,Kathmandu, Nepal*
*[5] Nepal Agricultural Research Council, Khumultar, Kathmandu, Nepal*
*[6] Nepal Agricultural Research Council, Animal Health Research Division, PO Box 3733, Tripureswor, Kathmandu, Nepal*

**67** **Resources available for livestock production and the logic of their utilization: the small livestock farmer of Tierra Caliente, Guerrero, Mexico**
M. Cipriano-Salazar[1], F. Manzo-Ramos[2], H. Navarro-Garza[2], A. Galvis-Spinola[2] and H. Vaquera-Huerta[2].
*[1]Escuela de Medicina Veterinaria y Zootécnia, Carretera Altamirano-Iguala, km 3, Cd. Altamirano, Gro.*
*[2]Colegio de Postgraduados, Montecillo, Texcoco, Estado de México*

**68** **The farmer's perspective towards the ecological impact of livestock technological practices in extensive production systems of the Tierra Caliente region, State of Guerrero, Mexico.**
F. Manzo-Ramos[2], M. Cipriano-Salazar[1], H. Navarro-Garza[2], A. Galvis-Spinola[2] and H. Vaquera-Huerta[2].
*[1]Escuela de Medicina Veterinaria y Zootécnia, Carretera Altamirano-Iguala, km 3, Cd. Altamirano, Gro.*
*[2]Colegio de Postgraduados, Montecillo, Texcoco, Estado de México*

**69** **Peri-urban and urban livestock keeping in East Africa – a coping strategy for the poor?**
S. Guendel
*Natural Resources Institute, Medway University Campus, Chatham Maritime, Kent ME4 4TB, UK*

## Special Session - Nutrition

**Authors in attendance 13:30-14:30, Thursday 14 November (if on visit, then 13:40-14:30, Friday)**

**70** **Nutritional economic aspects for producing edible protein of animal origin depending on the performance of animals**
G. Flachowsky
*Institute of Animal Nutrition, Federal Agricultural Research Centre (FAL), Bundesallee 50, 38116 Braunschweig, Germany*

**78** **Cowpea (*Vigna unguiculata*) as a human food and ruminant forage crop for small holders in Ethiopia**

K. D. N. Koralagama[1,2], J. Hanson[1], D. I. Givens[3], P. Q. Crauford[2], E. Owen[2], F. L. Mould[2] and S. Fernandez-Rivera[1]

[1]*International Livestock Research Institute, P.O. Box 5689, Addis Ababa, Ethiopia*

[2] *School of Agriculture, Policy & Development, University of Reading, Earley Gate, P.O. Box 237, Reading, RG6 6AR, UK*

[3] *ADAS Nutritional Sciences Research Unit, Alcester Road, Stratford-on-Avon CV37 9RQ, UK*

**79** **Combining grazing with maize silage in the development of low-cost production systems for lactating dairy cows**

O. Hernandez-Mendo[1] and J.D. Leaver[2]

[1]*Especialidad de Ganaderia, Colegio de Postgraduados Km 36.5 Carr. Mexico-Texcoco Montecillos, Texcoco, estado de Mexico 56230 MEXICO*

[2]*Imperial College, Wye, Near Ashford, Kent TN25 5AH, UK*

## Special Session -Biotechnology, Livestock and Livelihoods

**Authors in attendance 13:30-14:30, Thursday 14 November (if on visit, then 13:40-14:30, Friday)**

**80** **Assessment of genetically modified crops (GMO) in animal nutrition**

G. Flachowsky and K. Aulrich

*Institute of Animal Nutrition, Federal Agricultural Research Centre (FAL), Bundesallee 50, 38116 Braunschweig, Germany*

**81** **Effect of rubber flooring on behaviour of tied dairy cows**

J.A. Fregonesi, D. C. Silva, A. P. Vieira, A. B. Bignardi, B.S. Oliveira and N.A.N. Fonseca,

*Departamento de Zootecnia, Universidade Estadual de Londrina-UEL, Londrina, Parana, 86051-990, Brazil*

**82** ***In vitro* digestibility and estimated energy value of foliage and fruits of forage trees when incubated with and without polyethylene glycol (PEG)**

R. Pinto Ruiz, C.A. Sandoval Castro, L. Ramírez Avilés

*Facultad de Medicina Veterinaria y Zootecnia, Universidad Autónoma de Yucatán, México. Apdo. 4-116 Itzimná, Mérida, Yucatán, 97100, México*

**83** **Comparison of charcoal and polyethylene glycol (PEG) for neutralizing tannin activity with an *in vitro* gas production technique.**

C.A. Sandoval Castro, H. Magaña Sevilla, C. Capetillo Leal, F.D. DeB Hovell

*Facultad de Medicina Veterinaria y Zootecnia – Universidad Autónoma de Yucatán, México. Apdo. 4-116 Itzimná, Mérida, Yucatán, 97100, México*

**84** **Possibilities and limitations of cereal straws in animal nutrition**

G. Flachowsky[1)] and F. Zadrazil[2)]

*Institutes of Animal Nutrition[1)] and Plant Nutrition and Soil Sciences[2)] of Federal Agricultural Research Centre (FAL), Bundesallee 50, 38116 Braunschweig, Germany*

## Special Session -Animal Science

**Authors in attendance 13:30-14:30, Thursday 14 November (if on visit, then 13:40-14:30, Friday)**

**85** **Performance of Nellore cattle on renovated pastures of the Brazilian Cerrado (tropical savannah)**

R. D. Sainz[1], C. U. Magnabosco[2,4], V. Barbosa[2], A . O. Barcellos[2], L. Vilela[2], C. U. de Faria[2,3] and L. C. Balbino[4]

[1]*Department of Animal Science, University of California, Davis, USA 95616*

[2]*Embrapa Cerrados/CNPq, Caixa Postal 08223, Planaltina, DF, Brazil 73301-970*

[3]*Escola de Veterinária, Universidade Federal de Goiás, Caixa Postal 131, Goiânia GO, Brazil 74001-970*

[4]*Embrapa Rice and Beans, Santo Antônio de Goiás, GO, Brazil 75375-000*

**86** **Genetic component of post-weaning weights of Nellore cattle on renovated pastures of the Brazilian Cerrado (tropical savannah)**

C. U. Magnabosco[1,4], V. Barbosa[1], A. de los Reyes Borjas[2], C. U. de Faria[1,2], R. D. Sainz[3] and L. C. Balbino[4]
*[1]Embrapa Cerrados/CNPq, Caixa Postal 08223, Planaltina, DF, Brazil 73301-970*
*[2]Escola de Veterinária, Universidade Federal de Goiás, Caixa Postal 131, Goiânia GO, Brazil 74001-970*
*[3]Department of Animal Science, University of California, Davis, USA 95616*
*[4]Embrapa Rice and Beans Research Center, Santo Antônio de Goiás, GO, Brazil 75375-000*

**87** **Gibbs Sampling for estimation of genetic parameters for weaning weight in Nellore cattle: thinning interval, burn-in period and chain length**

C. U. Magnabosco[1,2], C. U. Faria[1,3], A. Reyes[3], R. B. Lôbo[4], V. Barbosa[1], R. D. Sainz[5]
*[1]Embrapa Cerrados/CNPq, Caixa Postal 08223, Planaltina, DF, Brazil 73301-970*
*[2]Embrapa Rice and Beans Research Center, Santo Antônio de Goiás, GO, Brazil 75375-000*
*[3]Escola de Veterinária, Universidade Federal de Goiás, Caixa Postal 131, Goiânia GO, Brazil 74001-970*
*[4]Faculdade de Medicina, Universidade de São Paulo, Ribeirão Preto SP,Brazil CEP 14026-140*
*[5]Department of Animal Science, University of California, Davis, USA 95616*

**88** ***Duddingtonia flagrans* chlamydospore screening in Criollo goat faeces after passing through the gastro-intestinal tract**

N. Ojeda-Robertos[1], P. Mendoza de Gives[2], J.F. Torres-Acosta[1], R. Rodríguez-Vivas[1]
*[1] Facultad de Medicina Veterinaria y Zootécnia, Universidad Autónoma de Yucatán, Km 15.5 carr. Mérida-Xmatkuil, Mérida, 97000, Yucatán, México*
*[2] Centro Nacional de Investigaciones Disciplinarias en Parasitología Veterinaria, Cuernavaca, Morelos*

**89** **Potential of controlling intestinal parasitic infections in small ruminants (sheep and goats) with extracts of plants high in tannins.**

R. A. Max[1], D. Wakelin[2], P. J. Buttery[1], A. E. Kimambo[3], A. A. Kassuku[3] and L. A. Mtenga[3]
*[1]University of Nottingham, School of Biosciences, Sutton Bonington Campus, Loughborough, Leicestershire, LE12 5RD, UK*
*[2]University of Nottingham, School of Life and Environmental Sciences, Nottingham NG7 2RD, UK*
*[3]Sokoine University of Agriculture, P.O. Box 3004, Morogoro, Tanzania*

**90** **Use of local browse tree pods as dry season supplement for goats in the south-western region of Zimbabwe**

J.L.N. Sikosana[1]. V.Maphosa[1] . T. Smith[2]. V. Mlambo[2]. E. Owen[2]. and I. Mueller-Harvey[2]
*[1]Matopos Research Station, Private Bag K 5137, Bulawayo, Zimbabwe*
*[2]School of Agriculture, Policy and Development, University of Reading, Early Gate, Reading RG6 6AR, UK*

**91** **Suckling and improved nutrition of Holstein and Guzerat cross Holstein cattle**

J. K Margerison [1], C. J. C. Phillips [2] and T. R Preston [3].
*[1]University of Plymouth at Seale Hayne, Newton Abbot, Devon TQ12 6NQ, UK*
*[2] Dept of Clinical Veterinary Medicine, University of Cambridge, Cambridge CB3 0ES, UK*
*[3] Centro International for el desarrollo de Agropecuaria en del Valle de Cauca, Cali, Colombia*

**92** **Condition of the cow at calving as a determinant of milk yield in crossbred dairy cows on smallholder farms in North East Coastal Tanzania**

B.S.J. Msangi[1], M.J. Bryant[2], P.J. Thorne[3] and J. Dijkman[3]
*[1]Livestock Research Centre, P.O Box 5016, Tanga, Tanzania*
*[2],School of Agricultre, Policy and Development, University of Reading, Earley Gate,Reading RG6 6AR, UK*
*[3]Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent ME4 4NN, UK*

**93** **Innovative dairy farmers in the central Punjab of Pakistan**

A. Ullah
*Brooke Hospital for animals Pakistan, 94-jinnah block awan town Lahore, Pakistan*

**104** **The use of cassava hay for lactating dairy cows**

M. Wanapat[1], C. Wachirapakorn[1] , P. Rowlinson[2], A.Polthanee[1] and S.Wanapat[1]
*[1]Faculty of Agriculture, Khon Kaen University, Khon Kaen 40002, Thailand*
*[2]Department of Agriculture, University of Newcastle upon Tyne NE1 7RU, UK*

**105** **The role of indigenous and cross-bred cattle for smallholder dairy production in Zimbabwe**

T. Smith[1], S. Moyo[2], J.I. Richards[1] and J.F. Morton[3]
*[1]Natural Resources International Ltd., Park House, Aylesford, Kent ME20 6SN, UK*
*2Department of Livestock Production and Development, PO Box CY2505, Causeway, Harare, Zimbabwe*
*[3]Natural Resources Institute, University of Greenwich, Central Avenue, Chatham Maritime, Kent ME4 4TB, UK*

## THEME 3 - WHAT IS THE ROLE OF ANIMAL SCIENCE RESEARCH

**Authors in attendance 13:30-14:30, Friday 15 November**

**106** **Considering intensification of animal production as a research objective: PRISE, a new approach of international scientific partnership in south-east Asia**

B. Faye[1], V.L. Le[2], V. Porphyre[2], P. Salgado[2], Y. Villaggi[2], M. Bollard[2], J.F. Renard[1].
*[1] CIRAD EMVT, Campus International de Baillarguet, TA30/A 34398 Montpellier cedex 5, France*
*[2] PCP PRISE c/°NIAH, Tu Liêm, Thuy Phuong, Hanoi, Vietnam*

**107** **Tropical grazing systems in the Carribean require an integrated research methodology**

G. Alexandre, H. Archimède, M. Boval, M. Mahieu, N. Mandonnet, G. Aumont and A. Xande
*INRA Unité de Recherches Zootechniques Domaine Duclos 97170 Petit-Bourg, Guadeloupe*

**108** **Spatial decision support tools for prioritising areas for trypanosomiasis control: Examples from East Africa**

T.P. Robinson[1], M. Nyabenge[2] and K. Sones[2].
*[1] FAO (AGAL), Viale delle Terme di Caracalla, 00100 Rome, Italy*
*[2] ILRI, P.O. Box 30709, Nairobi, Kenya*

**109** **An integrated approach to nutrition for grazing cattle in the tropics**

M. Bovall[1], P. Cruz[2], H. Archimède[1]
[1]I*NRA, Unité de Zootechnie, 97170 Petit Bourg, Guadeloupe (F.W.I)*
[2]*INRA, Unité d'Agronomie, 31320 Castanet-Tolosan, France*

**110** **Contributions to study of intensive rational grazing with low inputs on commercial dairy farms**

R. V. Guevara, G. E. Guevara, L. M. Curbelo, M. Gálvez, R. M. Pedraza, J. A. Estevez and C. E. Parra.
*Animal Production Development Study Center (CEDEPA), Central West Highway, 7.8 km, University of Camagüey. CP.74650, Cuba.*

**111** **Motivation and livestock-based livelihoods: An assessment of the determinants of motivation among restocked households in Kenya**

L. Nielsen and C. Heffernan
*Veterinary Economics and Research Unit, School of Agriculture, Policy and Development, University of Reading, Reading RG6 6AR, UK*

**112** **Using local knowledge as a basis for planning ruminant diets in the mid hills of Nepal**

[1] D. Subba [2]P. Thorne and [3]F. L. Sinclair.
[1]*Agricultural Research Station Pakhribas, Dhankuta, Nepal*
[2]*Stirling-Thorne Associates, P.O. Box 23, Llangefni, Yays Mon LL74 8ZE, UK*
[3]*School of Agricultural and Forest Sciences, University of Wales, Bangor, Gwynedd LL57 2UW, U.K.*

## Additional Summaries

## CASE STUDIES

### Demand and supply side changes in the milk sector: impact on smallholders

S. Anderson*, J. Rushton, S. Staal, & P. Tulachan
*Department of Agricultural Science, Imperial College, Wye, Ashford, Kent TN25 5AH, UK*

**Introduction** Significant demand increases for livestock products associated with expanding urban populations have been detected and are predicted to gather momentum in East Africa, Southern Asia and Latin America. Specialisation and intensification of production systems has occurred, and in some cases the displacement of many small-scale producers by few large-scale, vertically integrated enterprises. So far only national level information has been analysed (e.g. IFPRI's Vision 2020 'The livestock revolution') and no appreciation of socially differentiated impact is available. Before pro-poor policy can be developed for the livestock sector careful analysis of the impact of past changes on marginalised livestock keepers is required.

**Material and methods** A multiple case study approach was taken to examine demand-side and policy changes, and supply-side responses across a 10 to 15 year period (1985-2000) for milk and derivatives at each of the three research sites (Santa Cruz, Bolivia; Nairobi, Kenya; and Katmandu, Nepal). The research framework provided various contrasts and comparisons within and between research sites. Time series data were accessed in order to track changes in the three main themes (demand-side changes, policy changes and supply-side responses). Where only scarce records existed, available historic information was contrasted with current information derived from specially designed and implemented surveys and appraisals with producers and consumers. Policy changes were tracked and key decision points identified. Emphasis was given to the impact on small-scale producers in the examination of policy changes and supply-side responses. The policy analysis matrix or PAM (Monke and Pearson, 1989; Ellis, 1992; Upton and Dixon, 1994), provided the framework both for the policy data & information to be collected and the analysis performed.

**Analysis and peer review** The case studies and aggregated outputs will be presented for peer review at the BSAS meeting in Merida, November 2002. A final report will be prepared pulling together the opinions of different reviewers and revision processes. The final report will be published in full and abbreviated forms for researchers, policy makers and other stakeholders.

The World Bank has identified a set of driving forces that are considered to have an important influence on the development of the livestock sector world-wide over the next two decades. These are growing demand for meat & milk, shifting consumer perspectives, changing functions of livestock, structural changes, and evolving international and national socio-economic frameworks (de Haan *et al.*, 2001). The evidence collected in the case studies will be analysed to assess the importance of these driving forces have had (and likely to have) within the milk sectors of Bolivia, Nepal and Kenya.

**References**

Ellis, F. 1992. *Agricultural policies in developing countries.* Cambridge University Press.
de Haan, C., van Veen, T., Brandenburg, B., Gauthier, J., Le Gall, F., Mearns, R. and Simeon, M. 2001. *Livestock development: implications for rural poverty, the environment, and global food security*. World Bank, Washington, D.C.
Monke, E.A. and Pearson, S.R. 1989. *The policy analysis matrix for agricultural development.* Cornell University Press, Ithaca and London.
Upton, M. and Dixon, J.M. 1994. *Methods of micro-level analysis for agricultural programmes and policies*. FAO Farm Systems Management Series No.9. FAO, Rome.