



IGA Newsletter  
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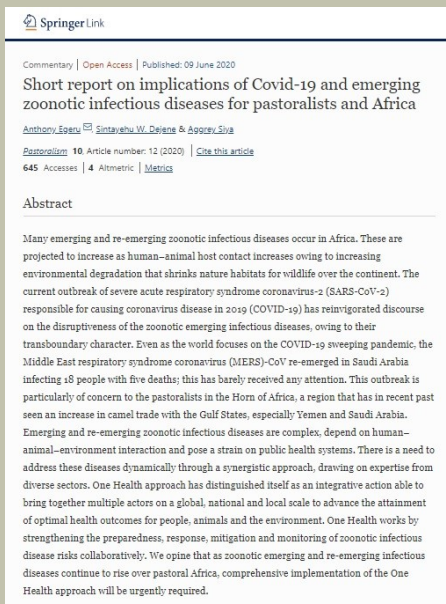
## Short report on implications of Covid-19 and emerging zoonotic infectious diseases for pastoralists and Africa

### Abstract

Many emerging and re-emerging zoonotic infectious diseases occur in Africa. These are projected to increase as human-animal host contact increases owing to increasing environmental degradation that shrinks nature habitats for wildlife over the continent. The current outbreak of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) responsible for causing coronavirus disease in 2019 (COVID-19) has reinvigorated discourse on the disruptiveness of the zoonotic emerging infectious diseases, owing to their transboundary character. Even as the world focuses on the COVID-19 sweeping pandemic, the Middle East respiratory syndrome coronavirus (MERS)-CoV re-emerged in Saudi Arabia infecting 18 people with five deaths; this has barely received any attention. This outbreak is particularly of concern to the pastoralists in the Horn of Africa, a region that has in

recent past seen an increase in camel trade with the Gulf States, especially Yemen and Saudi Arabia. Emerging and re-emerging zoonotic infectious diseases are

complex, depend on human-animal-environment interaction and pose a strain on public health systems. There is a need to address these diseases dynamically through a synergistic approach, drawing on expertise from diverse sectors. One Health approach has distinguished itself as an integrative action able to bring together multiple actors on a global, national and local scale to advance the attainment of optimal health outcomes for people, animals and the environment. One Health works by strengthening the preparedness, response, mitigation and monitoring of zoonotic infectious disease risks collaboratively. We opine that as zoonotic emerging and re-emerging infectious diseases continue to rise over pastoral Africa, comprehensive implementation of the One Health approach will be urgently required.



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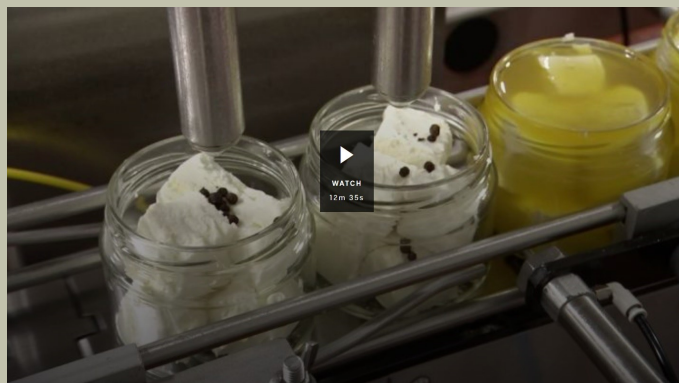
## Australia - Goat Goals: Goat cheese dairy committed to sustainability

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## The "Art of War" against gastrointestinal nematodes in sheep and goat herds of the tropics

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### Abstract

The present work delves into the concept of infections by gastrointestinal nematodes (GIN) in ruminants in the light of new findings of the animal-parasite-vegetation relationship and shows how to use these to guide the rational use of alternative control methods. First, we reflect on the control of the GIN in the current era and how the indiscriminate use of anthelmintics (AH) has generated a big prob-

lem of resistance to these drugs. The research on AH-resistant GIN helped to recognize that high GIN burdens are found in a low proportion of animals in each herd. This makes it possible to propose a new control paradigm based on the selective use of AH only in those animals that need treatment. It is proposed that low GIN infections in herds are due to: (i) the use of native GIN-resistant breeds, (ii) the low infectivity of grasslands for many months of the year, (iii) the

events commonly found in several strategies. To reduce reliance on conventional AH, alternative control methods affecting GIN phases outside or inside the host are required. Possibly many producers are already using some alternative method of control without being aware of this. For example, the use of tropical breeds takes advantage of their enhanced ability to resist GINs. In addition, browsing in the tropical forest vegetation involves consuming nutraceutical plants that provide nutrients and SC with AH activity. The aforementioned strategies can be reinforced with dietary supplementation to improve productivity and immune response against GINs. Some producers might be interested in rotational grazing, which serves to evade the infecting larvae in the pastures. In the future they may have access to nematophagous fungi that can be used to prevent L3 larvae from leaving the faeces and contaminate the fodder. One element that will be important is the Barbervax<sup>®</sup> vaccine that uses an antigen obtained from the *Haemonchus contortus* intestine to generate antibodies against that parasite achieving parasitic burdens reductions >90%. In conclusion, it is necessary to continue deepening the animal-parasite-vegetation relationship in order to be led by such knowledge to make better decisions about control methods. All this to allow the sustainability of the GIN control strategy in each herd.

**Keywords:** Post-anthelmintic era. Alternative control methods. Combined control strategies.



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consumption of native tropical plants containing secondary compounds (SC) affecting several stages of the GIN cycle, and (iv) grazing behaviour that limits the consumption of infective phases of GIN in low-rise fodder at hours of increased infectivity. There is a need to use a targeted selective treatment strategy aiming to reduce false positives and false negatives

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# El “Arte de la Guerra” contra los nematodos gastrointestinales en rebaños de ovinos y caprinos del trópico

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tihelmínticos (AH) ha generado un gran problema de resistencia a estos medicamentos. Le investigación de NGI resistentes a AH ayudó a reconocer que las cargas elevadas de NGI se encuentran en una baja proporción de animales de cada rebaño. Esto permite plantear un nuevo paradigma de control basado en el uso selectivo de los AH solo en los animales que lo necesitan. Se propone que las bajas infecciones por NGI en

forrajes de baja altura a las horas de mayor infectividad. Se plantea la necesidad de usar alguna estrategia de desparasitación selectiva dirigida reduciendo problemas de falsos positivos y falsos negativos comunes a varias estrategias. Para reducir la dependencia por AH convencionales se requiere de métodos alternativos que afecten las fases fuera de los hospedadores o dentro de ellos. Posiblemente muchos productores ya estén usando algún método sin ser conscientes de esto. Por ejemplo, al usar animales de razas tropicales se aprovecha su capacidad de resistir a los NGI. Además, el pastoreo en vegetación de selvas tropicales implica consumir plantas nutracéuticas que aportan nutrientes y CS con actividad AH. Las estrategias mencionadas pueden ser reforzadas con la suplementación dietética para mejorar la productividad y la respuesta inmune contra los NGI. Algunos productores podrían interesarse en la rotación de praderas, que sirve para evadir a las larvas infectantes en los potreros. En un futuro pudieran tener acceso a hongos nematófagos que pueden usarse para evitar que las larvas L3 salgan de las heces y contaminen los forrajes. Un elemento que será importante es la vacuna Barvervax® que utiliza un antígeno obtenido del intestino de *Haemonchus contortus* para generar anticuerpos contra este parásito logrando reducciones de cargas parasitarias > 90%. En conclusión, es necesario seguir profundizando en la relación animal-parásito-vegetación para que ese conocimiento nos lleve a tomar mejores decisiones en cuanto a los métodos de control. Todo esto



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## Resumen

El presente trabajo profundiza los conceptos de las infecciones por nematodos gastrointestinales (NGI) en rumiantes a la luz de nuevos hallazgos de la relación animal-parásito-vegetación y muestra cómo usar estos para orientar el uso racional de los métodos de control alternativo. Primeramente, se reflexiona acerca del control de NGI en la época actual y cómo el uso indiscriminado de los antihelmínticos (AH) ha generado un gran problema de resistencia a estos medicamentos. La investigación de NGI resistentes a AH ayudó a reconocer que las cargas elevadas de NGI se encuentran en una baja proporción de animales de cada rebaño. Esto permite plantear un nuevo paradigma de control basado en el uso selectivo de los AH solo en los animales que lo necesitan. Se propone que las bajas infecciones por NGI en los rebaños se deben a (i) el uso de razas nativas resistentes a los NGI, (ii) la baja

infectividad de las praderas durante muchos meses del año, (iii) el consumo de plantas de la vegetación nativa tropical que contienen compuestos secundarios (CS) que afectan varias fases del ciclo de NGI y, (iv) conductas de pastoreo que limitan el consumo de plantas de la vegetación nativa tropical que contienen compuestos secundarios (CS) que afectan las fases fuera de los hospedadores o dentro de ellos. Posiblemente muchos productores ya estén usando algún método alternativo de control sin ser conscientes de esto. Por ejemplo, al usar animales de razas tropicales se aprovecha su capacidad de resistir a los NGI. Además, el pastoreo en vegetación de

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Un agradecimiento especial a Jesús Rincón y Clara Viviana Rua Bustamante

(Director Regional de IGA para América del Sur)

Special thanks to Jesús Rincón and Clara Viviana Rua Bustamante (IGA Regional Director for South

America)

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## Goats and the World

A course presented by Dr. Christopher Lu in December 2019

National Taiwan University invited Professor Christopher D. Lu to offer a course entitled, “Goat and the World” at the Department of Animal Science and Technology in December 2019. Dr. Lu covered the following subjects:

- Goats and Civilization
- Trends of Goat Population in the World
- Trends of Goat Milk, Meat and Fiber Production in the World
- Breeds of Meat Goats
- Breeds of Dairy Goats
- Breeds of Fiber Producing Goats
- Communication, Aggression, Social Structure in Goats
- Sexual and Maternal Behaviors in Goats
- Ingestion Behaviors in Goats
- Weaning Management
- Nutrition and Management of Growing Goats
- Nutrition and Management of Lactating Goats

- Water and Dry Matter Intakes in Goats
- Estimation of Energy Requirements
- Estimation of Protein Requirements
- Goats and the Environment
- Greenhouse Gas Emission and Animal Production
- Production Systems in Goats
- Goats and Animal Welfare
- Goats and Human Health
- Opportunities, Challenges, and Prospects of Goat Production

Registration for Dr. Lu’s course reached full capacity within 24 hours. It was one of the largest classes in the history of the department.

A sample of the comments from students who participated included:

- I learned a lot about goats.
- Christopher D. Lu conducted this class and I really enjoyed it. He

was not only giving the lecture, but he also teaches us to develop our knowledge. Thank you for inviting him to give this lecture. I wish I could have a chance to study with him again.

- Although it was all English, my understanding was not hindered, the teacher spoke clearly, and the context is clear.
- The teacher is really good and lively.
- The professor understood us from the student’s perspective.
- It (this class) is highly recommended for students in or outside the department.
- It was great that he made a simple summary after class, you won’t be bored in class and always have fun.
- Thank you, Professor Lu, for bringing us goat science.

## Afshari Goat Rearing in Zanjan Province

Rahman Rostamkhani<sup>1</sup>, Seyyed Saeid Mousavi<sup>2</sup>, Hossein Ghorbani<sup>1</sup>, Seyyed Vahid Mortazavi<sup>1</sup>, Mohammad Taghi Moslemioun<sup>2</sup>, Mohammad Hossein Nemati<sup>2</sup>, Hassan Mohammadi Ne-djad<sup>2</sup>, Nader Papi<sup>3</sup> and Farhad Mir-zaei<sup>3</sup>

<sup>1</sup> Animal Production Improvement Administration of Zanjan province. Agricultural Jihad Organization. Zanjan, Iran.

<sup>2</sup> Animal Science Research Department. Zanjan Agricultural and Natural Recourses Research and Education Center. AREEO. Zanjan, Iran.

<sup>3</sup> Agricultural Research Education and Extension Organization (AREEO), Animal Science Institute of Iran, Karaj.

### History of goat rearing in Zanjan province

Archeological studies show the history of goat domestication dates to 7000 BC. Historical references also refer to Persia (Iran) as the land of origination of goat domestication. Since the earliest times, Iranians have reared goats for meat, milk, fiber, and skin supply. Currently, goat rearing has a notable role in Iranian nomadic and rural household's life economy. The recent year's goat keeping importance has been revealed much more because of climate changes, feed source limitation, and lack of relative advantage of pure breed farm animal production in Iran. Goat keeping has an essential role in meat and milk production in Zanjan province. Historically Name of Afshari goat is originated from the Afshar tribes who first reared this ecotype of goat in the region.

### Geographic distribution area

Afshari goat population has been distributed in the different parts of the Zanjan province in about 20000 Km<sup>2</sup>. surface area, including highland altitudes and plains areas with other climatic conditions.



### Population

Based on the current official data, the Afshari goat population is estimated at about 130,000 heads in the province.

### Rearing systems

Goat keeping procedures are generally rural or semi-nomadic system. Goats are often reared together with sheep and in the grazing livestock act as a frontier animal or leadership of the flocks. Pure herds of goats are not usually seen among the local livestock.

### Job creation

Among the farm animal rearing, goat keeping is a part of daily life of the rural and tribes because of their great interest in this occupation. They usually keep goats not only to improve their incomes but also for the natural compatibility and attractive appearance of their herds.

The cultural, social, and economic relationship among nomadic and rural communities

Afshari goats with 130,000 heads produce some 550 tons of meat and 2,000 tons of milk in the province annually. Milk, fiber, and meat of Afshari goat are used by the nomadic and rural, and also urban people.

Goat keeping has an important role in rural and nomadic life economy because of the food source supply and earning incomes. Hence, Afshari goats have great economic importance for rural or nomadic households.

### Appearance features

Few references indicate the phenotypic characteristics of Afshari goat among the goat sciences literature. In general, the dominant color of the coating fiber is pure black, but other colors are seen in the flocks. Both male and female goats are hornless. Bucks have a strong and muscular body, and because of the good capability of grazing in poor pastures or feeding low-quality forages and they can return good income for their owners. Does have good performance of milk production, daily milk yield ranges from 1.5-2.3 Kgs. Mature bucks weigh more than 60 kgs., which is a good potential for meat production.

### Export

Goat yields are generally consumed inside the province, and the exportation of the products is not performed.

*Continued on Page 6*

## Afshari Goat Rearing in Zanjan Province (Continued from Page 5)

**Table 1. Annual production of Afshari goat (kg)**

Lactation period (Day)	Milk	Wool	Hair	Carcass
150	103	–	0.4	20

**Table 2. Reproductive characteristics of Afshari goat**

Maturity age (months)	Mating age (Months)	Parturition interval (Months)	Fertility (%)	Twinning (%)
–	–	–	80.5	17.9

**Table 3. Economic traits of Afshari goat**

Live weight (Kg)			
Birth	Weaning	6 Months	Mature
2.89	8.02	14.4	60

### Items used for products

Of the Afshari goat products, hair products can be mentioned. Hair fiber growth is about 25 cm/year, and each goat can produce some 400 grams of hair per year, which is used

for preparing of handicrafts and traditional clothes in most villages. The skin is used in the leather industry. Milk is used for feeding kids, and the rest of it is used to prepare cheese, yogurt, whey, and some other local



Afshari goat - male



Afshari goat - female

milk derivatives. Mature bucks weigh more than 60 kgs., which supply the local and urban residents' meat needs.

### Measures for identifying and genetic improvement

There is a decent rate of multiparity in Afshari goats, which can result in high performance and more economic animals, by performing of interbreeding selections or other live-stock improvement programs. In 2007, an on-farm project plan entitled "An investigation on crossbreeding of the Sannen bucks with native black goat (Afshari does)" was carried by the Research Center for Agriculture and Natural Resources of Zanjan province. In these projects, the performance of first and second generation of crossbreds (F1 and F2) had a relatively good result, but in most cases, their adaptability was weak in the rural rearing condition.

### Suggestions for performance improvement

As a national genetic resource, Afshari goats have valuable production performance and traits which has not been studied scientifically. For identification of the production performance of this ecotype, it is necessary to do comprehensive researches and studies.

## Adaptive Grazing - You Can Do It

### Grazing Resources for Ranchers

Lee Rinehart, an agricultural specialist with the National Center for Appropriate Technology (NCAT), has compiled a list of resources for farmers and ranchers around adaptive grazing.

Adaptive grazing combines regular and careful observation with management-intensive grazing practices. The NCAT resources include videos, podcasts, and publications to help

guide those looking to improve soil health and turn a profit. The resource list can be found at [http://www.ncat.org/adaptive\\_grazing/](http://www.ncat.org/adaptive_grazing/).

It also can be found by going to the NCAT website at [www.ncat.org](http://www.ncat.org) and searching for "Adaptive Grazing." Then click on "Adaptive Grazing - You Can Do It."

For more information, you can contact Lee directly via email at [lee@ncat.org](mailto:lee@ncat.org).

The screenshot shows the NCAT website header with the logo and navigation menu. The main content area displays the article title "Adaptive Grazing - You Can Do It" dated April 29, 2020, by Lee Rinehart, Sustainable Agriculture Specialist, NCAT Northeast. The article text begins with "Back in the late 1990s, I was a new county Extension agent in Texas. I met a Brangus rancher who became a friend and demonstration cooperater, and pitched him a topic that he became immediately interested in. We laid out 11 paddocks and began grazing 24 heifers in a daily rotational system. The lightning went on in my head when I looked about the paddock to assess how much they had grazed, and I noticed that all of the curly dock had been stripped bare. What I had observed was a change in grazing behavior, caused by a controlled grazing system that decreased the heifers' grazing selectivity." The article continues with "Fast forward to 2020, and the landscape of managed grazing has changed. We understand that we are dealing with a biological system driven by diversity. The powerful principles we learned from management intensive grazing have been refined into an adaptive system of livestock production that can actually regenerate the soil, the water cycle, and the land." A photo of a pasture with cows is included, captioned "Adaptive high stock-density grazing. Photo: Pasture Project".

## New call for Proposals//at Evaluating the performance of surveillance for clinical FMD among small ruminants

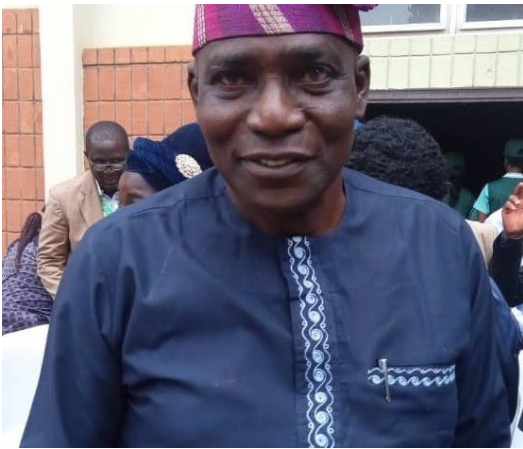
The European Commission for the control of foot-and-mouth disease (EuFMD) is launching the 8th call for application of the EuFMD Fund for Applied Research (FAR).

The EuFMD FAR aims to support small and applied research projects to improve the surveillance, risk analysis or reduction, and preparedness for FMD and

similar transboundary animal diseases. The themes of the EuFMD FAR calls for application are identified by the EuFMD Standing Technical Committee, and the Special Committee on Surveillance and Applied Research as key research gaps to be addressed.

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## Obituary - Israel Folorunso Adu



Emeritus Professor Israel Folorunso Adu passed away on June 7, 2020. A commendation service was held on August 19.

Professor Adu was a Registered Animal Scientist and a well-known consultant on livestock production, particularly sheep and goats. He was the National Coordinator, Nationally Coordinated Small Ruminant Research in Nigeria from 1979 to 1987. He was a member of the Small Ruminant Research Network

of International Livestock Center for Africa from 1990 and served as Chairman of the network from 1994 to 1998. He also served on the World Council for Animal Production from 1998 to 2000.

We wish to express our condolences to his family.

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## Not all ruminants were created equal: Environmental and socioeconomic sustainability of goats under a marginal-extensive production system

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**Not all ruminants were created equal: Environmental and socio-economic sustainability of goats under a marginal-extensive production system**

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<p><b>ARTICLE INFO</b></p> <p><b>Article history:</b> Received 29 August 2019 Received in revised form 24 December 2019 Accepted 23 January 2020 Available online 27 January 2020</p> <p><b>Handling editor:</b> Xin Tang</p> <p><b>Keywords:</b> Code Ecological footprint Environmental and economic impacts</p>	<p><b>ABSTRACT</b></p> <p>Globally, while the livestock sector contributes significantly to the environmental impact (EI), it faces some key challenges such as to increase production to cover increased demand, to adapt to highly variable natural and economic scenarios, and to enhance its eco-environmental performance. Such complex scenario requires a comprehensive evaluation of the EI, mainly related to the carbon footprint (CF), the water footprint, and their interactions (Wu and Pfister, 2011). In this respect, goat production has been scarcely studied and mainly focused on evaluating the CF (Lep et al., 2010; Michael, 2011; Opio et al., 2010; Robinson et al., 2010; Weiss and Leip, 2012). Besides being limited, most studies have not comprehensively evaluated the EI of most goat production systems (GPS). This</p>
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**1. Introduction**

Human population growth has increased demand for goods and services, resulting in overexploitation of the world's resources at an ever-greater economic and environmental cost (Carbone, 2012). Globally, the livestock sector contributes significantly to the environmental impact (EI) (Steinfeld et al., 2013). Hence, this sector has a triple challenge: 1) to increase production to cover increased demand, 2) to adapt to highly variable natural and economic scenarios, and 3) to enhance its eco-environmental performance (Opio et al., 2013). Such complex scenario requires a comprehensive evaluation of the EI, mainly related to the carbon footprint (CF), the water footprint, and their interactions (Wu and Pfister, 2011). In this respect, goat production has been scarcely studied and mainly focused on evaluating the CF (Lep et al., 2010; Michael, 2011; Opio et al., 2010; Robinson et al., 2010; Weiss and Leip, 2012). Besides being limited, most studies have not comprehensively evaluated the EI of most goat production systems (GPS). This

C. Navarrete-Molina, C.A. Meza-Herrera, M.A. Herrera-Machuca, U. Macias-Cruz, and F.G. Veliz-Deras

### Abstract

Globally, while the livestock sector contributes significantly to the environmental impact (EI), it faces some key challenges such as to increase production to cover increased demand, to adapt to highly variable natural and economic scenarios, and to enhance its eco-environmental performance. Such complex scenario requires a comprehensive evaluation of the EI considering the carbon footprint (CF), the blue water footprint (BWF), the socio-economic sustainability (SES) and their interactions. Hence, the economic value (EV) made by the goat production system (GPS) in the Comarca Lagunera (CL), northern arid Mexico was quantified to compare it with its EI and SES (1994e2018). Response variables included the EV of the CF and BWF and the SES of the EV-GPS. The value of each of the variables was adjusted to 2011 euros, while indicating the value in United States Dollars (USD) between parentheses. The CL recorded annual averages of 20,427 goats, 64.34 million liters of milk and 3,316.12 tons of meat. When considering the EV-GPS (Me 18.17 (USD) 23.67) with the EV-CF (Me 161 (USD) 4.07), 482.9 kg CO<sub>2</sub>-kg milk/ha/yr (Me 2.48 (USD) 3.20), 482.99 t H<sub>2</sub>O/kg MMF<sup>1</sup> is a positive balance was observed. The accumulated GPS economic spill-over effect was Me 464.21 (USD) 586.13, 5.79 million minimum wages (MW) yearly and close to 400,000 MW during the studied period. The GPS is highly eco-efficient considering both the CF and the transformation of the BWF into animal products (milk/meat) with an undignifiable biological value. Besides, the greater the economic and production efficiency of the GPS, the better the socio-economic conditions of the producer and his family, with consequent decrease in both the index and degree of marginalization of families and municipalities where goat production develops.

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*Continued on Page 8*

## Not all ruminants were created equal (Continued from Page 7)

parentheses. The CL recorded annual averages of 390,427 goats, 64.34 million liters of milk and 3,316.12 tons of meat. When contrasting the EV-GPS [MV 18.17 (MUSD 23.47)] with the EV-CF [MV 3.61 (MUSD 4.67); 84.29 kg CO<sub>2</sub>-eq kg milk-meat protein<sup>-1</sup>, MMP<sup>-1</sup>] p EV-BWF [MV 2.48 (MUSD 3.20); 462.99 l H<sub>2</sub>O kg MMP<sup>-1</sup>], a positive balance was observed. The accumulated GPS-CL economic spillo-

ver effect was MV 454.23 (MUSD 586.83), 5.79 million minimum wages (MW) yearly and close to 400,000 MW during the studied period. The GPS is highly eco-efficient considering both the CF and the transformation of the BWF into animal protein (milk-meat) with an undisputable biological value. Besides, the greater the economic and productive efficiency of the GPS, the better the socio-

economic conditions of the producer and his family, with concomitant decreases in both the index and degree of marginalization of families and municipalities where goat production develops.

Keywords: Goats, Ecological footprint, Environmental and economic impacts

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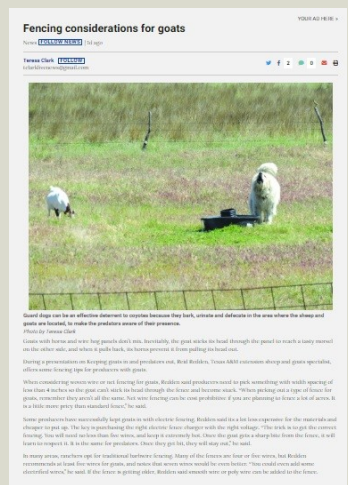
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## Fencing considerations for goats

Goats with horns and wire hog panels don't mix. Inevitably, the goat sticks its head through the panel to reach a tasty morsel on the other side, and when it pulls back, its horns prevent it from pulling its head out.

During a presentation on Keeping goats in and predators out, Reid Redden, Texas A&M extension sheep and goats specialist, offers some fencing tips for producers with goats.

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## India - Goat Farming: Know How Farmers Can Double their Income Through Goat Rearing

In India, goat is called 'Poor man's cow' and is an important component in dry land farming system. Marginal or undulating lands inappropriate for other types of animals such as cow or buffalo, goat is the best option. With very less investments goat rearing can be turned into a lucrative venture for small & marginal farmers. [READ MORE...](#)

## Greetings from New Chairman of the Japanese Society of Goat Science

The 21st Japanese Society of Goat Science (JSGS) Meeting on Goat Production and Management was about to be canceled due to the influence of the COVID-19 pandemic; however, thanks to the passion and dedication of organizers to make it happen, this annual meeting was held as a web-based meeting on March 25, 2020. All the changes from ordinal face to face meetings to virtual meetings had to happen very quickly. We would like to thank all the members who participated.

At present, Japanese agricultural policy and social situations are facing major changes. There is an emerging sense of crisis in the direction that has been pursued only for efficiency. Instead, maintaining and revitalizing forgotten mountainous areas have become a major issue. Moreover, the desire for agricultural education and healing people in urban areas has been also increased. Consequently, the use of goats is once again receiving attention.

Under these circumstances, the Japan Goat Network has established a working group to discuss the ideal way of the JSGS. Rather than being just a research group that conducts 'research for research,' we would like to hear the direct voices from producers, consumers, distributors, etc. for their needs. We want to reflect these in research issues and focus more on solving the problems and satisfying the needs. We are exploring and considering our way where many members can participate.

At the 2019 Japan Goat Summit in Yamanashi, the JSGS held three roundtables entitled "Goat Feeding

Management," "Goat Product Utilization," and "Goat Regional Promotion/Educational Utilization," where we had an exact opportunity to hear the direct needs from all the attendance. We listened to many voices that eager to know science-based knowledge on breeding and management rather than experiences- and intuition-based knowledge.

Besides, the JSGS did not publish the research journal in the past, but now, to ensure that the research findings and information are in your hands, we are working to publish the academic Journal of JSGS<sup>1</sup>. The JSGS journal will have the role of 'academic journal' that presenting research and practical findings from members, as well as the role of 'goat magazine' that obtaining and providing useful information. We are inviting research reports and information from various fields.

The JSGS, which is under the umbrella of the Japan Goat Network, is a wheel that turns the Network together with the Japan Goat Summit and is an organization that promotes your opinions forward as fuel.

I hope that the JSGS will contribute to the happiness of human beings by collaborating not limiting in Japan but also internationally with the keyword of GOATS.

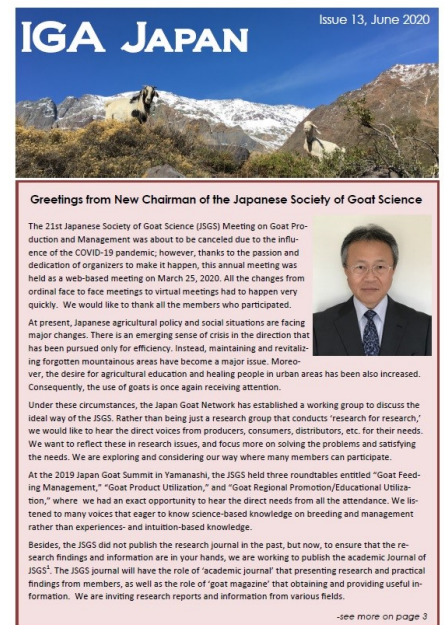
We appreciate your continuous support.

Shogo Shinde<sup>2</sup>  
Chairman, Japan Society of Goat Science

<sup>1</sup>Research journal of JSGS will be published

in FY2019, which focused on presentations at the JSGS. In the future, it is expected to become a research journal that gives you scientific answers to the problems encountered by producers and goat raisers as a source of not only research articles and case studies but also useful information related to goats.

<sup>2</sup>Dr. Shogo Shinde, Head of the Livestock Production Technology Research Division, Hiroshima Prefectural Institute of Technology, serves also as the vice president of the Japan Goat Network. He was selected as the chair of the JSGS in early 2020.



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