



IGA Newsletter February 2016

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3rd Asian-Australasian Dairy Goat Conference, May 9-13, 2016

The 3rd Asian-Australasian Dairy Goat Conference (AADGC 2016), from 9 to 13 May 2016, will take place in Yangling, China.

This conference will feature leading scientists and policymakers who will review the current state of knowledge and communicate significant new developments and advancements in the breeding, nutrition, diseases prevention and milk products of dairy goat. All registered delegates will have the opportunity to publish their research in the conference proceedings.

While the conference is focused on research and associated policy developments it will also be of value to research investors, government policy makers, farm advisers and representatives from the farm of dairy goat.

In addition to an excellent scientific program, we have also prepared an exciting social program that will provide delegates an opportunity to explore and relax during their stay in Yangling. The Welcome Reception and Gala Dinner will give participants a chance to network while enjoying the cuisine and

warm hospitality of Yangling, China, of one of the world's most famous cities.

Learn more:
aadgc2016.nwafu.edu.cn

Contact:
College of Animal Science & Technology
Northwest A&F University
22 Xinong Road, Yangling, Shaanxi
712100, P. R China
Ph: +86-29-87092102; +86-18991298729
Fax: +86-29-87092164
Email: Huaipingshi@nwsuaf.edu.cn; wanping5791@163.com

1st International Conference on Tropical Animal Science and Production (TASP)

You are invited to join the 1st International Conference on Tropical Animal Science and Production 26-29 July 2016 (TASP 2016) and contribute with your experiences.

Theme:
The theme of this conference "Integrated Approach in Advances Animal Science and Innovation Technology" is appropriate in view of the orientation of technological and institutional changes in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations.

Purpose:
The purpose of the conference is to provide an opportunity for animal scientists, animal agriculture-crop scientists and those from related disciplines to discuss and debate research issues re-

lating to aquaculture, animal behavior and welfare, animal genetics and breeding, animal physiology and reproduction, animal biotechnology, epigenetics, feed science and technology, livestock farming system, livestock management, meat science, non-ruminant nutrition, nutrigenomics, pasture, pet, ruminant nutrition, veterinary and others.

Benefits of participation:

- Interact with international researchers and technologists for future cooperation.
- Meet 700 participants from more

than 70 countries.

- Publish your paper in TASP 2016 Proceedings.

Venue: Ambassador Hotel Bangkok, Thailand
The Ambassador Hotel is in close proximity to the sky train (Nana Station) and subway (Sukhumvit Station). It is also only a 25-30 minutes from Suvarnabhumi Airport. Perfectly located in Sukhumvit, Bangkok's trendy restaurant, entertainment and shopping district.

Continued on Page 2

Important Dates:	
15 January – 30 April 2016	Early bird registration
15-Apr-16	Full paper submission deadline
15-Jun-16	Registration deadline for author
30-Jun-16	Registration deadline for attendance
26th – 29th July 2016	Conference dates

1st International Conference on TASP, 26-29 July 2016 (continued from Page 1)

Registration fee types	Early bird (Before 30 April 2016)		Late (After 30 April 2016)	
	*Conference	*Conference & Trip	*Conference	*Conference & Trip
Participation	\$300	\$350	\$350	\$400
**Student	\$250	\$300	\$300	\$350

*Registration fee includes
All conference materials of TASP 2016
Coffee / tea break and lunch during two days of the conference (27-28 July, 2016)
Welcome party (27 July 2016)
Farewell party (29 July 2016)
** Students must register with student card.

Scientific Program:
Programme overview
July 26th 2016

15.00-18.00 Pre-registration

July 27th 2016
Registration
Opening ceremony
Keynote and Plenary Speakers
Oral presentation and Poster sessions
Workshop, Symposium
Welcome reception

July 28th 2016
Oral presentation and Poster sessions
Workshop, Symposium

July 29th 2016
Technical tours
Closing ceremony
Farewell party

Organized by:
School of Animal Production Technology
Institute of Agricultural Technology,
Suranaree
University of Technology Nakhon
Ratchasima, THAILAND
www.tasp2016.com

Contact:
Assoc. Prof. Dr. Pramote Paengkoum
Chairperson TASP 2016
Suranaree University of Technology (SUT),
Nakhon Ratchasima, Thailand
Tel: +66-4422-4378
Fax: +66-4422-4150
E-mail: tasp2016@sut.ac.th

Small Ruminant Value Chain in Guinea

The West African country of Guinea experienced intensified food insecurity during the recent Ebola crisis, but is now initiating programs to improve food production, access and utilization. A recent study identified the small ruminant value chain as having great potential for improving income and nutrition, but timely access to veterinary vaccines is currently the greatest constraint.

Due to the prevalence of trypanosomiasis, the West African Dwarf (WAD) varieties of sheep and goats seem to be the only breeds that survive. PPR is the most devastating disease reported by herders, but it is prevented by timely inoculation of PPR vaccine. Mortality is estimated between 15-50% of the national herd. In 2014, less than one percent of animals were vaccinated out of a total population of over 4 million head.

Even with extensive production system practices, especially because of very low input costs, small ruminant

production is profitable. The dominant markets for small ruminants are holidays and special events and the ubiquitous grilled meat retailers.

VI. VCA: SMALL RUMINANTS A. OVERVIEW

Guinea's small ruminant value chain has considerable growth opportunities, coupled with some significant but not insurmountable constraints to upgrading. Sheep and goats have shorter reproductive cycles than cattle, making for quicker income opportunities. However, in Guinea very few farmers raise small ruminants in an intensive manner. Consequently their productivity suffers. Instead of weaning lambs and kids at an early age as is done under more intensive agricultural systems, the young animals are allowed to nurse for up to a year before they are separated from their mothers and then fed forage. Animals fed in this manner gain weight and size slowly. There is no culture of sheep or goat fattening in Guinea, i.e., feeding the animals a



October 2015

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mixed ration designed to add weight quickly, maximizing optimum growth. One exception to this is the fattening of rams, generally with hay, for the Ramadan and Tabaski holidays. Credit Rural provides financing for fattening loans.

Professor Christopher Lu speaks during Chinese Sheep and Goat Association Annual Meeting and at Southwestern University

Dr. Christopher Lu, former IGA President and professor of Animal Science delivered a keynote speech at the Annual Meeting of Chinese Sheep and Goat Association in August 2015. More than 600 educators, researchers, and government officials from 29 provinces and autonomous regions in China attended the meeting.

Dr. Lu presented the plenary paper with an assigned topic entitled Sheep and Goat Nutrient Requirements. The presentation provided an overview of history, international standards, evolution of methodology, limitation, and discrepancy of defining nutrient requirements in sheep and goats. It also discussed the implication of precision nutrition, nutrigenomics, and molecular nutrition on nutrient requirements. The presentation concluded with perspectives of sheep and goat nutrition, and nutrition plus strategies. After the conference, he visited several sheep operations with various scales in the province.

[For a conference report in Mandarin, click here.](#)

China's sheep and goat industry has been growing with a fast pace in recent years. With about 185 million goats and nearly 187 million sheep, China is the world leader in production in both sectors. To meet growing demand, a result of improved living standards, increased purchasing power, limited land availability, and population growth, large intensive operations with more than 100,000 animals in a single location have attracted investment in central China.

Typically, a completely mixed ration of forage and gain is fed with a feeding vehicle and animals are confined in a lot with slated floor to filter through feces and urine that is collected by a mechanically operated scraper. There is normally a lot next to it for exercise. The barns are ventilated and with shades or windows on

the side. Occasionally forced ventilation is used. They resemble large intensive dairy cattle operations in the US.

There are obvious advantages and disadvantage of these intensive operations. Feed and management cost per animal is normally less, but risk of health and environmental issues are increased. Nevertheless, these large sheep and goat operations play a pivotal role in maintaining a steady supply of mutton and goat meat to populated metropolitan areas. Like many other agricultural fronts, China is catching up rapidly with a large investment in animal science and technology.

Earlier in May 2015, Dr. Lu was invited to speak at Southwestern University in Chongqing, Sichuan. The Saturday morning presentation was well attended with a couple of hundred administrators, faculty and students. The dean of College of Animal Science and Technology introduced the speaker. The presentation focused on graduation education in animal science in the United States.

Dr. Lu provided an overview of student life, career choices, earning potential and desired quality of graduates in the field of animal sciences. Professor Yongju Zhao, and faculty, accompanied Dr. Lu to visit a research station focused on the preservation and improvement of Black Goats, a superior indigenous breed that is in high demand. There is a large scale and popular restaurant in the heart of city of Chongqing specializing in dishes of black goat. It is a successful example of streamlining production, marketing and consumption.



During the trip the host Professor Gongyi Xu at Sichuan Agricultural University accompanied Dr. Lu on a journey to the historical "Red Plateau", a part of Quinhai-Tibet Plateau. They visited minority villages and came to appreciate the source of Yellow River that was vital to Chinese civilization. Yak and Tibetan sheep were the two notable native ruminant species that survive in this cold and harsh environment. They are an important local food supply. The government established a separate research institute for these two vital species and invested in the genetic and nutritional improvement.

[Detail of this visit was described in a Chinese news release.](#)

China is one of the few countries in the world that has established a network of agricultural universities. These agricultural universities focus on the adoption and development of science and technology in various fields of agriculture. In just about each of the agricultural universities, there is a college of animal science and technology. Investments in agricultural science and education position China with a strong future in maintaining competitiveness in agriculture and assuring food security for its massive population.

Commemoration of the National Goat Day in the Islamic Republic of Iran

Honorable Guests,
Colleagues,
Ladies and Gentlemen,

Commemoration of the National Goat Day on 27 January provides us with an opportunity to reflect upon the importance of the role that goats play as a small ruminant species, here in the Islamic Republic of Iran as in other countries globally, not only in terms of a nation's food security, but also in enhancing the socio-economic dimensions of the agricultural and rural sectors, securing livestock biodiversity as well as safeguarding natural resources.

If we were to glance back into history, the goat was the first animal to be domesticated by mankind. Throughout our evolution, goats have contributed towards the subsistence of people and communities. With the current global goat population standing at 921 million, the pivotal contribution made by goats continues to be firmly evident, notably in developing countries where over 90 percent of this population is found. It is often the small-scale farmers that keep small ruminants for both subsistence and economic reasons. Small ruminants not only contribute to improving household livelihoods but they also have the capacity to do much more, such as providing food, heat, income, socio-cultural wealth and clothing to peri-urban as well as increasingly urban households.

Requiring less space to graze than larger animals and with a lighter adverse impact on soils, the cost-benefits of these smaller ruminants compared to the larger. They are easier to work with than large ruminants and are cheaper to buy and maintain. Moreover, lately, due to the emerging challenges of climate change and increasing pressure on natural resources and the high value of goat meat and milk across a number of Asian countries, the potential of goats with their high adaptability to a wide array of environmental conditions and "low

quality" feed resources is being increasingly appreciated. As noted in the Food and Agriculture Organization of United Nations (FAO) Statistical Yearbook for 2014, the region of Near East and North Africa

بزرگداشت روز گاو
IGA NATIONAL GOAT DAY
هفتم بهمن ماه ۱۳۹۴
27th January, 2016
محل برگزاری: کرج - موسسه تحقیقات علوم دامی کشور
Organizer: ASRI, www.asri.ir
با هدف پیشنهاد برای روز جهانی بزها تاکید بر ایران
Aiming To Propose For World Goat Day
محل برگزاری: کرج - موسسه تحقیقات علوم دامی کشور
Animal Science Research Institute Of
Iran, Karaj, 31585, Iran
Contact Person: Farhad Mirzaei, IGA CR to Iran
Tel: +989125620089
Email: farmir2001@gmail.com

accounts for the smallest share of global livestock and meat production of any of FAO's regions. However, within the region, Iran stands out as the leading country with the largest meat production that measures for more than 2.2 million tonnes annually. As the commonest livestock in the country, Iran stands as the region's third largest producer of sheep and goat.

Challenging diseases and difficult problems can be tackled for the benefit of many if we apply the right policies that support the required action, innovation and investment. For example, in the case of climate change, FAO's assessment work on livestock's

contribution to climate change shows that the livestock supply chains are a definitive factor in mitigating and adapting to climate change.

Goats can be of a greater help in this combat than we can imagine; about 90 percent of all of the region's breeds are bred and kept in the drylands, constituting a valuable yet untapped resource for future adaptation to climate change. For example, the Adani dairy goat is one of the most important breeds in the southern Iran, and despite the high temperature, humidity and lack of good pasture, the breed adapts well to the severe conditions and has been regarded as an excellent for export market. Likewise, Yazd province is one of the driest areas in the central part of Iran with less than 100 mm of rain annually, and yet the local breeds - the Nodoshani and Rabati goats - adapt to the environment and climate conditions whilst retaining their dual purpose: producing high-value milk and cashmere wool.

Additionally, goats are important in development because of their ability to convert forages and crops and household residues into meat, fibre, skins and milk. In terms of detailed output, sheep and goat products are the most important in developing countries where 45 percent of all sheep meat, 54 percent of all sheep milk, 93 percent of all goat meat, and 73 percent of all goat milk are produced.

FAO's commitment to practice improvements and sector sustainability has led the Organization to become involved in the Global Agenda for Sustainable Livestock, a global multi-stakeholder partnership dedicated to improving livestock practices for a more efficient use of natural resources, while including poverty reduction and public health protection. What is more, FAO is actively involved in the Livestock Environment Assessment and Performance (LEAP) Part-

Commemoration of the National Goat Day in the Islamic Republic of Iran



nership, a cross-sectoral effort to develop common metrics to define and measure environmental performance of livestock supply chains.

FAO has facilitated sustainable development of the livestock to contribute to food security, while reducing its environmental footprint and resource

use, and has actively strived to develop the sector. However, as the natural resources that sustain agriculture and livestock, such as land and water, are becoming scarcer and are increasingly threatened by degradation and climate change, much more work needs to be done.

To increase sheep and goat activity in Iran, FAO is seeking to assist the Government through research and development (R&D), capacity-building, policy advice, technology transfer and technical support and assistance. It is important to know that, with the right level of integration, we could ensure sustained productivity and stability in the various ecosystems and livestock production. Furthermore, since livestock is closely linked to the social and cultural

lives of several million resource-poor farmers, protecting small ruminant species, principally goats, could ensure varying degrees of sustainable farming and economic stability.

Thank you,
Serge Nakouzi
The Representative of the Food and Agriculture Organization of the United Nations in the Islamic Republic of Iran and in the Economic Cooperation Organization (ECO)



Book Announcement: Goat by Joy Hinson

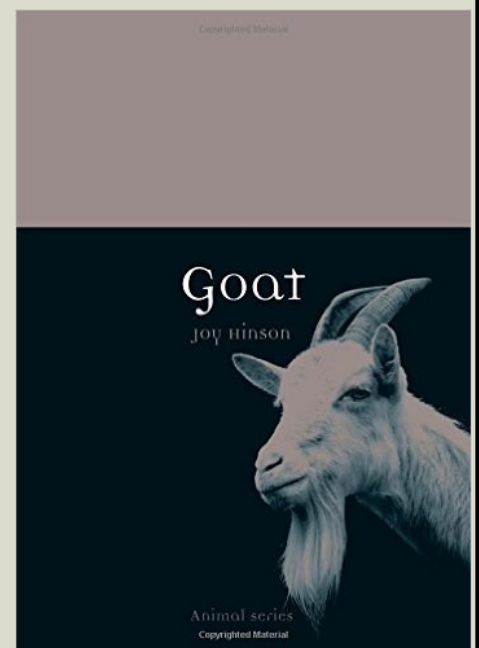
From “Three Billy Goats Gruff” to The Men Who Stare at Goats, this inimitable ruminant has long played a role in our literature and popular culture. And yet, our relationship with the “poor man’s cow” is oddly ambivalent. In the beautifully illustrated Goat, Joy Hinson explores the reason behind this unease while presenting readers with the animal’s fascinating natural history and its effect on myth, medicine, and culture.

Hinson traces the history of goats from their evolution millions of years ago through their domestication and role in the modern world. She delves into our interaction with endangered wild goat species and the familiar farmyard goat, and she reveals the harm done by humans in indiscriminately importing tamed goats, leading to huge feral populations in Australia and on the Galapagos Islands. Hinson

also considers the place of goat products in culinary and medical traditions, from the pouring of goat urine into the ear as a cure for neck pain to the belief that a goat’s bezoar stone can be used as an antidote for poison. From Goat Festivals in the United States to the Christmas Goat in Sweden, Goat takes readers on an exciting ride through this frequently neglected animal’s history, life, and role in today’s world.

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[To purchase a copy, click here.](#)



Most Cited Small Ruminant Research Articles

The most cited articles published since 2011, extracted from [Scopus](#)

The effects of dietary consumption of plants secondary compounds on small ruminants' products quality
Volume 101, Issue 1-3, November 2011, Pages 150-159
Vasta, V., Luciano, G.

Worldwide policies are encouraging the use of natural rangelands and low input feeding resources for livestock farming. Most of the low input feed contain secondary compounds (PSCs) - such as phenolic compounds (PhCs), saponins, and essential oils (EO) - which play a primary role on animal digestion and performances and also on product quality. Meat and milk fatty acid composition can be manipulated by dietary tannins as these PSCs modify ruminal biohydrogenation of dietary polyunsaturated fatty acids through changes in ruminal ecology. Dietary tannins improve products' flavour by reducing the ruminal biosynthesis of skatole and its accumulation in meat and milk. The addition of garlic or juniper EO in lamb diets reduces the off-flavours perception while thyme or rosemary EO lowered the rancid-odour perception of meat under display. It is proved that dietary PhCs ameliorate meat oxidative stability and prevent meat from discoloration thus extending product shelf life. The dose-response effect of these PSCs as well as their mechanisms of action are not

fully unravelled. Nevertheless, the use of plants rich in secondary compounds or the supplementation of purified PSCs in small ruminants diet seem to be a promising strategy for improving products quality.

[To read the entire article, visit SRR.](#)

Behavioural and physiological profiles following exposure to novel environment and social mixing in lambs

April 2015, Volume 125, Pages 154-162

Miranda-de la Lama, G.C.a, Villarroel, M.b, María, G.A.a

Most livestock production systems, animals are classified by sex, age or weight at different times in their productive life. In recent years, the pre-slaughter logistics for lamb production has been modified to include an intermediate step between the farm and the abattoir at classification centres (CC), where animals are classified by weight upon arrival and finished to the appropriate slaughter weight. In this study we describe the changes in social behaviour and stereotype profiles of lambs during one month after exposure to novel environment (CC) and social mixing as well as changes in key physiological variables associated with stress. We used a total of 36 male lambs (live weight of 17 ± 0.9 kg, approximately 60 days old and weaned at 45 days). Lambs were allocated to three different pens with 12 lambs each (0.75m² per lamb) and took behavioural and physiological measurements at 1, 7, 14 and 28 days after classification and mixing. Behaviour was video recorded continuously for 8h on each sampling day (08:00-17:00h) to note aggressive, affiliation and stereotypic behaviours. Blood samples were taken by jugular venipuncture after the behavioural observations to measure plasma cortisol, lactate, glucose, creatine kinase (CK), non-esterified

fatty acid (NEFA) and haematological counts. The number of interactions with physical contact and stereotypes decreased with time ($P < 0.01$), while aggressive and affiliative interactions without physical contact remained the same throughout the trial. The average number of aggressions and affiliative interactions with contact were significantly higher on day 1. Total aggressions peaked on day 1, but decreased to a similar frequency as total stereotypes later on, while total affiliative interactions also peaked on day 1 but were much less frequent. Oral stereotypes peaked on day 1 as did body-rubbing. Plasma cortisol was significantly higher ($P < 0.01$) in lambs sampled on days 1 and 7, compared with days 14 and 28. Plasma CK ($P < 0.05$) was higher on day 1 but then decreased. In conclusion, exposure to novel environment (CC) and social mixing can be considered an important stress for lambs, and increased levels of aggression, stereotypes and plasma cortisol levels can be used reliably to indicate welfare problems at the CC.

[To read the entire article, visit SRR.](#)

Effect of sodium selenite, Se-yeast and nano-elemental selenium on growth performance, Se concentration and antioxidant status in growing male goats

March 2011, Volume 96, Pages 49-52
Shi, L.a, Xun, W.a, Yue, W.a, Zhang, C.a, Ren, Y.a, Shi, L.a, Wang, Q.a, Yang, R.ab, Lei, F.c

The objective of this experiment was to study the effect of inorganic, organic and elemental nano-selenium on growth performance, Se concentration and antioxidant status in growing male goats. A total of 40 weaned Taihang black goats were randomly divided into four equal groups, given the basal diet either unsupplemented (CTRL only received 0.03. mg/kg Se background) or sup-



Most Cited Small Ruminant Research Articles

plemented with 0.3 mg/kg Se as sodium selenite (SS), Se-yeast (SY) or elemental nano-selenium (NS) for a 90 days experiment (from weaning to maturity). Average initial and final body weight (BW) and average daily gain (ADG) were recorded. Serum and whole blood were collected for serum glutathione peroxidase (GSH-Px), superoxide dismutase (SOD), catalase (CAT) and malondialdehyde (MDA) activity and Se content analysis. At the end of the feeding trial five bucks in each group were killed and

samples of heart, liver, spleen, lung, kidney, muscle and testis were collected for Se determination. The result showed that the final BW was increased ($P < 0.05$) in bucks supplemented with Se compared to the controls, and ADG in NS and SY were greater ($P < 0.05$) than SS or CTRL bucks. Whole blood, serum and tissue Se concentration, serum antioxidant enzymes activity were also affected by dietary Se supplementation. Serum GSH-Px, SOD and CAT in NS were higher ($P < 0.05$) than those in SS and

SY, and Se retention of whole blood, serum and some organs in NS were also higher than SS or SY ($P < 0.05$). It could be concluded that supplementation of Se can improve growth performance, serum oxidant status and Se concentration in blood and tissues in growing male goat. The dietary supplementation of elemental nano-Se could be utilized more effectively when compared to inorganic or organic Se.

[To read the entire article, visit SRR.](#)

Improvement of Supply Value Chains in Sustainable Small Ruminant Production Systems in Asia

Written by Dr. C. Devendra, IGA Country Representative in Malaysia

ABSTRACT

The paper highlights the importance of meat production from goats and sheep. Goat meat is sought for its high lean meat content, but current production is inadequate, resulting in the highest price in most countries, followed by mutton. Discussions focus on the distribution across agro-ecological zones (AEZs), factors influencing meat production, transpor-

tation, types of markets (assembling, distribution markets and weekly markets), characteristics; marketing channels and outlets; buyer preferences for live animals and meats and major market players. Goat skins are core products due to 20 times value addition. Rural markets have numerous advantages and reduce current constraints to marketing. Three factors requiring urgent attention are: (i) economic opportunities to participate in improved marketing systems and value chains, (ii) increased prof-

its and improved livelihoods will benefit the poor, and (iii) potential development of less favoured areas. Strong interdisciplinary R and D and supportive policies can directly enhance socio-economic benefits and reduced poverty among poor farmers and the landless.

[Read the full article in the Indian Journal of Animal Sciences, Vol. 86, No. 1, \(2016\)*](#)

**To read the full article you will need to register with IJAS*

Voting for the new IGA Board of Director begins soon!

Dear IGA Members,

The upcoming 12th International Conference on Goats will mark the beginning of a new Board of Directors. Voting for the nominees will begin soon.

In order to prepare the ballot, we need candidates. The success of IGA depends on a strong, diverse and active board. If you know someone who would be a great addition to the Board, then please send us their name and a short bio. Nominees should:

- Have a demonstrated commitment to the goat sector and a willingness to serve IGA for 4 years.
- Be a member in good standing, typically for the past four years. This shows a demonstrated commitment to IGA as a member. If they aren't already members for 2016, then please ask them to bring their membership up-to-date.

We also encourage all members to approach your friends and colleagues who are interested in goats and inspire them to become IGA members.

There are many great benefits of being an IGA member in 2016:

- All IGA members will be eligible to vote.
- All IGA memberships include online access to SRR.
- Access to the MEMBERS area of the IGA website, up-to-date information, IGA member documents, etc.
- Access to important news and information through the IGA Members Blog and Newsletter. This information is released to members before the public.

Best regards,
Juan Capote
IGA President