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Dear IGA Friends and Family,

I am delighted to announce that we have adopted a new logo and will be updating the IGA website to give it a fresh new look!

The updated website will be more engaging and more straightforward to navigate and serve us well for many years. You will see changes happen on

our website throughout October. Please join me in thanking Christian De Vries for the beautiful design and improved functionality of our website.

We also wish to thank [Evans Torres](#) for assisting us with the IGA website redesign and for our excellent new logo. To learn more about Evans, [click here](#).

The global COVID-19 pandemic has

taken a toll on all of us, so we hope that this news will be a bright spot in a challenging year.

We believe IGA will be well-positioned to be the leader on all goat related activities in the post-COVID world.

Warm wishes,  
*Beth A. Miller, DVM, President*  
[www.iga-goatworld.com](http://www.iga-goatworld.com)

## Profile – Evans Torres

The IGA wishes to give special thanks to Evans Torres for assisting us with the redesign of the IGA website and for our wonderful new logo.

Evans is a graphic designer with 20 years of experience. His academic, human, and labor training has focused on the development and implementation of useful creative designs in the field of visual communication. With extensive experience in handling specialized 2D and 3D software, he is a professional committed to design, research, leadership, and teamwork. At present he works at Universidad Nacional de Chimborazo developing the editorial design of scientific works.

Thank you Evans!

## Announcement – Breeds of Origin Conservancy

We want to welcome our newest IGA institutional member, the Breeds of Origin Conservancy.

Breeds of Origin Conservancy is a voluntary organization established in 2016 in Malta. They believe that conservation of the endemic flora and fauna, indigenous breeds; native species and subspecies; and cultivated varieties of trees and plants is vital to preserving the Maltese biodiversity for economic, social, educational, and cultural purposes. Today, these indigenous breeds, endemic species and subspecies, and cultivated varieties of trees and plants are increasingly threatened through commercial ag-



riculture and consumption habits. They are convinced that since the protection and conservation of these breeds, species, subspecies, and varieties are of vital importance to Malta and a part of their national heritage, it is their obligation to ensure their survival.

To learn more about Breeds of Origin Conservancy visit their Facebook page: [www.facebook.com/BreedsOfOrigin](https://www.facebook.com/BreedsOfOrigin)

## 2019 IGA Achievement Awards

### Recognition of IGA's Most Active CRs and RDs

Every year the International Goat Association officially recognizes the most active Regional Directors (RD) and Country Representatives (CR). RDs and CRs are an essential part of IGA, and we sincerely grateful for all that they do: promoting IGA and our International Conference on Goats, organizing in-country and regional conferences, soliciting new members, preparing country reports for IGA's Newsletter, etc.

The Regional Director & Country Representative Committee recently selected the individuals who have done an outstanding job representing IGA in their region or country during the past year. We wish to congratulate them for their involvement and successes.

The 2019 IGA Achievement Award recipients are **Hector Mario Andrade-Montemayor** (RD for Mexico, Caribbean & Central America) and **Farhad Mirzaei** (CR for Iran).

We also wish to give an honorable mention and special thanks to: Yoshiaki Hayashi, CR for Japan, Marisia Geraci, CR for South Africa, María Eva Muñoz Mejías, CR for Spain, Stela Zamfirescu, CR for Romania, Jonathan Chirisa, CR for Zimbabwe.

We appreciate all our Country Representatives, Regional Directors, and you, our wonderful members. Thank you for making 2019 an excellent year for IGA.

## Students research reports, Universidad de Puerto Rico

### Recruitment, development of research and extension capabilities, and study abroad experiences for animal science and pre-vet students using small ruminants as models

*Research Report 2019-2020*

*Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas (RIIA)*

#### Contenido – Content

**Lauren Veloudis-Padilla**, Tiara Medina, Luis C. Solórzano y Abner A. Rodríguez

- Crecimiento de corderas de reemplazo bajo condiciones de estrés por calor y el efecto del grado de anemia sobre la ganancia en peso
- Growth of replacement ewe lambs under heat stress conditions and the effect of the degree of anemia on weight gain

**Tiara Medina-González**, Lauren Veloudis, Luis C. Solórzano y Abner A. Rodríguez

- Temperatura medida por termografía en seis regiones corporales y su relación con la temperatura rectal de corderas criollas criadas en estrés por calor
- Relationship between the temperature taken by thermography in six

body regions and rectal temperature of native ewe lambs raised under heat stress conditions

**Patricia Bello Quiñones**, Luis C. Solórzano y Abner A. Rodríguez

- Control de parásitos gastrointestinales en fincas de rumiantes pequeños en Puerto Rico
- Control of gastrointestinal parasites on small ruminant farms in Puerto Rico

**Patricia Leal García**, Luis C. Solórzano y Abner A. Rodríguez

- Calidad de agua en fincas de pequeños rumiantes en Puerto Rico
- Water quality in small ruminant farms in Puerto Rico

**Adriana Rivera Gracia**, Aixa Rivera, Elvin Ronda, Luis C. Solórzano y Abner A. Rodríguez

- Elaboración de mini-hamburguesas con carne de cordero
- Elaboration of lamb meat mini-burgers

**Diana Nevárez Rolón**, Aixa Rivera, Elvin Ronda, Luis C. Solórzano y Abner A. Rodríguez

- Elaboración y aceptabilidad de dos tipos de cecina de mutton

- Preparation and acceptability of two types of mutton jerky



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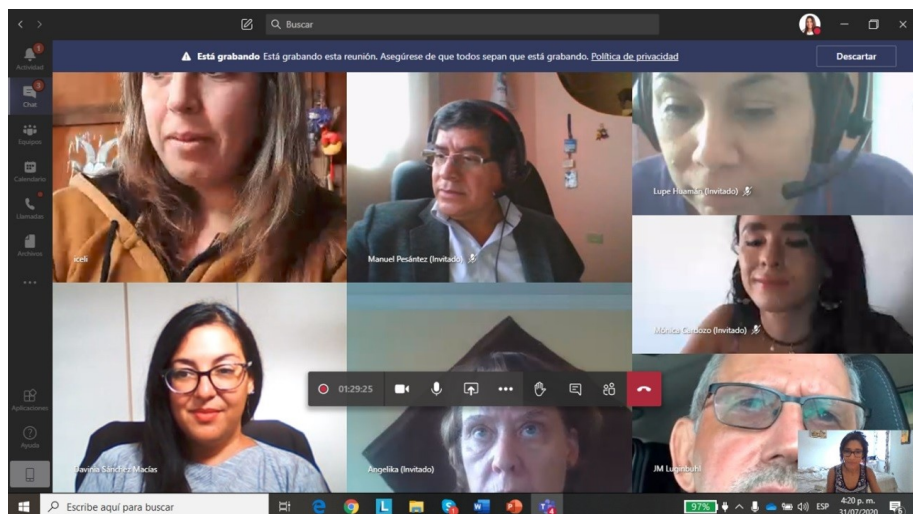
*This project was supported by the Resident Instruction in Insular Areas Program Competitive Grant no. 2019-70004-30058 from the USDA National Institute of Food and Agriculture*



## Report – IGA Latin America virtual meeting, July 31, 2020

Last July 31st Clara Rúa, IGA Regional Director (RD) for South America, held a virtual meeting with the current IGA Country Representatives (CR) from Colombia (Mónica Cardozo), Bolivia (Angelika Stemmer), Peru (Guadalupe Huamán and Irma Celi), Brazil (Livio Costa) and the CR candidates from Ecuador and Venezuela. This virtual meeting was the first one organized under Clara's regional leadership. The main objective of the meeting was to learn more about the current position of the CR regarding their small ruminant-related activities (specifically goats) in their respective countries, in

addition to the potential formation of a regional work team to respond to the commitments assumed as IGA representatives in their own country. An agenda was agreed for future virtual meetings convened by the RD to advance different topics and proposals to be developed, and to achieve greater interactions with other CRs, RDs and the IGA board members. The meeting was also attended by Davinia Sánchez and Jean-Marie Luginbuhl, two members of the IGA Board who have significantly heightened the commitment of IGA to the CRs and the Regional Directors.



## Informe - reunión virtual de IGA América Latina, 31 de julio de 2020

El 31 de julio, a través de una plataforma virtual, Clara Rúa, actual RD sudamericana, fueron convocadas por las actuales RC de los países, Colombia (Mónica Cardozo), Bolivia (Angélica Stemmer) y Perú (Guadalupe Huamán e Irma Celi), Brasil (Livio Costa) y aquellos CR en proceso de formalización de los países Ecuador y Venezuela, esta es la primera reunión bajo el liderazgo regional a cargo del mismo. El principal objetivo del encuentro fue conocer un poco más sobre la posición actual en su país de cada uno de los CR en cuanto al trabajo con pequeños rumiantes específicamente cabras,

además de intentar instalar un equipo de trabajo regional orientado a dar respuesta a los compromisos asumidos en la representación del país. Se acordó una agenda en la que se realizará una reunión virtual convocada por RD, con el fin de avanzar en diferentes temas y propuestas a desarrollar, de la misma manera para lograr una mayor interacción con otros CR y RD y el directorio de IGA. La reunión estuvo acompañada por Davinia Sánchez y Jean-Marie Luginbuhl, miembros del directorio de IGA y quienes han promovido significativamente el compromiso con IGA en los CR y la Dirección Regional.

### Are you an IGA member?

You can pay your membership online through the [IGA Store](#)

Now is a great time to join:

- IGA memberships are effective for 1 year from when you join.
- You can access [Small Ruminant Research](#) online.
- Participate in IGA projects, such as the IGA Consulting Group.
- Access to exclusive information, member documents, etc.
- Submit articles for publication in the IGA Newsletter.
- Opportunities for leadership and participation in IGA committees.

**Pay Now**



### Which membership is right for you?

We offer a variety of levels:

- [Basic IGA Membership\\*](#) = \$50
- [IGA Membership Plus\\*](#) = \$150
- [Student membership\\*\\*](#) = \$10
- [Student Membership Extra\\*\\*](#) = \$32.50
- [Lifetime membership for retirees \(60 or older\)\\*\\*](#) = \$200

*\* These memberships include online access to SRR.*

*\*\* These memberships do not include online access to SRR.*

We seek to enable more people from developing countries to participate in the IGA, so we offer people living in countries rated below .500 on the UN-HDI a lower rate. Check your country's UN-HDI.

- [Developing Countries Basic IGA Membership\\*](#) = \$25
- [Developing Countries IGA Membership Plus\\*](#) = \$65



## Sandor Kukovics receives special award (Hungary)

The Minister of Agriculture awarded the Bronze Degree of the Tree of Life Memorial Plaque to Dr. Sándor Kukovics, Executive Director of the Sheep and Goat Product Council and Interprofessional Organization, for his excellent work in developing the small ruminant sector and representing its interests.

kett Bronz fokozata elismerést adományozza Dr. Kukovics Sándor, a Juh- és Kecske Terméktanács és Szakmaközi Szervezet ügyvezető igazgatója részére, a kiskérődző ágazat fejlesztése és érdekeinek képviselése érdekében végzett kiváló munkájáért.

Ágrárminiszter Úr az Életfa Emlékpla-

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## Reproductive performance in goats and causes of perinatal mortality: a review

S. M. Robertson, T. Atkinson, M. A. Friend, M. B. Allworth, and G. Refshauge

### Abstract

Goat meat production is an expanding industry in Australia. However, there is limited data quantifying the levels of reproductive performance, particularly under extensively grazed rangeland conditions, which would inform interventions to improve performance. This review aimed to quantify the levels of reproduction, time and causes of reproductive wastage in goats. It considers the levels of fertility, fecundity, embryonic loss, fetal loss and post-natal survival reported under Australian conditions, and comparisons are made with international reports. Key management factors that may contribute to reproductive performance

include breed, seasonality, nutritional conditions, and weather conditions at kidding. While goats are potentially prolific breeders, in Australia, the variation in weaning rate (kids/doe joined) among properties is large (51–165%), although the causes of this variation are not well defined. Generally, conception and kidding rates are high, although fetal loss associated with undernutrition is more likely in goats than sheep. As with sheep, perinatal losses are generally the largest source of wastage, with an average 20% kid mortality, but this level is influenced by litter size and appears to be higher under extensive rangeland systems. The causes of perinatal kid loss under Australian conditions are similar to those in sheep, with starvation–mismothering–exposure and dystocia or stillbirth the key causes. Studies are



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needed to accurately quantify the level and causes of reproductive wastage in commercial herds, including a range of management situations, to enable effective interventions to be developed.

**Additional keywords:** conception, litter size, reproduction, survival.

## India's Odisha state starts work on a livestock master plan

The Indian state of Odisha has officially rolled-out the process of designing a 'livestock master plan' (LMP) with the support of the International Livestock Research Institute (ILRI).

The process started on 22 Oct 2020 with a virtual inception meeting in which R Raghu Prasad, the commissioner-cum-secretary of the Fisheries and Animal Resources Department (FARD) of the Government of Odisha praised the initiative saying

the LMP would help in leveraging the 'tremendous opportunities for growth in the sector.' The share of the livestock sector's contribution to farmer's incomes in the state has risen to the current 7% from 1.5% in 2000 and the Odisha LMP will focus on helping small-scale livestock farmer groups, semi-commercial and commercial farmer groups and other stakeholders benefit more from the sector.

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## Palas meat sheep, Romania

*Written by Gabriel Vicovan (IGA member)*

*Special thanks to Radu Răducu, Enciu Ana, and Vicovan Adriana for their assistance.*

### Historic

The meat breed – Palas was created at the Research and Development Institute for Sheep and Goat Breeding Palas – Constanța, from 1973 to 1989, by crossing the breeds Ile de France and Palas Merino, followed by reproductive isolation and selection in the direction of meat production. Crossings with the Ile de France breed aimed to improve growth rate, increase feed conversion capacity, improve conformation, increase yield, and carcass quality indices.

The breed has in the genome 93% genes from the Ile de France and Palas Merino breeds and less than 7% genes from other breeds. It was homologated as a breed in 2012.

### Breeding area

In Dobrogea, at the Research and Development Institute for Sheep and Goat Breeding Palas – Constanța and other farms in Constanța County. The number of ewes is about 3,000 heads.

### Breeding program

Palas are bred at the Research and Development Institute for Sheep and Goat Breeding Palas – Constanța, which deliver rams with high breeding value to improve the production of meat in sheep.

### Conservation program

The only genetic fund of the breed, from the Research and Development Institute for Sheep and Goat Breeding Palas – Constanța, is structured in 12 ram families during the breeding season, proceeding the rotational mating between families.



### External (morphological) characteristics

It is a precocious breed, brevimorphic to mesomorphic with aptitudes for meat production. The ears are large, worn horizontally, or slightly raised. The trunk is long and broad. The chest is wide and lowered; the back and loins are long and wide, well dressed in muscles; the rump is horizontal, wide, and long. The tail is caught up; the gignots are convex, descended, well dressed with muscle, and the abdomen is rounded. The limbs are short, distant, with correct aplomb, and the hocks are vertical. The wool coat is white and covers the body well, with the wool extending on the head to the level of the orbits and the limbs to the knees and hips.

### The body dimensions

Adult animals are: height at the withers (cm) 69-71 in rams and 67-69 in ewes; croup height (cm) 69-71 in rams and 67-69 in ewes ; trunk length (cm) 73-75 in rams and 68-70 in ewes; croup length (cm) 26-28 in rams and 25-27 in ewes ; shoulder width 27-28 cm for rams and 24-26 cm for ewes; width for coxo-femoral joints (cm) 29-31 for

*Continued on Page 6*



Palas meat ram



Palas meat ewe and lamb



## Palas meat sheep, Romania

*continued from Page 5*

rams and 26-28 for ewes; chest depth 33-35 cm for rams and 30-32 in ewes, chest width (cm) 31-33 in rams and 29-31 in ewes, chest circumference (cm) 97-99 in rams and 91-93 in ewes, whistle perimeter (cm) 9-10 in rams and 8-9 in ewes.

### Production characters

- Bodyweight: rams 110-125 kg, ewes 65-80 kg
- Lambs at birth 4-5 kg
- Lambs at the age of 3 months 30 kg
- Lambs at the age of 5 months 50 kg
- Weight gain in fattened 280-320 g
- Carcasses of class E 2-3 in proportion of 50% and U2 -3 50% according to the European grid

### Wool production

- Weight of wool in: rams 5-6 kg, ewes 3-4 kg
- Fiber fineness 23-25 microns
- The length of the staples 8-10 cm
- Scouring yields, 43-48%

### Reproductive characters

Breeding season all year round

Fecundity 95-97%

Prolificacy 130-150%

### Using of the breed

The Palas breed produces high hybrid fat lambs.

The Institute delivers about 300 yearling rams every year for sheep breeders.

## Palas dairy sheep, Romania

*Written by Gabriel Vicovan*

*Special thanks to Radu Răducu, Enciu Ana, and Vicovan Adriana for their assistance.*

### Historic

The breed was formed at the Research and Development Institute for Sheep and Goats Breeding Palas – Constanța between 1975 and 1987. They were developed by crossing East Friesian (imported from Germany) and Awassi (imported from Israel) breeds with the Merino de Palas breed, followed by isolation reproductive and selection to increase milk production. The breed was homologated in 2010.

Currently, the Milk Breed Palas has in the genome 65% genes from two of the best milk breeds in the world – East Friesian and Awassi, with 27% of genes from Palas Merino breed raised in Dobrogea, and 8% genes from other breeds of minor importance.

### Breeding area

In Dobrogea, at the Research and Development Institute for Sheep and Goats Breeding Palas – Constanța, there are 1,000 sheep, with 200 rams produced annually, to improve milk production in ewes farms located in the Dobrogea area.

### Conservation program

The only genetic fund of the breed is found at the Research and Development Institute for Sheep and Goats Breeding Palas – Constanța. The population is structured in 12 ram families in the breeding season, proceeding the rotational mating between families.

### External (morphological) characteristics

The conformation is specific to dairy sheep. A long head



with a convex profile is more pronounced in males. They are hornless, the ears are large, covered with short, thick white hairs, and are carried laterally with a tail well attached to the trunk. The chest is long and deep with a small sternum prominent, while the trunk is elongated, has a trapezoidal shape, and the spine is rectilinear. The croup is relatively broad, long, and straight; the tail is thin and long, covered with white, thick short hairs. The udder is well attached, has a globular shape, is sparsely haired, with long nipples, suitably thick, directed sideways and downwards.

### The body dimensions

- Height at the withers is 64-66 cm in ewes, 70-72 cm in rams;
- Croup height 67-68 cm in ewes, 70-72 cm in rams;
- Chest width 22-23 cm in ewes, 23-25 cm in rams;
- Croup width 25-27 cm in ewes, 27-29 cm in rams;

*Continued on Page 6*

## Palas dairy sheep, Romania

*continued from Page 6*



- Chest depth 39-40 cm in ewes, 63-65 cm in rams;
- Oblique length of the trunk 61-63 cm in ewes, 63-65 cm in rams;

- Whistle perimeter 8-9 cm in ewes, 9-9.5 cm in rams.

### Production characteristics

- Bodyweight rams 80-90 kg; ewes 56-58 kg;
- Lambs weight at birth 3.9-4.5 kg males, 3.5-3.8 kg females;
- Average weaning weight 20.5-2 kg males, 17.5-18.0 kg females;
- Wool production 3.9- 4.2 kg in rams, 3,4-3.6 kg in ewes;
- Fineness of wool 34 -36 microns;
- Fiber length 12-13 cm;
- Scouring yield 55 -56%;
- Wool color – white;
- Milk production – a total of 220 liters;
- Milk milked – 150 liters;
- Lactation duration – 220 days.

### Reproductive characters

Fecundity 92-97%;  
Prolificacy 117-128%

## High Prolificacy Palas sheep, Romania

*Written by Gabriel Vicovan.*

*Special thanks to Radu Răducu, Enciu Ana, and Vicovan Adriana for their assistance.*

### Historic

The High Prolificacy Breed Palas was formed over nine stages, during almost three decades by intricate crosses between the Romanov, Friesian, Finnish Landrace, Border Leicester, Ile de France and Palas Merino breeds. The desired type was obtained in 1989, and its genome consists of 39% genes from Romanov, 28% genes from Merinos, 16% genes from Friesian, 9% genes from Border Leicester, 6% genes from Ile de France, and 2% genes from Landrace Finnish. This population of sheep was reproductively isolated (CIR + 1,0) since 1989, and is bred at ICDCOC Palas Constanța.

### Breeding area

In Dobrogea, at Research Development Institute for Sheep and Goats Breeding Palas – Constanța, there are 1,000 heads of sheep and 2,000 in another farm in the area.

### External (morphological) characteristics

The body format of the breed is mesomorphic to dolichomorphic, with a fine, strong skeleton and correct aplomb. The head is broad, medium in size, and has a straight profile in ewes and slightly convex in rams. The ears are

medium in size, worn laterally, and both sexes are hornless. The neck is suitably long, worn horizontally, and is well attached to the trunk; the trunk is long, with medium width and depth dimensions.

The color of the wool is white, the coat has no colored fibers, and the hair on the face and limbs are white; the wool is semi-fine, some specimens having fine wool.

The udder has a globular shape, of medium to large size, the nipples being suitably long, worn vertically or slightly laterally.

*Continued on Page 7*

The main body dimensions of the breed		
	Rams	Ewes
Height at the withers	68-74 cm	63-65 cm
Height at croup	68-75 cm	63-65 cm
Trunk length	77-87 cm	63-68 cm
Shoulder width	23-29 cm	20-27 cm
Width at the hip	22-31 cm	20-27 cm
Chest width	29-33 cm	28-32 cm
Chest depth	25-40 cm	28-39 cm
Chest circumference	96-111 cm	89-102 cm
Perimeter of the jigot	68-80 cm	67-78 cm



## High Prolificacy Palas sheep, Romania

*continued from Page 7*

### Production characters

- Bodyweight: rams 74-76 kg; ewes 50-52 kg
- The total average milk production exceeds 180 liters
- Weight of wool: rams 4.2-4.6 kg; ewes 2.8-3.0 kg
- Fiber fineness 28-30 microns
- Weight gain of lambs during suckling 206-215 g
- Weight gain at fattening 198-205 g

### Reproductive characters

Prolificacy primiparous, 136-140 %

Multiparous, 150-160 %



### Using of the breed

The new breed contributes to achieving a priority objective in the current economic context, namely, increasing meat production by producing three-stage meat hybrid lambs. The breed produces rams which, by mating with Merino-type sheep, determine the production of prolific F1 "halfbreed" hybrid ewes (in the first stage) and which, by mating with rams, from meat breeds, produce hybrids meat lambs (second stage).



## Best Practice Guide on Goats by 4D4F

### Data Driven Dairy Decisions for Farmers

This guide aims to assist dairy goat farmers using new technologies on farm. It outlines the different technologies available for goats, and offers some general advice on their use.

### Introduction

In the European Union, dairy goat sector is pretty small when compared to dairy cows sector. Even so, EU owns only 3 % of the world's dairy goat herds, but produces 10.5 % of the world's goat milk (FAOSTAT, 2014); this is the only continent where goat milk has such an economic importance and organization. In Europe, dairy goat production is more common around the Mediterranean basis, where it is important from an economic, environ-

mental and sociological perspective to the Mediterranean countries (Spain, France, Italy and Greece), but is also important in North Europe countries like the Netherlands.

Productive systems vary from semi-extensive situations to highly technological intensive farms. Some regions have typically extensive grazing-based productions, often using native breeds to produce PDO or PGI products. However, farms using high productive breeds tend to intensification. Anyway, there is room for improvement in all cases, so it is worthwhile to go in depth into all the technologies available for dairy goat producers.

[English](#)  
[Dutch](#)  
[Romanian](#)  
[Spanish](#)  
[Latvian](#)



### Best Practice Guide on Goats

Last updated: August 29, 2018  
 Aida Xerxes, Animal Welfare subprogram, IRTA.

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#### Introduction

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#### Which sensors can I use?

Here you can find the main type of sensors and technologies currently used in dairy goat farming. For more detailed information about available commercial technologies you can see the document [Warehouse of technologies](#).

#### Electronic identification devices

Electronic tagging in small ruminants is compulsory since 31 December 2009 in the EU, usually by a ruminal bolus. In goats, the ruminal bolus may be replaced by any of the following alternatives with the approval of the competent authority: an electronic ear tag, an electronic leg tag on the right posterior extremity or an injectable transponder on the right metatarsal.



Photo 1. Example of electronic ID leg tag for goats. Source: SCR.

The use of individual electronic identification offers several advantages, and could be useful for: automatic milk recording systems, kidding recording, health problems, traceability, sorting gates or automatic weighing, making it possible also for genetic improvement.

It can be used for the automation of routine tasks and the reduction of time and human error during performance recording and data transfer. Al-Saidi et al. (2008) found that a Semiautomatic Milk Recording Systems with electronic ID would produce a saving in labour



## RLN-FES Microlevel study of the village level animal markets with particular reference to small ruminants (India)

Report of the study conducted in  
Northern Karnataka Markets

Dr. B. R. Athani

*Special thanks to Mamta Dhawan (IGA CR - India) for sharing this information.*

### Abstract

Increase in urbanization and per capita incomes have lead to shift in preferences of consumers towards protein rich foods, mainly the meat and dairy products. Within the meat subsector, the consumers in the terminal markets can be segmented based on their attitude towards the type of meat in terms of its quality, age, sex and species of origin. As a result, the traditional livestock markets are getting reorganized as monopolistic competitive with focus on the above parameters. On the other hand, the data suggests that shepherding is declining in irrigated areas for want of grazing land and several other factors. But in other areas, predominantly the uplands, the trends are encouraging. The vibrant live animal markets are subtly heralding new opportunities in the subsector.

The study was intended to undertake subsector analysis for small ruminants with more focus on their markets and the supply channels operating in the vicinity of production areas. Subsector was mapped to analyze the dynamics including the gaps in order to identify and address the bottlenecks. The results points out that even though the markets appear monopolistic competitive, still, they are complex and lack considerable degree of transparency in pricing, grading the animals and flow of market information. Traders generally use "nigah" method of pricing that does not employ scientific measurements to determine price.

The price spread appears relatively thin, depends again on size of markets and presence of participants from far off metro cities. The channel length is



RLN-FES Micro-level study of the village level animal markets with particular reference to small ruminants

Report of the study conducted in Northern Karnataka Markets



Dr. B. R. Athani

shorter in small satellite markets where shandy traders and butchers from nearby small towns dominate. The price of the meat in such small markets is also lower compared to the one at metro cities by 20%-30%. Ideally the price of live animals should have direct correlation with price of meat in terminal markets, but we observed that it is never a straight jacket transfer. Apart from trade controlled assessments, tendencies for opportunistic behavior by the buyers based on the local market conditions (in terms of inflow of animals, distresses on part of sellers, number of participants from metros, etc.) determine price trends.

The existing channels in major livestock markets are invigorated by big players from metro cities like Chennai and Bangalore giving impetus to smallholder producers and pricing trends. Thus the resultant price spread in such major livestock markets in the region is also more when compared to the satellite markets. The major portion of this inter market difference is shared by producers and the logistic operators.

Apart from the price and relatively assured uptakes, markets are also opening up new avenues that are indicative of means to enhance returns to small ruminant producers. For instance, the increase in consumer segment relishing tender meat has created a new space for shepherds to improve productivity of herd by weaning

away lambs at early age and fattening them for sale. The production practices have bearing on the quality of animals produced and hence there is scope to create a niche to group of producers demarcated by geography, etc. A focused initiative can help producers reap benefits from niche segments. Value addition of the live animal products like wool also needs attention.

There are many other issues that markets alone cannot address, like the one associated with factors of production, risk mitigation, flow of market related information, etc. What is needed is the organized interventions addressing these critical aspects and assisting producers in accessing quality inputs and judging basal minimum price for his animals based on their live weight. Major market reforms like mechanisms to regulate market information on price of meat and indicative price of unit of live weight is yet on cards of Government of Karnataka. Still the plans are hovering around the secretariat and nothing is materialized nor practiced at the markets. Similarly the conventional approaches for productivity enhancement adapted by state agencies like Sheep Board do not seem to have grounded well on the traditional wisdom associated with shepherding. Thus, in spite of all said odds in small ruminant production, the subsector appears surging up to provide renewed impetus to the livelihoods of the marginalized section of the rural communities.

The subsector needs those programs that are cohesive with such community practices that are of much value to the circumstances on the ground. Some of such measures are discussed as possible intervention areas.

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## Goat Value Chain Analysis in three Indian States – Bihar, Odisha and Uttar Pradesh

Report submitted by Intercooperation Social Development India  
*Special thanks to Mamta Dhawan (IGA CR - India) for sharing this information.*

### Executive Summary

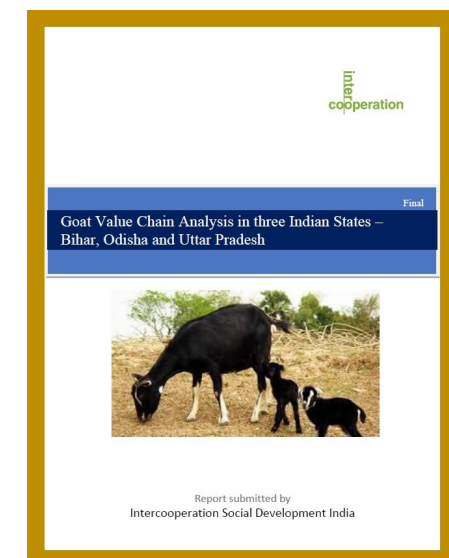
#### Introduction

International Fund for Agricultural Development (IFAD) mandated Intercooperation Social Development to conduct goat value chain analysis. The objectives of the analysis are to:

- Identify areas of interventions in value chain in goat production and goat products in three
- Indian States i.e. Bihar, Odisha and Uttar Pradesh (UP).
- Propose specific recommendations to improve the goat value chain in the three Indian States under the study with reference to small-holder House Holds (HH) and the players involved in slaughters and retail meat sales.

#### Goat Production

India with 135 million goat population ranks second in the world in goat meat production and its Gross Domestic Product (GDP) value is Rs. 386 billion. Economically weak and socially backward communities keep goat



as subsistence.

The goat production system in the country is categorized as Extensive Grazing (predominant in Odisha), Tethering (Parts of Bihar and Eastern UP), Semi-Intensive Production and Intensive Production Systems. Women perform major activities in goat keeping while men play key role in marketing.

Primary source of goat nutrition is through extensive grazing/browsing with zero to marginal supplements at

homes. In addition, some of the challenges in goat feeding include shortage of crop residue with change in pulse cropping and stringent forest regulations.

High mortality, especially of kids (up to 40%) due to diseases like *Peste des Petitis Ruminants* (PPR), Foot and Mouth Disease (FMD) and poor management are major challenges in the goat sub-sector. Despite the Government of India (GoI) initiatives, the estimated annual loss on account of PPR was Rs. 1204 billion in small ruminants and Rs.23.19 billion due to FMD (large ruminants and small ruminants put together).

Non-availability of quality breeding stock is another major challenge resulting in low productivity. The National Livestock Mission (NLM) programme of the Government of India promotes small ruminant development initiatives by using the platforms of women's Self Help Groups (SHG) and also other cooperative structures.

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## Profile – Alejandro Salvador Cáceres

Alejandro Salvador lives in Maracay, Venezuela. He received his Master's Degree in Animal Production in 2000 from the Faculty of Veterinary Sciences of the Central University of Venezuela. In 2013, he received a Doctorate in Agricultural Sciences from the Faculty of Agronomy of the Central University of Venezuela.

He has participated as an exhibitor in more than 80 conferences, congresses, and courses. Alejandro is the author and co-author of 22 articles in peer-reviewed and indexed journals and three book chapters. He has also participated in numerous publications

and TV shows of an informative nature.

Currently, he serves as Professor of Animal Production, teaching Ruminant Production and Sheep and Goats Production at the Faculty of Veterinary Sciences, where he has worked for more than 25 years. He also works as a consultant advising different farms in Venezuela. Alejandro participates as a Member of the Technical Board of ASOCABRA (Association of Dairy Goat Breeders of Venezuela), and manager and founding member of CAVIDOC (Venezuelan Chamber of the Goat and Sheep Industry).



Alejandro participated in the IGA International Conference on Goats in 2008 in Queretaro, Mexico, and in 2012 during the conference in Las Palmas de Gran Canaria.

Want to learn more about our other Country Representatives? [Click here.](#)



## Sheep, Goat, and Cervid Medicine, 3rd Edition

Authors: David Pugh N. (Nickie) Baird  
Misty Edmondson and Thomas Passler

### Description

Get practical answers from the only guide on the care of sheep, goats, and cervids! Authoritative yet easy to read, **Sheep, Goat and Cervid Medicine, 3rd Edition** covers all the latest advances in the field, including diseases and medical treatment, surgery, pain management, theriogenology, and nutrition. Clear instructions and hundreds of full-color photographs guide you step by step through common procedures including restraint for examination, administration of drugs, blood collection, and grooming. New to this edition is coverage of deer and elk medicine, reflecting the growing interest in these ruminants. Written by an expert team led by Dr. D.G. Pugh, this comprehensive reference is ideal for veterinarians and also for owners of sheep and goats.

### Key Features

- **Clear writing style and consistent organization** makes the book easy to understand and use, with disease chapters including pathogenesis, clinical signs, diagnosis, treatment, and prevention.
- **Coverage of both surgery and medicine in each body systems chapter** makes it easier to choose between treatment options for specific disorders.
- **Superbly illustrated surgical procedures** clearly demonstrate the steps to follow in performing medical and reproductive surgery.
- **Diverse, expert contribu-**

**tors** include the most experienced authorities, each providing current information on the care of valuable breeding stock as well as pets.

- **Useful appendixes, now including veterinary feed directives**, offer convenient access to information on drugs and drug dosages, fluid therapy, and normal values and conversions.
- **Consistent, logical format in each body systems chapter** makes information easy to find by beginning with physical examination and diagnostic procedures, followed by discussions of common diseases that involve the system.
- **Comprehensive Feeding and Nutrition chapter** covers diet evaluation, method of balancing rations, total parenteral nutrition, and examples of nutritious diets.
- **Explanation of the differences in normal behavior between sheep and goats** shows how they are not the same, and require different

methods of treatment.

### Table of Contents

1. Physical Examination: Handling & Restraint of Sheep, Goats and Cervids
2. Feeding and Nutrition
3. Oral-Esophageal Diseases
4. Parasitology
5. Diseases of the Gastrointestinal System
6. Diseases of the Respiratory System
7. Theriogenology of Sheep and Goats
8. Diseases of the Endocrine System
9. Diseases of the Integumentary System
10. Diseases of the Musculoskeletal System
11. Diseases of the Urinary System
12. Diseases of the Neurologic System
13. Diseases of the Eye
14. Diseases of the Mammary Gland
15. Diseases of the Hematologic, Immunologic, and Lymphatic Systems (Multisystem Diseases)
16. Diseases of the Cardiovascular System
17. Toxicology
18. Anesthesia and Pain Management
19. Flock Health
20. Field Necropsy and Diagnostic Tests **NEW!**

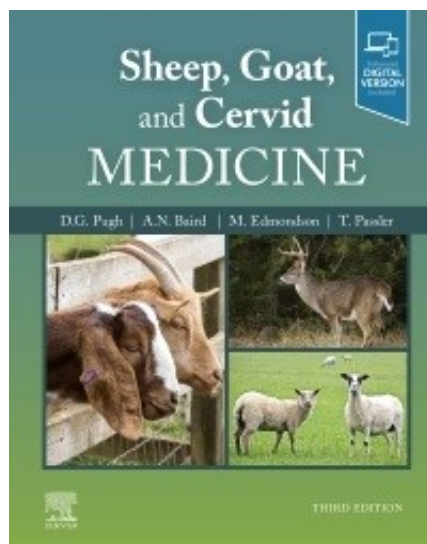
Appendix I: Commonly Used Drugs and Veterinary Feed Directives in Sheep, Goats and Cervids

Appendix II: Practical Fluid Therapy

Appendix III: Normal Values and Conversions

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### Are you an IGA member?

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Now is a great time to join:

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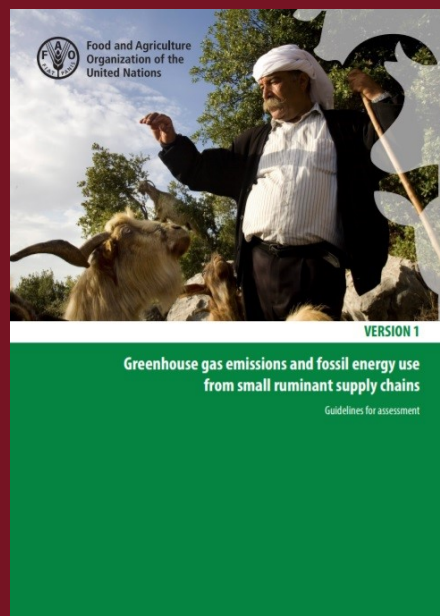
## Greenhouse gas emissions and fossil energy demand from small ruminant supply chains — Guidelines for quantification

### Version 1

#### FOREWORD

The methodology developed in these draft guidelines aims to introduce a harmonized international approach to the assessment of the environmental performance of small ruminant supply chains in a manner that takes account of the specificity of the various production systems involved. It aims to increase understanding of small ruminant supply chains and help improve their environmental performance. The guidelines are a product of the Livestock Environmental Assessment and Performance (LEAP) Partnership, a multi-stakeholder initiative whose goal is to improve the environmental sustainability of the livestock sector through better metrics and data.

The small ruminant<sup>1</sup> sector is of worldwide importance. It comprises a wide diversity of systems that provide a variety of products and functions. In 2011, sheep and goats produced more than 5 million tonnes of meat and 24 million tonnes of milk. Production has increased by 1.7 percent and 1.3 percent per year, respectively, during the past 20 years (FAO, 2013). This increase was driven mainly by developing countries in Africa and Asia. However, Oceania (mainly for meat) and Europe still contribute significantly to production. Production systems can vary from intensive systems, in which animals are partially or predominantly housed, to extensive systems that rely on grazing and native forages, and transhumance systems that involve large flock movements. Products are not restricted to meat and milk; sheep are also valued for their wool (more than 2 million tonnes of greasy wool was produced in 2011), and goats for their mohair and cashmere. Small ruminants also play a



crucial role in sustaining livelihoods in traditional, small-scale, rural and family-based production systems. Across the small ruminant sector, there is strong interest in measuring and improving environmental performance.

In the development of these draft guidelines, the following objectives were regarded as key:

- to develop a harmonized, science-based approach founded on a consensus among the sector's stakeholders;
- to recommend a scientific, but at the same time practical, approach that builds on existing or developing methodologies;
- to promote an approach to assessment suitable for a wide range of small ruminant supply chains; and
- to identify the principal areas where ambiguity or differing views exist as to the right approach.

These guidelines underwent a public review. The purpose of the review was to strengthen the advice provid-

ed and ensure it meets the needs of those seeking to improve performance through sound assessment practice. The present document is not intended to remain static. It will be updated and improved as the sector evolves and more stakeholders become involved in LEAP, and as new methodological frameworks and data become available. The development and inclusion of guidance on the evaluation of additional environmental impacts is viewed as a critical next step.

The strength of the guidelines developed within the LEAP Partnership for the various livestock subsectors stems from the fact that they represent a coordinated cross-sectoral and international effort to harmonize measurement approaches. Ideally, harmonization will lead to greater understanding, transparent application and communication of metrics, and, importantly for the sector, real and measurable improvement in performance.

Rogier Schulte, Teagasc - The Agriculture and Food Development Authority, Government of Ireland (2015 LEAP chair)

Lalji Desai, World Alliance of Mobile Indigenous People (2014 LEAP chair)  
Frank Mitloehner, University of California, Davis (2013 LEAP chair)  
Henning Steinfeld, Food and Agriculture Organization of the United Nations, (LEAP co-chair)

<sup>1</sup> Small ruminants include goats, sheep, cervids and new world camelids (llamas and alpacas). These guidelines focus on goats and sheep. Potential application to other small ruminant species is discussed in Section 2.2 and 10.2.3.

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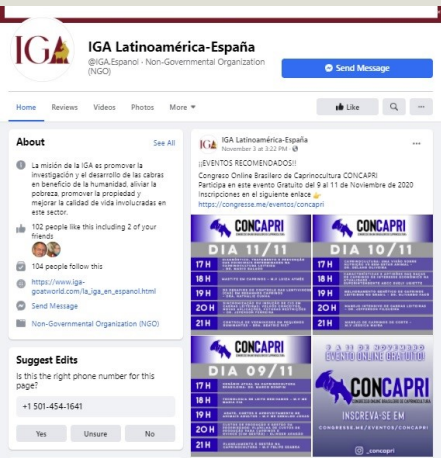
Did you know IGA has a Spanish language Facebook page?

We strive to make IGA better for all our members. Recently, we updated and improved our website, and we have added a new Spanish language page on Facebook.

This new site is a fantastic addition to the International Goat Association family!

Special thanks to Mónica Andrea Cardozo Herrán (IGA Country Representative for Colombia) for all of her hard work getting this started.

<https://www.facebook.com/IGA.Espanol>



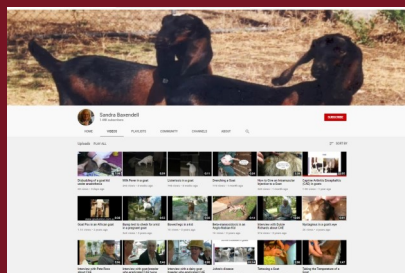
## Sandra Baxendell's YouTube channel

Are you looking for good goat videos that covers issues such as:

- Hoof trimming
- Listeriosis
- Goat Pox
- Caprine Arthritis Encephalitis (CAE)
- And more

Sandra is one of our awesome IGA members and she has a great YouTube channel, <https://www.youtube.com/c/SandraBaxendell/videos>.

[Visit her channel now.](https://www.youtube.com/c/SandraBaxendell/videos)



## A visit to the goat abattoir in Tete, Mozambique

*Special thanks to Marisia Geraci (IGA CR - South Africa) and Rauri Alcock (Director of **Mdukatshani**)*

In 2017, there were no goat abattoirs in all of South Africa, Namibia, Botswana, Lesotho or Zimbabwe. So when the South African Agribusiness Development Agency was told to build one in KwaZulu Natal Province, they asked for help from Mdukatshani, a local NGO that is implementing a Goat Agribusiness Project. Director Rauri Alcock found the closest one in Tete, Mozambique. Here is his report of the visit. Unfortunately, in 2020, this goat abattoir is not yet built.

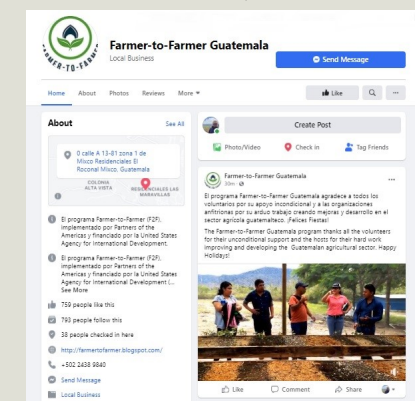
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## Farmer to Farmer webinars

Farmer to Farmer Guatemala is doing a wonderful series of Spanish language webinars with Agrocadena Caprina Nacional. You can watch the webinar with Rodrigo Arias, IGA Country Representative for Guatemala, by following this link: [https://drive.google.com/file/d/1APNukUs5tdalxFI9b\\_08W5JgL3EVBxX6/view?usp=sharing](https://drive.google.com/file/d/1APNukUs5tdalxFI9b_08W5JgL3EVBxX6/view?usp=sharing).

Visit their Facebook page to find more webinars and see future events (<https://www.facebook.com/Farmer-to-Farmer-Guatemala-727523117285630>).



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## USDA-ARS Researchers Introduce Treatment to Prevent Parasites in Sheep

**WASHINGTON, December 9, 2020** — The U.S. Department of Agriculture's Agriculture Research Service (ARS) today announced a **groundbreaking treatment** that prevents anemia, weight loss, poor wool and meat production, and even death in sheep.

ARS researchers partnered with Virginia Tech and the University of Massachusetts' Medical School to solve *H. contortus* parasite infection, which also happens to be the number one health problem in the U.S. sheep industry. The parasite infects the stomach of ruminant mammals, feeding and interfering with digestion, before

ultimately affecting the animal's overall health and stability.

"The *H. contortus* parasite has developed resistance to virtually all known classes of anti-parasitic drugs," said ARS Researcher Dr. Joseph Urban, who lead the research team in testing and implementation of a para-probiotic treatment to kill the parasite that causes *H. contortus*.

The worm parasite mates within the animal and its fertilized eggs pass through the animal's waste into the soil. The larvae then develop to re-infect other unsuspecting animals,

spreading the infection throughout a pasture and creating a cycle of infection that hinders animal growth, development and production.



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## A new paraprobiotic-based treatment for control of *Haemonchus contortus* in sheep

### Authors

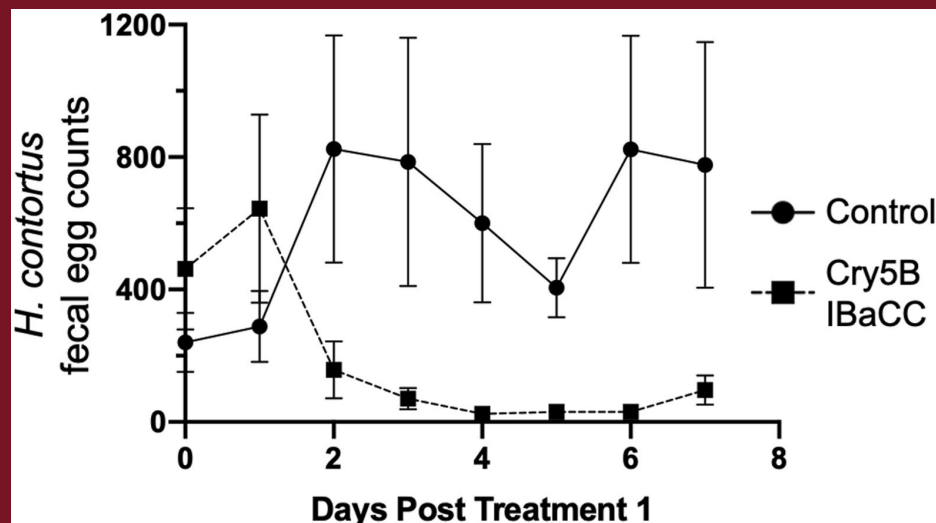
John Sanders, Yue Xie, David Gazzola, Hanchen Li, Ambily Abraham, Kelly Flanagan, Florentina Rus, Melanie Milder, Yan Hu, Sierra Guynn, Austin Draper, Sridhar Vakalapudi, Katherine H. Petersson, Dante Zarlenga, Robert W. Li, Joseph F. Urban Jr., Gary R. Ostroff, Anne Zajac, and Raffi V. Aroian

### Abstract

*Haemonchus contortus* is a critical parasite of goats and sheep. Infection by this blood-feeding gastrointestinal nematode (GIN) parasite has significant health consequences, especially

in lambs and kids. The parasite has developed resistance to virtually all known classes of small molecule anthelmintics used to treat it, giving rise in some areas to multidrug resistant parasites that are very difficult to control. Thus, new anthelmintics are urgently needed. *Bacillus thuringiensis* (Bt) crystal protein 5B (Cry5B), a naturally occurring protein made by a bacterium widely and safely used around the world as a bioinsecticide, represents a new non-small molecule modality for treating GINs. Cry5B has demonstrated anthelmintic activities against parasites of monogastric ani-

mals, including some related to those that infect humans, but has not yet been studied in a ruminant. Here we show that *H. contortus* adults are susceptible to Cry5B protein in vitro. Cry5B produced in its natural form as a spore-crystal lysate against *H. contortus* infections in goats had no significant efficacy. However, a new Active Pharmaceutical Ingredient (API) paraprobiotic form of Cry5B called IBaCC (Inactivated Bacterium with Cytosolic Crystals), in which Cry5B crystals are encapsulated in dead Bt cell wall ghosts, showed excellent efficacy in vitro against larval stages of *H. contortus* and relative protein stability in bovine rumen fluid. When given to sheep experimentally infected with *H. contortus* as three 60 mg/kg doses, Cry5B IBaCC resulted in significant reductions in fecal egg counts (90%) and parasite burdens (72%), with a very high impact on female parasites (96% reduction). These data indicate that Cry5B IBaCC is a potent new treatment tool for small ruminants in the battle against *H. contortus*.



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## Postponement of ISVC to 2022



Dear colleagues,

We would like to inform you that the 10th International Sheep Veterinary Congress (ISVC), that was scheduled to be held in Seville from September 20 to 24 2021 together with the 5th triennial Congress of the ECSRHM will be postponed to **September 19 to 23, 2022**. As it is known, the ISVC is being organized by the Spanish Society for Sheep and Goat Production (SEOC). The organizing committee has been working hard for several years in order to perform a successful conference at the organizational, content (scientific, cultural and recreational aspects) and attendance (delegates and speakers) levels.

The reason that has led us to make this decision has been the postponement of the World Buiatrics Congress (WBC) 2020-MADRID, to September

26-30, 2021. This Congress is being organized by the ANEMBE Spanish Society and was scheduled to be held this year 2020. The situation caused by the COVID-19 pandemic has forced the organizers to postpone the conference to 2021. The same happens with IGA (International Goat Association) Congress whose Board of Directors has decided to postpone the 13th International Conference on Goats to September 2021.

As we said before, we would like to have a successful ISVC congress, and as you know, although the WBC is a congress eminently dedicated to cattle, it also has a section dedicated to small ruminants. Further, WBC is an event with which we share not only sponsoring companies (their financial support is essential) but also delegates, speakers and members of the Scientific Committee. For these rea-

sons, after taking into account the opinions of the members of the Organizing and Scientific Committees of the ISVC-Seville, and obtaining the ISVA and ECSRHM approvals, we considered postponing it to 2022 as the best option. If this postponement could cause inconvenience to any delegate, we sincerely apologize on behalf of all the organizers.

Looking forward to meeting all you in September 2022 in Seville!!

We would like to wish the best for you and your families in these moments that we are living.

Sincerely,  
Jesse Barandika & María J. Alcalde  
Presidents of the Organizing Committee ISVC 2022

## PPR Watch – Sept. 1, 2020

"PPR Watch" is a monthly e-newsletter provided by OIE Documentation Cell. It gathers useful scientific literature specifically on PPR epidemiology, surveillance and control worldwide. [View this email in your browser](#)

### PPR Watch



September 1st, 2020

#### Epidemiology and disease control by region

- 3rd PPR Global Research and Expertise Network (PPR GREN) Meeting, Qingdao, China, 26/10/2020 to 28/10/2020
- A tribute to the work of the Joint FAO/IAEA Division for the Control and Eradication of Peste des Petits Ruminants (PPR), FAO, 27/07/2020
- Working together to eradicate Peste des Petits Ruminants, FAO Video on Youtube, 2020

Africa

## PPR Watch – Oct. 8, 2020

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### PPR Watch



October 8th, 2020

#### Epidemiology and disease control by region

- 3rd PPR Global Research and Expertise Network (PPR GREN) Meeting, Qingdao, China, 26/10/2020 to 28/10/2020



Next event: 8th Peste des Petits Ruminants Regional Intergovernmental Authority on Drought and Development (IGAD) virtual meeting, 21/10/2020

## PPR Watch – Nov. 10, 2020

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### PPR Watch



November 10th, 2020

#### Epidemiology and disease control by region

- Challenges and Opportunities for Global Eradication of Peste des Petits Ruminants (PPR), J Trop Dis Pub Health, 2020
- The potential of diagnostic point-of-care tests (POCTs) for infectious and zoonotic animal diseases in developing countries: technical, regulatory and sociocultural considerations, Transboundary and Emerging Diseases, 2020
- Managing complex emergencies, OIE Rev Sci Tech, 2020 Aug;39(2):435-443.