



IGA OBJECTIVES:

- To foster the use of goats to provide for the needs of humankind.
- To encourage research with and development of goats to increase their productivity and usefulness throughout the world.
- To perpetuate the International Conference on Goats
- To sponsor the Journal of Small Ruminant Research

NEWSLETTER

June 1995

IGA, 1015 South Louisiana, Box 808, Little Rock, AR 72203 USA
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Sustainable Goat Production and the Environment

VI International Conference on Goats, Beijing, China May 5-11, 1996

by C. Devendra

China will be the host to the VI International Conference on Goats to be held in Beijing between May 5-11, 1996. This is the second consecutive international conference on goats in Asia, after the last very successful one in New Delhi, India in March 1992.

The Conference in China is especially important for a number of reasons. First, for both the hosts and the guests it will be a unique and engaging experience to discuss the importance and potential contribution of the species in a country that has the second largest population of 97.8 million goats in Asia in 1993. Second, this population is associated with the presence of at least eighteen distinctive breeds of goats, many of which like the Ma'tou and Liaoning Cashmere are very outstanding, and are found distributed across the various agroecological zones. Third, the continuing focus on the potential value and development of goats through these International Conferences is especially timely at the present time in the context of efficiency of use of the available genetic resources, including conversation, poverty alleviation,

protection of the environment and sustainable development.

For China, the Conference will be a valuable springboard to the scientists and planners to develop strategies that can provide for maximum efficiency in the sustainable use and production of the natural resources in rain-fed lowland and upland ecosystems.

The International Goat Association has vigorously pursued the realization of this conference in China with much commitment. Practical difficulties have been overcome to provide a very balanced and interesting programme for delegates who can look forward to a valuable meeting.

The programme is diverse and has depth. It includes nine Symposia: *Production Systems, Genetics and Breeding, Nutrition and Feed Resources, Economics and Social Issues, Products, Environment and Ecology, Pathology and Health, Reproduction, and Miscellaneous*. Together these symposia

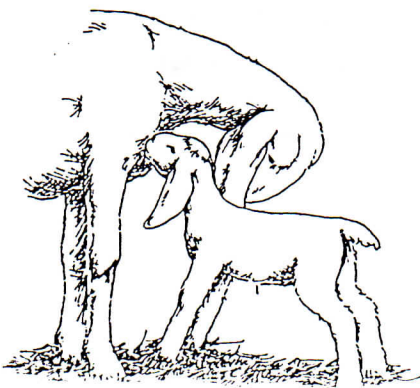
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involve 28 presentations by specialists. In addition, there will be three separate Roundtables: Animal Genetic Resources to be convened by FAO, Small Farm Systems by HPI, and a third with a specific focus on cashmere production in China to be convened by our hosts. The last named Roundtable will be of special interest to foreign delegates to China. They will be able to learn as well as see something of very expensive commodity and a very specialized industry that combines with great efficiency the art and science of cashmere production.

China's interest in goats goes as far back as 2000 BC with the dispersion of goats from West Asia through the "silk road" to Mongolia and the South. The species constitutes an important component of the livestock resources and is closely identified with resource-poor people in rural areas.

In recent years, livestock production in China has seen spectacular increases in per capita production of the products. This has been associated with direct ownership of animals by farmers, free market policy, strong economic growth, and market-led demand. These developments can be viewed against the compelling urge to explore the rich heritage of the past from the Great Wall to the Forbidden City. Participating delegates can therefore expect to benefit from the visit to China in 1996; the Conference programme and other planned activities are aimed at ensuring a memorable and satisfying lasting experience.



Publications

Proceedings of the Seminar on Footrot Eradication Programme in Sheep and Goats in Nepal -- Lumle Agricultural Research Centre, P. O. Box 1, Pokhara, Kaski, Nepal, December 1993.

Dairy India 1996 Yearbook -- A-25, Priyadarshini Vihar, Delhi, India 110092. Over 150 statistical tables and charts. Board of Editors: Dr. R.P. Aneja, Dr. D.S. Balain, Dr. K.K. Iya, Mr. Babu Jacob, Dr. P.P. Vaidya. FAX 91 11 2243039

Ecopathologie animale

Methodologie-Applications en milieu tropical
B. Faye, P.C. Lefevre, R. Lancelot, R. Quirin,
Coll. Du labo au terrain
Coed. INRA-CIRAD-EMVT 1994, 120 p. ISBN
2-7380-0538-1
Texte en francais

INRA Editions, Route de St Cyr, 78026
Versailles Cedex Fax: 30.83.34.49.

Goat Medicine. Year 1994, Mary C. Smith, DVM, David M. Sherman, DVM, MS, Lea & Febiger, Box 3024, 200 Chester Field Parkway, Malvern, Pennsylvania 19355-9725 USA.

Nutritional Ecology of the Ruminant (1994)
(2nd Edn.) by P. J. Van Soest, Cornell University
Press. Ithaca and London, xi + 476 pp.

Global Agenda for Livestock Research (1995)
(Eds. Gardiner, P. and Devendra C.) International
Livestock Research Institute (ILRI), Nairobi,
Kenya, 118 pp.

Crop-Animal Interaction (1995) (Eds. C.
Devendra and C. Sevilla). Proceedings of an
International Workshop, Khon Kaen, Thailand.
UPLB/IRRI/IDRC, vi + 574 pp.

Tropical Legumes in Animal Nutrition (Eds. J.
P. F. D'Mello and Devendra, C.) CAB
International, Wallingford, U. K., 350 pp.

Milk Output in India Booming

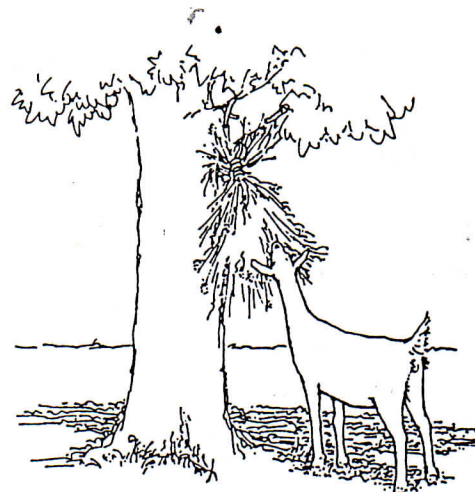
New Delhi, April 12, 1995. The dairy industry in India is all set to boom ahead, with all round expansion in milk production, processing and exports. The demand for milk products is growing in both urban and rural areas because of rising incomes.

Asia is dominating the world in the expansion of milk production. This region is expected to show the most marked gain in the foreseeable future and India figures prominently in this growth. This represents a unique opportunity for multinational food organizations to expand their exports, facilitate technology transfer, sign new joint ventures and make profitable investments.

The changing dairy panorama and the need to meet various challenges posed will be highlighted in the upcoming edition of *Dairy India 1996*. The focus of the new edition will be on exports, representing a new area of opportunity. Coverage will be given to international organizations and agencies for building more effective bridges of communication between them and the developing world. There is a growing realization of the vital role of information in the modernization of agribusiness and *Dairy India* fulfills this need and plugs the existing gaps.

The publication will identify new trends, market opportunities and investment prospects of various dairy projects. It will feature specialized articles by experts, emphasizing ways and means of upgrading the quality of milk and milk products to meet international standards.

(While this yearbook relates to larger dairy animals i.e. water buffalo and cattle, we thought it would be of interest to our members because it deals with new dairy technology in India.)



International Livestock Research Institute (ILRI) Established

Kenya and Ethiopia will co-host the new International Livestock Research Institute (ILRI). ILRI began operating in January 1995. It inherits the assets and programmes of the International Laboratory for Research on Animal Diseases (ILRAD), in Kenya and of the International Livestock Center for Africa (ILCA) in Ethiopia. The new Institute, will collaborate with other CGIAR centres in agricultural and natural resource management research where livestock are involved.

Research to improve livestock productivity and health is now incorporated in a single institute to streamline existing programmes in Africa as well as to expand activities in Asia and Latin America. Livestock contribute 35% of the total gross agricultural product in developing countries. About 300 million people world-wide depend for their livelihoods on the health and productivity of their animals.

Hank Fitzhugh, an animal geneticist and systems specialist with 30 years of experience in livestock research and development is the new Director General of ILRI.

C. Devendra, vice-president of IGA is currently Senior Associate and Consultant to ILRI to help define the global agenda for livestock.

Some Information on Goat Production in China

by Prof. Pu Jiabi, IPI Representative in China and Xu Gangyi, Associate Research, Sichuan Agricultural University

Most of the goats in China are local breeds except for the dairy goats. Most of the dairy goats were introduced by Western missionaries, sailors and traders at the end of the 19th and early in the 20th century. Their number started to increase rapidly during the 1950s. However, the goat industry in China has developed continuously and steadily beginning in the 1970's. In the early 1980s, exotic dairy goat breeds such as Saanen, Toggenburg, Nubian and Alpine were introduced to China. One Hundred Sixty of them came from Heifer Project International. These goats have played an important role in improving and increasing the productive performance of local goats in China.

In Ya'an City, the British Saanen goats have been used to improve local dairy goats. In 1985, there were only 6,760 dairy goats in the city, the milk production amounted to 1.2 million kg. and supplied 1 million kg. of commodity milk. Eight years later, in 1993, the total number of dairy goats in the city reach 17,000 head, increasing by nearly two times over the original figure and the total milk production amounted to 4.41 million kg., which is four times that of 1985. The lactation milk yield of the crossbred reaches over 390 kg., 80% higher than local dairy goats. In Jiayang County, the British Nubian goats have been used to improve over 60,000 local goats. According to the test results, meat yield of crossbred goat slaughtered at nine month age increases 91.5% compared with that of local goat.

Goat Population. Goat population in China is the second in the world. In particular, the goat population and production of goat meat, skin and milk have been greatly increased

over the past decade. In 1990, the population of goats in China was 87.8 million and this was an increase of 25.2% over 1980 (78.5 million). Now the population has exceeded 100.0 million.

Goat Breeds. There are 102 commonly known breeds and a large number of lesser known breeds in the world. of these, there are 25 in China, 25 in Pakistan and 20 in India.

Goat Meat. In 1990, goat meat production in China was about 844 million kg., which was an increase of 163% over 1980. Now many people in China like to eat goat's meat, so the amount of goat meat products in the market is not sufficient.

Goat Milk. The population of dairy goats is about three million now. In 1989, milk yield was about 540 million kg., an increase of 137% over 1980. About 65% of the milk was processed into milk powder. These goats are mainly distributed in Shanxi, Shangdong, Henan, Xingjiang and Hebei provinces.

Goat Skins. China is first in the world in the export of goat skins. Approximately 60.0 million skins are used for export or for clothes, shoes, etc.

Cashmere. In 1990, China had 40 million cashmere goats which produced 5.75 million kg. of cashmere wool. The annual cashmere wool export is about 2.5 million kg. With a large amount and fine quality of wool, the cashmere produced in China is greatly valued in the international markets. These goats are mainly distributed in Nei Mongol, Xingjiang, Shangdong, Shanxi, Tibet and Hebei provinces. The annual cashmere wool export in Nei Mongol alone has reached over 100 million US dollars.

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Prospect for the Future of Goat Husbandry in China. With a large population and limited natural resources in China, many people lack good nutrition, especially protein. In current years, the demand for goat products has dramatically increased in China. In addition, the demand for goat products on the international market still exceeds the supply. China is modifying the composition of the animal population and emphasizing the development of goat husbandry. Therefore, goat production will enjoy a wonderful future in China.

Growing popularity results in large comeback for small ruminants in US

Excerpts from an article by Kenneth Eng, published in the February issue of FEEDSTUFFS.

Some may be surprised to learn that the hottest new breed in the US ruminant world is not an exotic beef sire guaranteed to gain 5 lb. daily and have a 2,000 lb. mature weight nor a dairy breed averaging 30,000 lb. of annual milk production. The hot new breed is a goat, more specifically a Boer goat.

Some Boer goats have reportedly sold for as much as \$80,000, which might even make ostrich breeders envious.

Advantages of Boer goats relate to their rapid gain and large mature size. Some sires are reported to weight as much as 300 lbs. Even without the popularity of the Boer breed, goats in general have enjoyed a resurgence in popularity. This has not gone unnoticed in the scientific community and articles concerning goats are appearing with increasing frequency in the *Journal of Animal Science*.

In a general review article on production and marketing H.A. Glimp stated that even though the market for meat goats is not organized, the

retail price for young goat meat probably exceeds that of beef and lamb by 20 to 30%. He estimated that more than 70% of producers in the US sell their goats by private arrangements and approximately 30% are sold at public auctions. Perhaps the most exciting thing about the goat market is that demand exceeds the supply.

Meetings

IV International Symposium on Nutrition of Herbivores. September 11-15, 1995, France, Contact: Elizabeth Grenet, INRA, Theix, 63122 Saint-Genes, Champanelle, France. Fax: 3373624641.

New Directions in Range Ecology and Management--a new short course. June 1-30, 1995, Utah State University, USA, Dr. Gregory Perrier, Dept. Range Science, Utah State University, Logan. UT 84322-5230, USA Fax: 802-7503796

Small Ruminant Production Techniques Course. Three weeks in September 1995. ILRI, Addis Ababa, Ethiopia. Condition: must hold B.Sc. or M.Sc in Animal of Agric. Science; must be actively engaged with small ruminant research or management in a NARS institution in Eastern and Southern Africa. Prof. S.H.B. Lebbie, ILRI, P. O. Box 46747, Nairobi, Kenya.

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Cours International de Pathologie et Production des Ovins et Caprins (C.I.P.P.O.C.) March 6-31, 1995. CIRAD-EMVT, Maisons Alfort Cedex, France, Contact: C.I.P.P.O.C./CIRAD-EMVT, Division de l'Enseignement, 10, rue Pierre Curie, 94704 Maisons Alfort Cedex, France. FAX: 33243752300

Seventh European Nutrition Conference. May 24-28, 1995, Vienna in Austria, Conference Secretariat, Interconvention, Austria Centra Vienna, A-1450, Vienna Austria.

Why Goat Milk?

George F.W. Haenlein

This is a critical question for all who are trying to establish a dairy goat business and industry. The value of goat milk in human nutrition has so far received very little factual and academic attention. However, if facts of the role, and superiority in certain instances of goat milk in human nutrition cannot be identified and promoted, it will be difficult justifying growth of the goat business as an industry next to the dairy cattle business.

Despite a widespread absence of infrastructural organization for goat milk in the USA, more commercial successes with goat milk marketing are becoming known in recent years. Significant new research stations efforts in the US have been advancing new knowledge of goat milk production on the farm and of the physiology, biochemistry and veterinary aspects of the animal in recent years. *The Small Ruminant Research Journal* has become well established by the International Goat Association. Volumes of new scientific data presented at five international conferences has been widely circulated.

Justification for goat milk can come from medical needs, not just preferences of people, especially infants afflicted with various ailments, including cow milk protein sensitivities. Swedish studies have shown that cow milk was a major cause of colic, sometimes fatal, in 12-30% formula-fed, less than 3-month old infants. (Lothe et al, 1982). In breast-fed infants, colic was related to the mother's consumption of cow milk. (Baldo, 1984; Cant et al., 1985; Host et al., 1988). In older infants, the incidence of cow milk protein intolerance was approximately 20% (Nestle, 1987).

A popular therapy among pediatricians is the change to vegetable protein soy-based formula, however an estimated 20-50% of all infants with cow milk protein intolerance will also react adversely to soy proteins (Lothe et al., 1982) Approximately 40% of all patients sensitive to cow milk proteins tolerate goat milk proteins (Brennenman, 1978; Zeman, 1982), possibly because lactalbumin is immunospecific between species. (Hill, 1939).

Goat milk proteins have many significant differences in their amino acid compositions from the milk of other mammalian species, especially in relative proportions of the various milk proteins and their genetic polymorphisms (Jenness, 1980; Ambrosoli et al, 1988). The major protein in cow milk is alpha-s-1-casein, but goat milk may differ genetically by having either none ("Null" type) or much ("High type). Null types have shorter rennet coagulation time, less resistance to heat treatment, curd firmness is weaker, pH is higher, protein and mineral contents in milk are lower, and cheese yields are less than in high types. This in turn indicates and may explain significant

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differences to cow milk in digestion by infants and patients which traditionally have been explained by the "homogenized" nature of goat milk fat.

Actually, the composition of goat milk fat may be much more important than the prevalence of large numbers of small fat globules, because it too differs significantly from the composition of cow milk fat under average feeding conditions. The various components of milk fat, fatty acids, differ in carbon chain length and saturation, which has nutritional and medical significance. Goat milk fat normally has 35% of medium chain fatty acids (C6-C14) compared to cow milk fat 17%, and three are named after goats: Caproic (C6), caprylic (C8), and capric (C10), totaling 15% in goat milk fat vs. only 5% in cow milk fat. Besides their unique flavor, which has serious consequences in improper handling of goat milk, these medium chain fatty acids (MCT) have become of considerable interest to the medical profession, because of their unique benefits in many metabolic diseases of humans (Babayan, 1981)

Capric, caprylic and other MCT have been used for treatment of malabsorption syndromes, intestinal disorders, coronary diseases, premature infant nutrition, cystic fibrosis, gallstone problems, because of their unique metabolic abilities of providing energy and at the same time lowering, inhibiting and dissolving cholesterol deposits (Schwabe et al., 1964; Kalser, 1971; Tantibhedhyangkul and Hasim 1975, 1978). It seems apparent that in this lipid area is great potential for identifying a unique importance and role for goat milk, specifically goat milk fat and probably goat milk butter, which has not received much attention at all.

All of this adds even more importance to the establishment of acceptable practices and standards for quality goat milk production, which so far has been lagging behind those for dairy cows, but which require separate establishment because of the many unique physiological and metabolic characteristics of goats compared to cows (Haenlein, 1980, 1987a, 1991; Hinckley, 1991; Kalogridou-Vassiliadou et al, 1992).

Used by permission. Topics of Profitable Feeding and Milking of Dairy Goats, University of Delaware, 1995. Dr. Haenlein is the Editor-in-Chief of *The Journal of Small Ruminant Research*.



Illustrations by Barbara Carter
Randolph, Vermont USA

Fall IGA Newsletter

Please send relevant articles for the next IGA Newsletter no later than Sept. 15, 1995. Send to Rosalee Sinn, IGA, Box 808, Little Rock, AR 72203 USA. Fax No.: 501-376-8906

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