



IGA Newsletter October 2015

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CAPRA 2015, Reunião Nacional de Caprinicultura, November 12-14, 2015

The Agriculture School (ESA) of the Bragança Polytechnic Institute (IPB) in association with the Regional Director of Western Europe of International Goat Association, the National Serrana Goat Breeders Association (ANCRAS), the National Sheep “Galega Bragançana” Breeders Association (ACOB), the Mountain Research Centre (CIMO), and the Animal and Veterinary Research Center (CECAV) are going to organize CAPRA 2015 (the Portuguese goat and sheep production meeting).

The meeting will take place in Mirandela, Portugal, from November 12 to 14, 2015. The main subject areas covered Meat and Milk production, Animal Breeding and Genetics, Nutrition, Biology of Goat Production Systems, Behaviour, Welfare and Health.

Round tables, paper sessions presentations /discussion and technical visits to goat farmers will be an exciting opportunity for breeders, students, professors and researchers to meet and spend time in a friendly way for the benefit of Portuguese Goat Production. A provisional programme will be available soon.

[Click here, or visit their website at <http://esa.ipb.pt/capra2015/english-version>.](http://esa.ipb.pt/capra2015/english-version)



Country Report: Goats Breeding Sector in Romania

Written by Dinu Gavojdian, IGA Country Representative, & Claudiu Angelescu, President of CAPRIROM, Romania

The goat farming sector in Romania has been rapidly developing during the last decade. Currently, Romania holds a national herd of 1.362.804 goats, according to reports of the Romanian Ministry of Agriculture and Rural Development for the year 2014. With the numbers of goats increasing by 5 to 6% each year continuously for the last five years. Overall, the national goat herd in Romania has increased over 40%, compared to 1990. Furthermore, Romania has a pastureland area of 4.9 million hectares (roughly 30% of the country area), which could sustain a herd of up to 16 million breeding goat and sheep. With most pastures being located in regions listed as less favoured areas (LFA's), which leads to a significant growth potential for goats numbers to further increase. Goats are being reared in Romania predominantly under extensive low-input production systems, with the production being orientated primarily towards milk, while the kid meat is regarded as a marginal product. Nowadays, goats are being reared in Romania in a number of over

130.000 farming units, with an average flock size of roughly 10 breeding does/unit.

The breed structure is being dominated by the indigenous unimproved Carpatina, which represents over 90% of the goats reared in Romania. The Carpatina goat is regarded as low performing, however the breed has a remarkable organic resistance and adaptation. Reports concerning the breed's performance have shown modest production levels,



with milk yields estimates of 220 to 350 kg/ lactation, litter size of 130-160% and growth rates in kids ranging between 90 and 110 g/day. The second indigenous goat breed of Romania, is

the better performing Banat's White, which is currently listed as endangered and included in a conservation program. With a census of 1.002 purebred does, reared in 5 farms. The Banat's White has a milk production of 350-400 kg/lactation and are highly prolific, with an average litter size of 200-225%.

Exotic specialized dairy breeds have been introduced in the last decade in the country, such as Saanen, Alpine, Angora and Murciano-Granadina. Used
Continued on Page 7

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Physico-chemical characteristics of goat and sheep milk

Small Ruminant Research

Volume 68, Issues 1-2, March 2007,
Pages 88-113

Y.W. Park, M. Juárez, M. Ramos,
G.F.W. Haenlein

Abstract

Physico-chemical characteristics of milk are related to its composition for a particular animal species. Sheep milk contains higher levels of total solids and major nutrient than goat and cow milk. Lipids in sheep and goat milk have higher physical characteristics than in cow milk, but physico-chemical indices (i.e., saponification, Reichert Meissl and Polenske values) vary between different reports. Micelle structures in goat and sheep milk differ in average diameter, hydration, and mineralization from those of cow milk. Caprine casein micelles contain more calcium and inorganic phosphorus, are less solvated, less heat stable, and lose B-casein more readily than bovine casein micelles. Renneting parameters in cheese making of sheep milk are affected by physico-chemical properties, including pH, larger casein micelle, more calcium per casein weight, and other mineral contents in

milk, which cause differences in coagulation time, coagulation rate, curd firmness, and amount of rennet needed. Renneting time for goat milk is shorter than for cow milk, and the weak consistency of the gel is beneficial for human digestion but decreases its cheese yield. Triacylglycerols (TAG) constitute the biggest part of milk lipids (nearly 98%), including a large number of esterified fatty acids. Sheep and goat milk also have simple lipids (diacylglycerols, monoacylglycerols, cholesterol esters), complex lipids (phospholipids), and liposoluble compounds (sterols, cholesterol esters, hydrocarbons). The average fat globule size is smallest (<3.5 μm) in sheep milk followed by goat and cow milk. Five fatty acids (C10:0, C14:0, C16:0, C18:0, and C18:1) account for >75% of total fatty acids in goat and sheep milk. Levels of the metabolically valuable short and medium chain fatty acids, caproic (C6:0) (2.9%, 2.4%, 1.6%), caprylic (C8:0) (2.6%, 2.7%, 1.3%), capric (C10:0) (7.8%, 10.0%, 3.0%), and lauric (C12:0) (4.4%, 5.0%, 3.1%) are significantly higher in sheep and goat than in cow milk, respectively. Principal caseins (CN) in goat, sheep and cow milk are $\alpha\text{s1-CN}$, $\alpha\text{s2-CN}$, $\beta\text{-CN}$ and $\kappa\text{-CN}$. The main forms of caprine and ovine caseino-macropptides (CMP), which are the soluble C-terminal derivatives from the action of chymosin on κ -casein during the milk clotting process of cheesemaking, have been identified and are a good source of antithrombotic peptides. Sheep and goat milk proteins are also important sources of bioactive angiotensin converting enzyme (ACE) inhibitory peptides and antihypertensive peptides. They can provide a non-immune disease defence and control of microbial infections. Important minor milk proteins include immunoglobulins, lactoferrin, transferrin, ferritin, protease, calmodulin (calcium binding protein), prolactin, and folate-binding protein. Non-protein nitrogen

(NPN) contents of goat and human milks are higher than in cow milk. Taurine in goat and sheep milk derived from sulphur-containing amino acids has important metabolic functions as does carnitine, which is a valuable nutrient for the human neonate. Mineral and vitamin contents of goat and sheep milk are mostly higher than in cow milk.

Keywords:

Goat milk; Sheep milk; Physico-chemical characteristics; Lipids; Proteins; Bioactive peptides; Minerals, Vitamins

Effect of vitamin E supplementation to ewes in late pregnancy on the rate of stillborn lambs

Small Ruminant Research

Volume 125, April 2015, Pages 154-162

I. Dønnem, Å.T. Randby, L. Hektoen, F. Avdem, S. Meling, Å.Ø. Våge, T. Ådnøy, G. Steinheim, S. Waage

Abstract

This study evaluated the effect of supplemental vitamin E to ewes in late pregnancy on the rate of stillborn lambs. Ewes in 19 flocks in 5 regions of Norway were daily supplemented the 6-7 weeks before average expected lambing date with either (1) 360 IU of vitamin E (supplemented), or (2) placebo (control). The daily supplement was given in addition to the daily basal diet of forage, concentrate and mixture of minerals and vitamins in each flock, assuming that forage contained on average 40 mg α -tocopherol/kg DM. Information about the basal diets was collected via analyses of forage samples and questionnaires. Blood was collected from a sample of ewes in each flock 1 week pre-treatment (7-8 weeks before lambing), and from some flocks 1-2 weeks after initiation of supplementation (5-6 weeks before lambing) and 1-2 weeks after lambing. The body condition score



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(BCS) of the ewes was assessed 4-6 weeks before lambing. Mean content (\pm SD) of α -tocopherol in the forage of the 19 flocks was 25 ± 17 mg/kg DM. Mean daily intake of vitamin E of the ewes from the basal diet was 153 ± 44 IU. Vitamin E supplementation increased serum concentration of α -tocopherol ($P = 0.0002$) 5-6 weeks before lambing. After lambing there was a higher ratio of α -tocopherol to cholesterol in serum of supplemented ewes compared with control ewes ($P = 0.02$). Ewes with one or more stillborn lambs had lower serum α -tocopherol concentrations than ewes without stillborn lambs in litters with ≥ 3 lambs ($P = 0.01$). For ewes with ≥ 3 lambs there was a significant lower stillbirth rate for vitamin E supplemented than for control ewes ($P = 0.0004$), while there was no effect on the stillbirth rate for ewes having ≤ 2 lambs. Ewes with low BCS had a higher stillbirth rate than ewes with medium or high BCS ($P = 0.001$). The results of this study indicate that daily supplementation of vitamin E during the last 6-7 weeks before lambing decreases the stillbirth rate of ewes having ≥ 3 lambs.

Keywords:

Sheep; Vitamin E; Stillborn lamb; Serum α -tocopherol

Goat milk in human nutrition

Small Ruminant Research
Volume 51, Issue 2, February 2004,
Pages 155-163
G.F.W Haenlein

Abstract

Goat milk and its products of yoghurt, cheese and powder have three-fold significance in human nutrition: (1) feeding more starving and malnourished people in the developing world than from cow milk; (2) treating people afflicted with cow milk allergies and gastro-intestinal disorders, which is a significant segment in many populations of developed countries; and (3) filling the gastronomic needs of connoisseur consumers, which is a growing market share in many developed countries. Concerning (1), very much improvement in milk yield and lactation length of dairy goats, especially in developing countries must be accomplished through better education/extension, feeding and genetics. Concerning (2), little unbiased medical research to provide evidence and promotional facts has been conducted, but is very

much needed to reduce discrimination against goats and substantiate the many anecdotal experiences about the medical benefits from goat milk consumption, which abound in trade publications and the popular press. Goats have many unique differences in anatomy, physiology and product biochemistry from sheep and cattle, which supports the contention of many unique qualities of dairy goat products for human nutrition. Concerning (3), a few countries like France have pioneered a very well-organized industry of goat milk production, processing, marketing, promotion and research, which has created a strong consumer clientele like in no other country, but deserves very much to be copied for the general benefit to human nutrition and goat milk producers. The physiological and biochemical facts of the unique qualities of goat milk are just barely known and little exploited, especially not the high levels in goat milk of short and medium chain fatty acids, which have recognized medical values for many disorders and diseases of people. The new concept of tailor making foods to better fit human needs has not been applied to goat milk and its products so far, otherwise the enrichment of short and medium chain fatty acids in goat butter, and their greater concentration compared to cow butter, could have become a valued consumer item. Also revisions to human dietary recommendations towards admitting the health benefits of some essential fats supports the idea of promoting goat butter. While goat yoghurt, goat cheeses and goat milk powder are widely appreciated around the world, goat butter is not produced anywhere commercially in significant volume.

Keywords:

Goat milk; Nutritional value; Short and medium chain fatty acids; Cow milk allergy; Goat cheese; Goat milk powder; Goat butter

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REVIEW: The Dairy Goat Handbook: For Backyard, Homestead, and Small Farm, By Ann Starbard

Written by Rosalee Sinn

Ann Starbard's expertise and on the farm experience raising goats and making cheese provides a new excellence in teaching about dairy goat husbandry.

This well-written book adds a new word to our vocabulary "Goat-titude" . . . be curious, observe, act and enjoy. Most important Starbard's book adds the dimension of "hands-on" knowledge about raising goats. She gives the reader points to think about when deciding to raise dairy goats - including choosing a breed, housing and equipment needed, feeding, milking, breeding, birthing, goat health, financial considerations, and every detail of dairy goat management.

Starbard puts the technical aspects of raising goats into a narrative that can be understood by the beginner and appreciated by those who are col-

leagues in goat enterprises.

The narrative is accompanied by excellent photographs and helpful charts. I especially appreciated the chart on seasonal tasks in the Northeast, which could be adapted to other areas. The chapter on cheese making provides clear step-by-step instructions along with technical information.

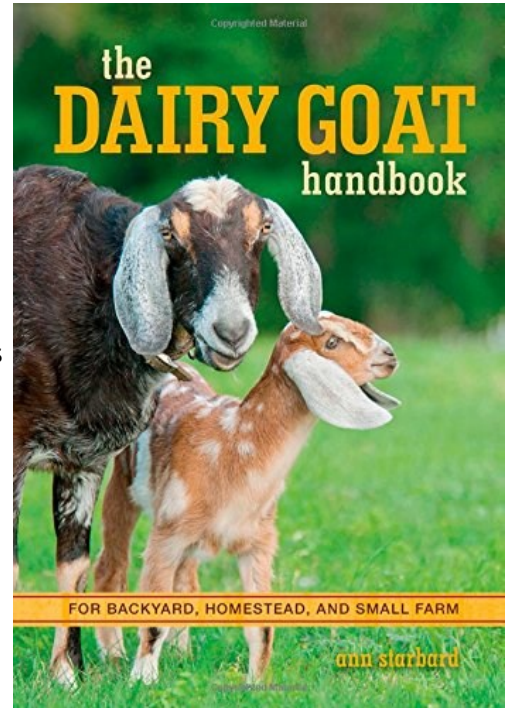
Starbard's experiences in France, Grenada, China, Iceland and the Canary Islands, adds to her appreciation for the role of goats in food production world-wide.

There are hundreds of books on the market about raising dairy goats and making cheese. This is one of the best.

Special thanks to Rosalee Sinn for this great review. Rosalee is the author of *Raising Goats for Milk and Meat*, a fantastic goat book pub-

lished by Heifer International.

[Buy on Amazon.](#)



Goatvetoz Newsletter



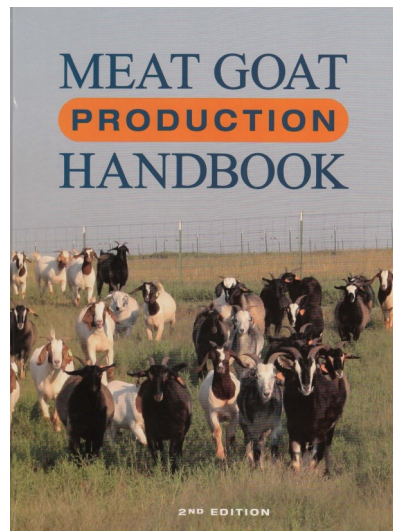
We are always looking for great information, and we especially love to highlight articles written by IGA members.

Goatvetoz is a wonderful newsletter written by Dr. Sandra Baxendell (IGA member). The Winter issue covers how to prepare for kidding & the supplies you need.

Also when to call a vet because a kidding doe is in trouble. Neonatal kid deaths.

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Meat Goat Production Handbook



with current information, along with many other chapters. Many extension specialists, veterinarians, scientists, producers, and agriculture and industry professionals contributed to this book. The narrative of each chapter is accompanied by excellent pictures and charts.

The ultimate goal of this handbook is to assist meat goat producers in producing safe, wholesome products for the public.

The second edition of the Meat Goat Production Handbook contains all the chapters found in the 2007 edition, updated and expanded

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Best Practices in Pastoralism Symposium in East Africa, Kenya, March 1-3, 2016

Welcome to the 2nd ECHO East Africa Pastoralist Symposium!

On behalf of ECHO I welcome you to Nanyuki, Kenya for the 2nd ECHO East Africa Pastoralist Symposium.

With a great anticipation we hope that the molding together of the topics discussed, as well as the networking which will occur this week will significantly impact our future work together. Speakers have been called together with widely different objectives, approaches and skills, but whose converging mission has surprising uniformity:

- to reduce poverty, hunger and physical hardship by engaging pastoralists more effectively to adapt their pastoralist systems
- to respond to climate change and declining yields in Africa with sustainable options which improve the environment, regenerate rangelands and water catchments, recycle resources and mitigate the effect of weather extremes
- to combine a wide range of approaches holistically to enhance resilience of the vulnerable and to care for the earth
- to promote continued learning and sharing through networks

Holistic approaches feature in the Symposium: livestock-based alternatives featured on Day 1; holistic management, conservation agriculture and other agricultural approaches feature on Day 2; changing human hearts individually and collectively,



and water related innovations on Day 3. ECHO takes this opportunity to thank all participants for investing time and resources by attending, and especially to the facilitators who have come from all corners of the region. The time together offers us the opportunity to raise our awareness of issues, know best practices worthy of scaling up, and introduce us to new partners, pastoralist development organizations, and public and private sector actors. Will the Symposium help to form hubs or communities of practice to consider how better to encourage each other in our work to help pastoralists to develop resilient systems?

The organization of the Symposium and the daily Schedule will enable you to fully participate and choose options best suited to your own work.

PLENARY SESSIONS - The ECHO Symposium will provide three mornings of plenary sessions featuring knowledgeable and experienced speakers on topics with broad relevance.

AFTERNOON WORKSHOPS - These will be followed by afternoon workshops and discussion groups led by regional pastoralist/agricultural development workers and experts who encourage a give-and-take of practical experi-

ence.

NETWORKING: WEAR YOUR NAME TAGS: ECHO events are considered networking opportunities. This means you, the delegate, are the most important resource. Discuss during meals, evenings, and breaks any project that has worked well, a “good idea” and why it failed, a promising innovation, how these integrate pastoralist work with wider activities, or other lessons learned in your projects. Share your needs.

POST-SYMPOSIUM TOUR - Post symposium tours will be offered on March 4th, and will occur based upon sign-ups as a show of interest. Our hope is to offer excellent examples of sustainable dryland agriculture technologies appropriate to the poor pastoralists through this tour including a visit to a Maasai community endeavoring to use the holistic management approach to restore its rangelands. An additional Ksh 1,500= charge will cover costs for this day.

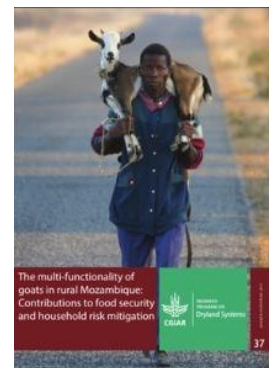
Lastly, please know we at ECHO are here to serve you, both while you are here, and when you leave, through the excellent website, www.echocommunity.org to which we hope you will become a future contributor and frequent user. We trust that this will benefit your professional experience and effective delivery of support to the small-scale farmers and pastoralists whom we all serve.

The multi-functionality of goats in rural Mozambique: Contributions to food security and household risk mitigation

It is widely acknowledged that goats in developing countries fulfill multiple functions and can contribute to improved livelihoods of smallholders. The multi-functionality of goats in rural Mozambique however is fairly unknown. This report identifies and creates a deeper understanding of the multiple func-

tions goats currently play in the smallholders sector in Mozambique. The paper takes a sociological approach by advancing the thinking that the functions of goats are socially and culturally constructed, and not ‘given’.

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The multi-functionality of goats in rural Mozambique: Contributions to food security and household risk mitigation



Goat Cheese and WASHOKU



Chesco Ltd., founded in 1957, is the oldest cheese trading company in Japan. We deliver delicious cheese from all over the world and distribute throughout Japan and its quality control is my responsibility.

It was only 1950's, after the end of World War II, when the general public started consuming cheese in Japan. Ever since then the consumption has been on rise, but still the average consumption remains small compared to the worldwide consumption; Japan generally consumes 295,000 tons of cheese per year or 2.3kg per capita. The merits of cheese, especially goat milk cheese, have not been fully recognized by the consumers and therefore, we need to work hard to disseminate useful information about goat cheese.

Although we trade principally imported cheese, we are glad to know that the number of cheese producers has increased in Japan during the last two decades. Believing that importers and domestic producers should cooperate in order to promote cheese consumption, I have been joining the Cheese Professional Association and the Japan Goat Network to exchange infor-

mation with consumers, producers, and goat farmers.

As noted above, a history of milk usage and consumption in Japan is relatively short. That is why both goat production and goat cheese are rather unfamiliar to Japanese livestock producers and the consumers. Therefore, it is essential to educate goat producers on the merit of cheese; educate cheese consumers on the merit of goat products (e.g. milk and cheese). Since Japan has been blessed with a wide variety of agricultural fermented foods from ancient days, there is great potential for Japanese consumers to accept cheese resulting increasing (goat) cheese consumption in the future.

Relating that, we are proud of our



original food culture, WASHOKU, which is now a registered Intangible Heritage of Culture. The idea that adopting milk-related produces into our food culture will never conflicts with the concept of the Heritage of Culture. In fact, we often witness that cheese goes well with our traditional fermented foods such as Miso, Shoyu and Sake. I would like to invite you to experience the fantastic marriage of Sake and goat cheese!

We are determined to further introduce to Japanese consumers delicious cheese from all over the world, which I believe that will lead to a development of unique cheese to match the dietary culture of Japan.

Shigeru Mihara
Chevalier du taste fromage
Cheese Professional certified by
C.P.A.
Quality Management Group
CHESCO LTD.

IGA Japan Newsletter, September 2015

SPECIAL POINTS OF INTEREST:
第10回国際ヤギ会
開催案内
The 10th Japanese Society of Goat Science

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国際ヤギ協会日本支部

IGA Japan
国際ヤギ協会日本支部
ISSUE 6
SEPTEMBER, 2015

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Country Report: Goats Breeding Sector in Romania (Continued from Page 1)

either to improve local goats, or to be reared under intensive farming systems as purebreds. For improving growth rates and carcass qualities of indigenous goats through crossbreeding, the South African Boer has been



introduced. Efforts to improve the productive levels of the goats reared in Romania are being made, by both policy makers and breeder associations. With the genetic improvement schemes being subsidized by the government, through the Ministry of Agriculture and Rural Development, and covering 70% of the costs related to the performance and recording activities. Currently, at the national level, there are seven breeders' associations authorized for the implementation of performance recordings. The Herd Books are being managed by the National Association of Goat Breeders 'Caprirom', which is the main organization dealing with the genetic improvement of goats in Romania, and has a number of over 900 members. In 2014, a number of roughly 16.000 does were included in the performance and recording program in the country. A total number of 10.552 goats were included in the Herd

Books, as follows: Alpine 3.022 heads; Saanen 3.839 heads; Carpatina 2.303 heads; Banat's White 1.097 heads and Murciano-Granadina 291 heads. Up-to-date, selection schemes are being focused exclusively on improving the milk production.

Starting in 2007, the headage payments were introduced for the goat and sheep sector. In order for a farmer to be eligible to receive such subsidies, he needs to own a herd minimum of 25 breeding does. During the last 5 years, the payments were of 8 to 10 EUR/breeding doe, depending on the number of farmers requesting subsidies and the governmental funds allocated. This type of subsidies have boosted the sector, and are offered to encourage breeders to increase their herd size. Given that less than 5% of goats in Romania are being reared in herds greater than 50 breeding does. With the majority of goat owners (over 80%) raising less than 10 breeding does/farm unit, according to a 2011 census. Furthermore, the State subsidizes conservation efforts of the endangered goat breeds, offering 20-22 EUR for each doe included in the national gene pool. A total of 2.663 goats are being currently included in the national preservation program, according to a 2015 census.

Overall, it can be concluded that there is a growing interest for the goats breeding sector in Romania, from both policymakers and consumers. This has led

to an increase in goat numbers in the country, and the strengthening of the industry.

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