NEWS ITEMS

FORTHCOMING CONFERENCES
IVth International Conference on Goats
8-13 March 1987. EMBRAPA, Brasilia, Brazil
(The Conference Secretariat, rV International Conference on Goats, c/o Dr. Odor P. Santana, EMBPAPA/DPP, Stipercenter Venancio 2000, 7 andar, Sal a 725, 70333 Brasilia, DF, Brazil)

Symposium on Applied Ovine Science,
15-26 February 1987. Perth, Australia.
(Annie Ottaway, CPO Box T1777, Perth, Western Australia)

4TH AAAP CONGRESS

T h e 4 t h Co ng re s s o f t he Asian Aus t r alian Associatio n o f An im a I Production Societies will be helti from 1 to 6 February 1987 at Hamilton, New Zealand. Further information may he obtained from the Secretary, Organizing Committee, 4th AAAP Congress, c/o Ruakura Animal Research Station, Privite Bag, Hamilton, New Zealand.

THE SMALL RUMINANT AND CAMEL GROUP OF THE INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA

This group has been set up within the Central Research Units structure at ILCA Headquarters in Addis Ababa, Ethiopia. Its aims are as follows:

i. The encouragement of research on all respects of productivity of goats, sheep and camels.
ii. Providing help in the organization of regional or national training needed to meet research objectives.
iii. The collection and collation of analysed data with a view to suggesting solutions to production constraints in the light of available results.
iv. To help national or regional organizations in the analysis of unpublished data on reproduction, growth and disease in the various ecological zones of suh-Saharan Africa and to relate these to prevailing nutritional and management conditions.
v. The development of a manual of survey techniques (including sampling procedures, sample sizes and diagnostic methods) for use in research, particularly in relation to traditional ;y,;tems.
vi. Helping to organize and to participate in national and regional research meetings and seminars with a view to improving the means of communication between researchers.
vii. Publishing a Newsletter to disseminate information, research results and development experience and to maintain contact between researchers and officials.

The identification of existing national, regional and international research programmes on Small Ruminants and Camels will be one of the Group's first tasks. Once this is well under way it will be possible to identify, at least tentatively, gaps In existing research and to attempt to promote new research to fill these gaps or to extend current research to the same end."

The Group issues a regular mimeographed Newsletter. The first issue (2pp) appeared in October 1984; it announced the formation of the Group and requested cooperation and contributions to the Newsletter. The second (12pp) appeared in February 1985; it contains a variety of news items and notes on conferences and research on sheep, goats and camels, not only in Africa but also in Europe and Australia.

The third issue of this circular was despatched in June 1985. It is now 16 pages packed with

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useful and interesting information. Subjects covered include the following: CRSP workshop in Kenya, goat crossbreeding project in Zimbabwe, analysis of Rwanda data, goats and sheep In Mozambique, camels on commercial ranches in Kenya, ILCA monograph on West African Dwarf goat, indigenous sheep and goat breeds in Cameroon, productivity of the Burundi goat, small ruminant research at University of Zimbabwe, Black Bedouin goats in Kenya.

The Newsletter may be obtained by applying to:
The Editor
The Small Ruminant and Camel Group Newsletter
International Livestock Centre for Africa
P.O. Box 5689
Addis Ababa
ETHIOPIA

THE AUSTRALIAN ASSOCIATION OF ANIMAL BREEDING AND GENETICS (AAABG)

This Association was formally inaugurated at a conference in 1979, and as Its objectives and constitution are different from the usual 'scientific' society, it may be of interest to readers of this Newsletter who are interested in fostering mechanisms to promote the conservation and utilization of animal genetic resources. The particular feature of the Association is the emphasis that is placed on Increasing communication between research workers and individual livestock breeders and producers and their organizations (breed societies, artificial breeding organizations, etc.).

Objectives

1. To promote communication among all those interested in the application of genetics to animal production, particularly breeders and their organizations, consultants, extension workers, educators and geneticists.
2. To foster the application of genetics in animal production.
3. To promote the scientific study of animal breeding.
4. To hold regular Conferences to provide a forum for:
   a. presentation of papers and in-depth discussions of general and Industry-specific topics concerning the application of genetics in commercial animal production.
   b. scientific discussions, and presentation of papers on completed research work and on proposed research projects.
5. To publish the proceedings of each Conference and circulate them to all members.

Benefits

To Individual Members:

- While it is not possible to produce specific recommendations or 'recipes' for breeding plans that are applicable for all herd/flock sizes and management systems, principles for the development of breeding plans can be specified. Discussion of these principles, consideration of particular case studies and demonstration of breeding programmes that are in use will all be of benefit to breeders.
- Geneticists will benefit from the continuing contact with other r(@seareii workers in refreshing and upciating their knowledge.
- The opportunity for contact and discussions between bree(i(-,rs qiid geneticists will he of benefit to both - for breeders as above and through the opportunity to involve ,geneticists in individual members ' programmes, and for geneticists ill q 1 t owi ng for detailed discussion and appreciation of the pr;itical inqringement factors that often restrict full application of optimum breeding programmes.

To Member Organizations:

- Many of the benefits to individual breeders will apply also to breeding organizations.

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In addition, there are betlefit; to be gaine(i through coordination and integration of their efforts. Recognition of this should follow from understanding of common problems, and would lead to increased effectiveness of action and initiative,

- Corporate and sustaining members can use the Association is i forum to float ideas aimed at improving and/or increasing services to their members.

General Benefits:

- Membership of the Association may be expected to provide a varietv of benefits, qnd through the members, indirect benefits to all the animal industries.
- All members should benefit through increased recognition of problems both It the level of research and of application, and increased understanding of current approaches to their solution.
- Well documented communication of gains to be realized through effective breeding programmes will stimimulate breeders and breeding organizations, allowing increased effectiveness of application and consequently increased efficiency of operation.
- Increased recognition of practical problems and specific areas of ma.ior concern to individual industries should lead to increased relevance of applied research.
- All breeders will benefit indirectly because of improved services offered by the organizations which service them.
- The existence of the Association will increase appreciably the amount qnd use of factual information in public relations in the animal industries.
- Association members will comprise a pool of expertise - at both the applied and research levels - and as such, Individual members and the Association itself must have an impact on administrators at all levels of the animal industries and on Government organizations, leading to wiser decisions on all ispects of livestock improvement, gnd increased efficiency of animal production.

Conferences

Each Conference (held gt 1-2 year intervals is designed to focus on a particular theme, and both practical breeders and scientists are invited to present papers relating to the theme, in general terms and for each livestock industry. The themes for the pist Conferences have been:

1979 Definition, Measurement and Recording In Livestock Improvement
1981 Selection and Mating Programmes to Maximize Animal Productivity
1982 Pfficiency and Livestock Improvement
1984 Implementation of Selection Programmes.

GENETIC NOMENCLATURE OF SHEEP AND GOATS

As reported in AGRI 3 the Committee on Genetic Nomenclature of Sheep and Goats (COGNOSAG) was founded at the coloured sheep conference held in New Zealand in 1984. A preliminary report on “Rules for genetic nomenclature of genes with visible effects ill sheep and goats” was circulated by J.J. Lauvergne in 1984. As a result of comments received a second version of this report was prepared and circulated in February 1985. The major change in the second version is that the scheme is now based on the Human Gene Nomenclature System instead of on the Mouse Nomenclature Rules.

The rules are illustrated by applying them to the Agouti locti,- and to the known or postulated alleles at that locus e.g. white or tan (A*WI), badger face (A*BF), wild mouflon (A*WM), reversed badger (A*RB), etimelanic (A*E) (=black) and so on.

Further comments are invited by J.J. Lativergne, Instittit National de la Recherche Agronomique, Département de Génétique Animale, C.N.R.Z., 78350 Jotiy en Josas, France.

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RESEARCH ON TRYPANOTOLERANT LIVESTOCK

Two International organizations - the International Laboratory for Research on Animal Diseases (ILRAD) and the International Livestock Centre for Africa (TI,CA) have established a trypanosomiasis research and training network with national programmes in 11 African countries. The countries involved are Gabon, Ivory Coast, Zaire, Nigeria, Togo, Senegal, Gambia, Benin, Tanzania, Kenya and Ethiopia. Network personnel Include specialists in animal health, animal production and scientists knowledgeable about the role of tsetse flies as disease vectors. They will evaluate trypatiotolerant breeds of cattle, sheep and goats to assess genetic and acquired resistance, environmental factors that affect susceptibility and the usefulness of existing control measures. Comparisons will also he done with non-trypanotoleratit types. The breeds of cattle included in the study are N'dama, Ngani, Drakensberger, Baoule, Zebu, Local breed, Borgoii, Samba, East African Zebu and Sheko. Sheep breeds are Djallonke, Sahel, Dwarf West African and Local breeds and goats Djallonke, Dwarf West African and Makonle. The ultimate purpose of this work is to turn over the results to national policy makers who will then evaluate the cost effectiveness of promising control measures.

As a further step towards improving the productivity of trypanotoleratit breeds, an International Trypanotolerance Research Centre is being set tip in Gambia to which staff from II,CA and ILRAD will make a major contribution. The new ceTItrp's mandate is to understand the mecbanisTP(s) of trypanotoleraiice in order to develop methods for enhancing it (them). Research at the centre is being funded (through ILCA and ILRAD) by the hEC and ODA (UK) to the tune of $2.5 million for the first 3 years of operation. UNDP and FAO are providing fund-, for training and project design. The African Development Bank has lent the Gambian government $10 million to construct a headquarters for the centre.

STORING GENES OF ABORIGINAL TRIBES

A technique has recently been developed for long term storage of human genes. It is used primarily to store genes of aboriginal tribes who are in danger of extinction. The method involves injection of the white blood cells with Epstein Barr virus which causes the cells to divide Indefinitely in culture. Thus, all infinite supply of DNA becomes available which can he stored in a gene bank tnd also used for research. Using this technique, workers at Stanford University have stored genes from a population of African Pygmies and from the Melanisian people of New Hebrides.

RECONSTRUCTION OF EXTINCT ANIMALS

Exciting possibilities of wholly or partly reconstructing extinct animals exist using recombinant DNA technology In combination with the technique of injecting DNA or a whole nucleus Into eggs or early embryos. It has been possible to obtain live DNA of comparatively recent extinct animals, for example, of the marsupial Tasmanian wolf from microscope slides and of the South African quagga from pelts preserved in salt.

Scientists have recently scavenged some DNA from the still attached muscle tissue of a 140 year old quagga pelt and cloned them in bacteria. There is therefore the possibility of partly resurrecting this animal by incorporating its genes into its close relatives such as the zebra or the horse. Scientists are also studying the possibilities of growing the whole nuclei of the Alaskan Steppe bison from either the sex cells (by fusing two sperm nuclei) or somatic cells through embryo injection, into a living relative.

TRANSGENIC RABBITS, SHEEP AND PIGS

The success achieved with introduction of foreign DNA into the geiiome of mice has prompted similar experiments with farm animals. A key to the successful introduction of foreign DNA is

that it should be injected Into the nucleus. This is difficult in most domestic animals because they have an opaque cytoplasm. However, more complex procedures involving centrifugation of the embryos (in the case of the pig) have made it possible to carry out similar introductions in the rabbit, sheep and the pig. The foreign DNA used *was* a fusion between the mouse between the mouse metallothionein region and either the rat or human growth hormone structural gene. This was injected into the proniiclel or nuclei of eggs from superovulated animals and the embryos re-implanted in recipient dams. Only about 10% of the embryos survived and even among the survivors, in only I small proportion was the gene integrated (12.8% in the rabbit, 10.4 in the pig and 1 .3 in sheep). Although only limited success has been achieved, the possibility exists of applying this technique for making rapid genetic changes in domestic animals through gene transfer between breeds and even between species.

PRIORITIES IN ANIMAI, BREEDING IN AFRICA

The International Livestock Centre for Africa (ILCA) arranges biennial meetings ofnational livestock research leader-, from African countries to identify priority areas for research and to assess the effectiveness of ILCA's contribution in meeting these national needs. At the meeting held in October 1984 at TLCA headquarters in Addis Ababa, Ethiopia, the following recommendations were made by the specialist group on animal breeding:

- ILCA should expand its breed characterization work in different environments, in close collaboration with national groups;
- ILCA should train animal geneticists;
- Standardized system for recording livestock data needed;
- Systems research must ensure on-station breeding results are transferred to potential beneficiaries;
- Social and economic advisability of raising dairy cows in controlled environments in subhtimid zones need investigating;
- ILCA should help clarify policy issues to aid decision makers regarding imports of temperate breeds.

ILCA has responded to some of these recommendations. Important among these Is its work on breed productivity undertaken with the major cattle and small ruminant breeds In Ethiopia, Tanzania, Senegal and Zimbabwe. These studies have provided information on the performance ability of some African breeds and also demonstrated the importance of genotype by environment interaction. Recently, ILCA has also released a major software package to be used in breed comparison studies and in selection and improvement programmes, designed for adoption by national institutions.

DATA BANKS FOR ANIMAL GENETIC RESOURCES

Following the trials held during 1983-85 In different countries of Asia, Africa and Latin America, FAO/UNEP held an Expert Consultation in Rome in June 1985 to consider the results of the trials and to recommend a methodology for the establishment of regional data banks. The methodology is published in English by FAO and UNEP in 3 volumes as follows:

1. Computer systems study for regional data banks
2. Descriptor Lists for cattle, buffalo, pigs, sheep and goats
3. Descriptor Lists for poultry.

Copies may he obtained from FAO Animal Production and Health Division, Rome, Italy.

The Descriptor Lists are also to he printed in French and Spanish, and will be available shortly. It is hoped that funding for the establishment of the regional data banks will be obtained in the near future.

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RESTORATION OF PRZEWALSKI HORSE TO MONGOLIA

An Expert Consultation was held in the USSR in June 1985, organized by FAO and UNEP and the Centre for International Projects of the USSR, to design an action plan for the restoration of the Przewalski Horse to the wild in Mongolia. The last wild horses were seen in Mongolia about 15 years ago. About 600 Przewalski Horses now exist in captivity in zoos and wildlife parks in east and west Europe, in the Ukraine and in North America. The captive breeding community, who were well represented at the meeting offered to donate a small group of horses to the project when It is operational. The action plan is now being considered for funding. The report of the meeting is published by FAO and UNEP in English and in Russian by the Centre for International Projects in Moscow. Copies of the English edition may be obtained by writing to FAO Animal Production and Health Division, Rome, Italy.

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