

#### 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

October 1993

IGA, 216 Wachusett Street, Rutland, Massachusetts 01543, USA  
Rosalee Sinn, Editor, assisted by Maureen Riordan Telephone: 508 886 2221

## GOATS AND ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

—C. Devendra

In grazing systems, a reference to the term "environment" generally connotes in the minds of many a sense of damage and breakdown in livestock management. This stems from overstocking and overgrazed situations, often in extensive, harsh or difficult semi-arid and arid areas involving mixed cattle, goat or sheep populations. With goats, the allegations in the past have been linked to their browsing habits and ability to subsist and utilize very poor quality feeds in these same regions. More enlightened thinking acknowledges the current view that with proper control, goats are a most important means to food production and sustainable livelihood. This was one of the strong messages from the V *International Conference on Goats* held in New Delhi, India, in March 1992. It is hoped that the VI *International Conference on Goats*, venue China May 1996, with its astute theme of *Sustainable Goat Production and the Environment*, will further demonstrate the unique contribution of the species to food security, self-reliance of very poor people and sustainable agriculture.

The circumstances are not without justification and arise mainly from inadequate control of grazing animals. Environmentally destructive activities are of little relevance to poor people whose main objective is subsistence living, and provision of whatever feed resources are needed for their animals to support production and income. They perceive that inefficient use of the natural resources and environmental degradation is unimportant and protection of the environment is unimportant until immediate needs are met and short-term survival is assured. The task of meeting their daily requirements thus overrides concern for the fact that agricultural production and sustainability in the future must rely on the use of the same natural resources.

Resource poor people own variable populations of goats essentially for food and security. Unfortunately, their livelihood is associated with a complex web of interactions between poverty, population dynamics, agricultural growth and survival. Rapidly expanding human and animal populations and their nomadic migrations often cause environmental changes and degradation. In the more densely populated semi-arid and highland regions of Asia, for example, environmental degradation exacerbates poverty, with consequent depletion of the natural resources.

The development of goats in the future will need to be especially sensitive to approaches that are ecologically and environmentally sound. Strategies to address these issues and overcome the dilemma necessitate totally integrated efforts that stimulate production within a sustainable growth path. Choice of production systems appropriate to specific ecosystems which demonstrate adequate control of goats and more intensive use of natural resources and result in high productivity, profitability and environmental integrity is especially important.

continued on page 2

HONDURAS AEREO L 0.85



This stamp commemorating the anniversary of Escuela Agricola Pan Americana featured goats. If you have a goat stamp from your country, please share it with us for future issues.



## GOATS AND ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT (continued from page 1)

Clear, demonstrable results of such integrated efforts are few and far between in the developing countries, and probably reflect a failure in the past to develop interdisciplinary holistic programmes based on a systems approach. However, one example of a success story concerns *The Three Strata Forage System* project in Indonesia which combined a strategy to increase forage biomass production; integrate cash crops, cattle and goats; generate increased income and maintain soil fertility.

Development strategies and integrated effort need to recognize the following important issues:

**GOAT GENETIC RESOURCES.** There exists considerable genetic diversity throughout the developing and developed countries, whose potential use and productivity can be significantly increased. Increased efficiency of the use of especially "improver breeds", needs more emphasis, consistent with more understanding of indigenous knowledge, traditional systems, wider community-based participation and conservation.

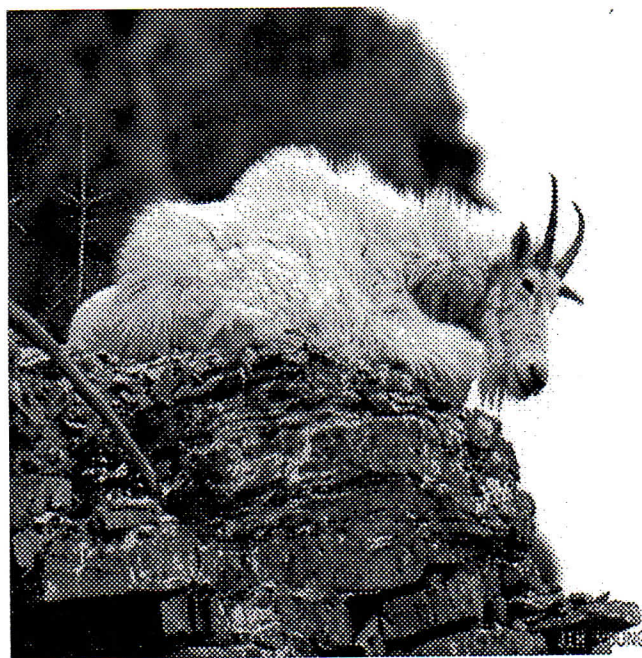
**ECOSYSTEM AND ECOREGIONAL FOCUS.** The development of goats in the future must be sensitive to the ecological basis for development. Currently about 95% of the total population of goats are found in the developing countries, equivalent to about 23% of the total population of grazing ruminants. They also consistently record high annual growth rates of about 1.9%, which is greater than that of other ruminants. The highest proportion of goats is found in the semi-arid and arid regions of Africa, Asia and Latin America, followed by the humid regions and tropical highlands. Since the semi-arid and arid regions are also fragile ecosystems in which desertification, human and animal migrations, environmental degradation and poverty are especially pronounced, goats can play a significant role in increasing food resources within the parameters of sustainable development. The enhancement of appropriate goat husbandry systems in such instances is the challenge we face.

**THE COMPLEX INTERRELATIONSHIPS BETWEEN POVERTY, POPULATION AND NATURAL RESOURCES.** The nature and extent of the complexity, the positive and negative effects of the interactions; and cultural, economic and institutional links need more attention. These issues emphasize the importance of interdisciplinary team effort and programmes to grapple with this complex problem.

**USE OF IMPROVED TECHNOLOGIES.** These are responsive approaches to overcome existing constraints that not only meet the short term needs of poor farmers, but are also able to have immediate impact and promote sustainable development through integrated resource use.

More than any other species, the agenda for the realization of the potential contribution from goats is a collective task, given the fact that goats are linked so closely to the lives of poor people, and the issues of poverty and a sustainable environment. Strategies need to be in place which can address these aspects through well-focused programmes and concerted inter-disciplinary efforts that directly benefit poor people.

It will be especially challenging to maintain this momentum in harmony with demonstrating environmentally sustainable development in the next decade and into the twenty-first century.



### IGA MEMBERSHIP

IGA includes among its members some of the world's top small ruminant experts. IGA is an important force in the development and promotion of goats in their role of serving people throughout the world.

Associate Membership	US \$ 25
Full Membership*	US \$100
Sustaining Membership* (individuals only)	US \$300

Write to Rosalee Sinn, Secretary-Treasurer, IGA, 216 Wachusett St., Rutland, Massachusetts 01543 USA

\*includes *SRR Journal*



**Plan now to attend  
VI INTERNATIONAL CONFERENCE ON GOATS,  
BEIJING, CHINA , MAY 1996**

Venue: Beijing International Convention Center,  
Beijing, China

**Theme: Sustainable Goat Production  
and The Environment**

**Registration: US \$250**

**3 Plenary Sessions** (Length of plenary papers will be 8 manuscript pages including abstracts and references.)

1. Sustainable role of goat in agricultural systems
2. Goat and Environment
3. China Goat Industry

**8-10 Symposia** (tentative list)

GOAT:

1. Nutrition and Feeding
2. Pathology and Health Matters
3. Reproduction
4. Genetics
5. Development and Social Issues
6. Economics and Marketing
7. Systems of Production
8. Ecology and the Environment
9. Products

**3 Roundtables** (Topics defined by the Chinese Committee.)

Topics will include Cashmere Production.

**Planning Committee:**

**Chen Yaochin**, Chairman VI ICG, Director ,  
Department of Animal Husbandry and Health,  
Ministry of Agriculture, China

**An Min**, Professor, Beijing Agricultural University

**Zhao Youzhang**, Chairman, Society of Sheep and  
Goat Research; Vice-President, Professor, Gensu  
Agricultural University

*Representing IGA:*

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**MEMBERSHIP 1994**

If you renew or take a new membership before January 15, 1994, you will receive an IGA Calendar. The 12-month, one page Calendar features a photo of goats and children in Fiji (Robert Pelant, photographer) and statement of the IGA Objectives. Additional copies of the Calendar may be purchased for US \$3.00 from the Secretary of IGA.

Membership Fees have increased. 1994 rates are as follows: (A two year membership is now available)

1994

**MEMBERSHIP APPLICATION AND RENEWAL  
INTERNATIONAL GOAT ASSOCIATION**

ALL MEMBERSHIPS ARE DUE AND PAYABLE ANNUALLY.

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Sex: Male \_\_\_\_\_ Female \_\_\_\_\_ Birthdate \_\_\_\_\_

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Position: \_\_\_\_\_

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Check (enclosed) in the amount of US \$ \_\_\_\_\_

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Rutland, MA 01543 USA



## MEETINGS



**November 15-17, 1993**, II Regional Seminary on Agroforestry with Small Ruminants, San Jose, Costa Rica, Central America. Write Jorge E. Benavides, M.Sc. Technical Coordinator, II Seminario Regional sobre Agroforesteria, y Ruminantes Menores, Ganaderia Tropical, CATIE 7170 Turrialba, Costa Rica, Central America. FAX 506-56-1533 Phone 506-56-6431, Ext. 231

**June 1994** - International Symposium On The Optimal Exploitation of Marginal Mediterranean Areas by Extensive Ruminant Production Systems, Thessaloniki, Macedonia, Greece.

Write: Secretariat, Department of Animal Production, Faculty of Agriculture, Campus Box 257, Aristotle University, GR 540-06 Thessaloniki, Macedonia, Greece. Fax: (3031) 473275.

**July 11-16, 1994**, Animal Science Congress, Bali, Indonesia. Congress Theme: Sustainable Animal Industries and the Environment. Write: Congress Secretariat, The 7th Animal Science Congress of AAAP, Jl. Raya Pasar Minggu 49, Jakarta 12760, INDONESIA

**October 6, 7, 8, 1994**, Golden Anniversary Celebration, Heifer Project International, Convention Center, Little Rock, Arkansas. Write Rosalee Sinn, Director 50th Anniversary, 216 Wachusett Street, Rutland, MA 01543.

**September 25-27, 1994** *SOMATIC CELLS AND MILK OF SMALL RUMINANTS*, Bella, Italy. Write Istituto Sperimentale per la Zootecnia, Via Appia, 85055 Bella, ITALY.

## PUBLICATIONS

**Sustainable Animal Production from Small Farm Systems in South East Asia**, C. Devendra. FAO Anim. Prod. and Health paper No. 106, ix + 143 pp.

**Advances in Sustainable Small Ruminant-Tree Cropping Integrated Systems (1933)** Eds. S. Swanj, P. Agamuthu and P. K. Mukhenjie. University of Malaysia (IDRC Publications, XV 273 pp.

**Shrubs and Tree Fodders for Farm Animals, Proceedings of a Workshop in Denpasar, Indonesia, 24-29 July 1989**, ed. C. Devendra, IDRC Research Center, PO Box 8500 Ottawa, Ont. Canada K1G 3H9 xii + 349 pp.

**Your Goats, A Kid's Guide to Raising and Showing**, Gail Damerow, Storey Communications, Inc. Schoolhouse Road, Pownal, Vermont 05261. 172 pages.

**Proceedings: V International Conference on Goats, March 2-8, 1992, New Delhi, India.** 1,925 pp. US \$150 (including free airmail postage) Order from VEDAMS Books International, 12A, W.E. Area, Post Box No. 2674, New Delhi 110005, India. FAX 91-11-574-5114

**Small Ruminant Research Network Newsletter**, International Livestock Center for Africa, (ILCA), P. O. Box 5689, Addis Ababa, Ethiopia.

**Goat Nutrition**, P. Morand-Fehr (Editor) (EAAP Publication No 46 1991) Pudoc Wageningen 308pp.



# SOME THOUGHTS ON THE AUSTRALIAN GOAT SCENE

—PETER J HOLST

## HISTORICAL

European settlement of Australia began in 1788 with a few dairy goats which were later supplemented by numerous importations from Europe. Angora goats were first imported in 1832 and Cashmere goats in 1863 (Evans 1980).

With the expansion of settlement into inland Australia, dairy goats invariably accompanied mining, road and railway workers and these goats together with escapes from pastoral leases contributed to a feral goat (domestic animals that are unmanaged) population of more than 5 million animals. These goats are in semiarid pastoral areas where animal and human population density is low. They are disease free (except for *Damolinia* spp.), and are a significant genetic and meat resource.

Today, Angora and Cashmere goats (Holst 1990, Holst and McGregor 1992) are found on sheep/cattle/crop farms where they are grazed in open paddocks secured with 1 m high wire fencing. Both breeds have been involved in genetic improvement programs, the most notable of which is the importation of material from the U.S.A. and R.S.A.

Dairy goats, of all breeds, are a small but significant contributor to the needs of the urban population.

Australians would like to think that they have contributed technically to many aspects of goat production from milk production testing and selection of Saanens to goat nutrition, reproduction physiology, embryo technology, cashmere metrology and growth, marketing, genetics, skin quality and fibre metrology. Australia is the world's biggest uncommitted goat meat exporter.

## CURRENT ENVIRONMENT IN AUSTRALIA

The international situation is such that the prices received by growers for mohair, cashmere and cashgora fibre are less than the cost of production. Goat meat prices are stable but at a manufacturing meat price level so that goat meat is competing with sheep mutton. Since Australia has virtually no local market for goat products it is dependent on international events.

Most goats in Australia are farmed with sheep or cattle and receive similar animal health medication and husbandry. A group of diseases known as footrot produce lameness in sheep and goats under damp conditions and adversely affects production. The condition is readily transmitted to clean animals and farmers jealously guard their flocks against the introduction of infected animals. The goat because of its agility and mobility can introduce infection to a neighbouring diseased flock. Fortunately within 10 years footrot disease will be eliminated nationally.

Internal parasites are another cause for concern where the efficacy of some anthelmintics in goats is unsatisfactory and in a sheep/cattle/goat situation is untenable. Further research is required to understand the essential differences in worm treatment between sheep, cattle and goats.

It is understandable that the prolific feral goats are a problem in the pastoral areas during drought - and drought is common. The problem of "overstocking" then becomes a government problem and eradication measures are introduced.

## RESEARCH

Australia has not avoided the global recession and has been particularly affected by the reduced commodity prices for agricultural products and minerals. Funding of research is also assisted by a levy imposed on animals as they are slaughtered. For example U.S. \$0.35 for each goat is contributed to research and marketing. Both in Australia and New Zealand the number of scientists involved in livestock research has been reduced, groups and work areas rationalised and new policies devised. Fortunately many of the big research and development issues concerning goats were addressed prior to the cutbacks and if normal commodity prices are restored then there is no reason why viable goat industries will not proceed. The genetic material available for Angora and Cashmere goats is excellent.



### *Role of Australia Internationally*

Australia, through 2 of its aid agencies AIDAB and ACIAR, contributes to promoting the sustainable development of other world communities, particularly in its immediate region. Agriculture is an important part of this and it is to be hoped that goat development projects will not be forgotten. Certainly, with the huge investment in sheep and wool research and the demonstrated success in goat research, there is the opportunity for technology transfer through publications, education, training programs and advisers.

The animal disease status of Australia permits animals and embryos to be supplied throughout the world without extended quarantine. The genetic diversity and the environmental diversity (tropics/temperate/alpine) also encourages the continued export of genetic material for fibre, meat and milk goats.

Goat meat exports and live meat goat exports are significant and provide considerable balance in markets from China to Mexico. Because of the relatively inexpensive F.O.B. price these shipments may have the undesirable effect (for domestic producers) of reducing local prices. Experience suggests that premium prices are invariably paid for the local product and that the imported material is simply displacing mutton (or alternatives) in the larger market place.

Finally, there is the difficult-to-quantify role of Australia as influencing public opinion. Australia has been successful in farming and in particular its livestock industries. As its goat industries develop and achieve the "recognition" that exists in the rest of the world, then it can contribute to the fostering of positive attitudes to the most versatile of animals, the goat.

### *Selected reading*

- Holst, P.J. (1990). High quality, contaminant-free cashmere. Proceedings Australian Society of Animal Production 18: 71-80
- Holst, P.J. and McGregor, B.A. (1992). Development of the Australian fibre goat industries. Proceedings V International conference on Goats, New Delhi, INDIA.
- Copland, J.W. (1985). Goat production and research in the tropics: proceedings of a workshop held at the University of Queensland, Brisbane, Australia. ACIAR Proceedings Series No. 7, 118p.





## SMALL RUMINANT RESEARCH JOURNAL

The Official Journal of The International Goat Association, is a peer-reviewed international journal publishing original basic and applied research articles, technical notes and review articles in the sciences of nutrition, physiology, anatomy, genetics, microbiology, ethology, product technology, socio-economics, management, sustainability and environment, veterinary medicine and husbandry engineering related to goats, sheep and other small ruminants such as deer, llama, alpaca and vicuna. The Editor-in-Chief of the Journal is Dr. G.F.W. Haenlein, University of Delaware, Department of Animal Science and Agricultural Biochemistry, 048 Townsend Hall, Newark, DE 19717-1303 USA. Articles should be submitted in triplicate to Dr. Haenlein. A detailed Guide for Authors is available upon request.

The following is a summary of the manuscripts submitted and published since 1987.

<b>Manuscripts</b>		1987	1988	1989	1990	1991	1992
<b>Submitted</b>	number	53	122	138	139	126	182
	pages	983	2375	2427	2768	2519	3314
	tables	240	499	472	551	482	606
	figures	75	166	245	209	254	321
<b>Origin</b>	Africa	11	31	30	26	32	35
	Asia	8	26	23	24	27	51
	Europe	11	15	30	37	31	49
	N-America	18	37	35	24	23	28
	S & C America	1	4	10	12	8	11
	S-Pacific	4	9	10	16	15	8
<b>Subjects</b>	Genetics	2	5	7	6	6	8
	Management	5	19	23	28	12	27
	Nutrition	22	45	45	45	25	61
	Physiology	2	3	1	1	3	14
	Products	10	4	11	19	22	9
	Reproduction	7	20	24	20	32	30
	Veterinary	5	26	27	20	26	42
Reviewed	number	38	99	115	126	152	167
Revised	number	44	121	96	121	96	91
Rejected	number	9	29	42	48	57	77
Published	number	-	35	35	61	105	115
Non-Board reviewers		24	88	92	124	128	163

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**FROM THE PROCEEDINGS OF THE V  
INTERNATIONAL CONFERENCE ON GOATS,  
NEW DEHLI, INDIA**

R. M. Acharya, past-President of IGA and Chairman of the International Organizing and Programme Committee of the VIGC, also served as coordinator of the very formidable Proceedings from the Conference, which is now available from **VEDAMS Books International, 12A, W.E. Area, Post Box No. 2674, New Delhi 110005, India. FAX 91-11-574-5114 (\$ US 150.00)**

Recommendations from the Conference:

1. The goat should receive rightful place under all production systems, as it is the only species that can be successfully farmed with any level of intensification from the extensively roaming desert flocks to highly specialized intensive dairy operations.
2. The role of goat in the context of ecological degradation and desertification is highly exaggerated. It is more due to misconception. The goats are the first to enter vegetated areas and open them for grazing by other animal species and the last to leave as they can utilize extremely coarse and woody vegetation left and on which no other species can sustain itself. The goat in fact is a seeding machine. It helps in vegetative propagation of trees and shrubs through browsing, if controlled.
3. Economic efficiency should be the measure for strategic planning of different aspects of goat production.
4. The knowledge available of the existing goat genetic resources is extremely limited. More information is needed to be collected for determining the breed(s) most suitable for an agroecological and socio-economic situation, improve breed(s) and breeding approaches and need for their conservation. A number of important breeds like Jamunapari and Barbari in India are fast declining in their numbers and would need immediate conservation measures. Proper performance recording systems need to be developed in farmers' flocks and the information utilized in genetic improvement. Open nucleus breeding schemes, utilizing modern reproduction biotechnologies may help in bringing faster genetic progress.
5. Feed will continue to be an important limited factor in livestock production, especially in arid and semi-arid ecologies. Extensive knowledge about the availability and utilization of conventional and non-conventional feed resources available exists but has not been utilized by the goat farmers.  
  
Looking into the problem of feed availability in fragile ecologies and adverse effect, of limited number of animals freely browsing/grazing on ecology, it is necessary that goat production should be incorporated with crop production systems specially tree crops.
6. Long-term studies on production based on different feed resources should be the major interest in nutrition research. Emphasis should also be laid on the need for supplementation of macro- and micro-nutrients.
7. Size and conformation, length, density and colour of hair, system of heat dissipation (sweating/panting) and efficiency of water and energy economy should be the key indices for determining the adaptation of a breed to an ecology and its utilization in goat production systems.
8. There is a need for immediate development of a more appropriate system for medium and long-term preservation of buck semen and a system for insemination to bring the fertility to satisfactory level.
9. Improvement in embryo transfer techniques for goats and their utilization in genetic improvement and genetic resources conservation should receive priority attention.
10. There are large differences in physico-chemical characteristics of goat milk which should be fully exploited in preparing new dairy products; specific technologies should be developed for goat milk processing.
11. There is a need for developing simple and easy to adopt classification schemes for live goats and their carcasses as well as for developing hygienic meat production and marketing systems.



12. Skin is an important co-product and has a large value addition on processing. Improvement in goat through various productive measures should keep in view the effect on size and quality of skin. A minimum age/weight at slaughter should be fixed to ensure quality skin.
13. Faster techniques for determining quality of mohair and cashmere fibres should be developed. Due attention should also be given for improving the processing and marketing of these fibres.
14. There should be close co-operation at regional and international levels in diseases monitoring and reporting. There should be greater emphasis on developing strategic control and eradication measures for goat diseases based on epidemiological data and good disease investigation support.
15. Public should be educated on the qualities of goat milk and meat. Goat milk is more easily digestible, but has less allergic problems for human beings and provides better growth and development of human children. Goat meat being leaner and with much less fat should find preference among red meats in health conscious people.
16. The national governments and international agencies like FAO should encourage regional and global co-operation in small ruminant research and development through increased exchange of information, provision of training facilities, exchange of germplasm and co-operative research and development projects.
17. There is a need for developing suitable infrastructure for reaching the flock owners especially women who are responsible for rearing these animals and processing their products especially in a small holder situation.
18. Research and development in goat production should be taken as a part of land use system and should be on farming systems basis involving farmers' flocks.

## POET'S CORNER

Lull in the Storm  
—R. Paul Yoder

In the back yard  
after the late season storm  
islands of water dot the mud,  
creating small, irregular reflecting pools  
which shiver in the wind  
and ripple with the drops blown from the trees.

The goat does not see these pools,  
standing alone in the shed,  
on one side bound by a damp, dark room  
that leaked water into her food dish during the storm  
and by her pen on the other,  
a mire of mud and feces bound inside a fence.  
The rhythm of her crying ceases and  
she sounds one last plaintive sigh  
as I step outside the door; she extends  
her neck, twisting her narrow head till one ear  
hangs straight down, eyeing me as I choose  
a dry spot on the steps.  
My presence quiets her; she stands silently,  
and I study the shapes reflected in the pools  
until I notice that she is chewing her cud  
—ruminating—  
cheeks bulging, jaw moving down and around  
with a steady rhythm.

The wind comes up  
and the goat checks to be sure that I am here.  
Her bolus slides down  
her throat like a tennis ball  
as she stretches her neck to focus me in.  
The tennis ball slides back up,  
her cheeks bulge, and the old rhythm starts again,  
filling me with that strange comfort that comes from  
knowing  
that it takes so little to make a goat feel secure.



## IGA REGIONAL REPRESENTATIVES

Please contact the following individuals to discuss ways IGA can assist you. Articles for the IGA newsletter can be submitted through your IGA Regional Representative. You can also contact them about Membership and Regional Activities.

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