

BREED CONSERVATION  
Conservación de Razas  
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FRANCE

INTRODUCTION

Eight years after the round table on breeds conservation at the first World Congress on Genetics applied to Livestock Production (1974), 8 - speakers are gathered at the present round table. They will give 7 speeches.

Reporting on genetic stocks in North America Prof. CRAWFORD is a mendelian geneticist of Poultry. He also teaches animal genetics at the University of Saskatchewan (Department of Animal and Poultry Science) Saskatoon (Canada).

Dr. BARKER who speaks of the asiatic situation is a Professor at the Department of Animal Science, University of New England, Armidale N.S.W. Australia. He is also the chairman of a Committee on Animal Genetic - Resource of the SABRAO (Society for the Advancement of Breeding Researches in Asia and Oceania).

Dr. CAMPO works as a researcher at the Spanish I.N.I.A. (Instituto Nacional de Investigaciones Agrarias) besides Madrid, in the Department of Animal Genetics which is headed by Dr. OROZCO. These two scientists will present the Spanish of Hen stocks program.

Dr. ALBERRO, also from Spain, will speak on Ethiopian cattle which is surveying as an expert to the Swedish International Development Authority in Addis Ababa.

After having been the Chief of the Animal Production Service at the Animal Production and Health Division of the F.A.O. at Rome, Dr. RENDEL is now Professor of Animal Breeding and Genetics at the University of Agricultural Sciences at UPPSALA (Sweden). He will speak on the role of international institutions in conservation, a subject he knows very well after having organise many conferences and programs on this topic while in Rome.

A more member recent of the staff at the F.A.O., Animal Production Service, Dr. HICKMAN has been appointed to manage livestock resources; he will talk on conservation methods he is developing for the F.A.O. programs.

I now have to mention myself as the eight speaker in the panel. I am working as a mendelian and population geneticist of farm mammals at the -

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Except for Drs. ALBERRO and CAMPO all the speakers contributed to the F.A.O. Technical Consultation of June 1980 on Animal Genetic Resources Conservation and Management.

#### THE MAIN TOPICS OF THE ROUND TABLE

The seven reports may be arranged into 4 main topics:

- 1) The genetical dynamics of populations after domestication (LAUVERGNE).
- 2) The genetic conservation on a continental scale: Asia (BARKER); North America (CRAWFORD).
- 3) Study of specific cases: Spanish Hen (CAMPO and OROZCO), Ethiopian Cattle (ALBERRO).
- 4) The role of international institutions (RENDEL and HICKMAN).

#### CONNECTING EACH THE OTHER PAPERS OF THE ROUND TABLE

If, after the manner of plant breeders (FRANKEL, 1971) one classifies domesticated animals (LAUVERGNE, 1982) into:

- 1.- wild species
- 2.- primitive or traditional populations
- 3.- standard breeds
- 4.- selected lines.

one sees that the description by ALBERRO of the cattle in Ethiopia with all its genetic variability is that of a primitive or traditional populations (type 2). Moreover it looks like Ethiopia has been and is still a secondary centre of origin of differentiation and dispersion as already pointed out by MASON (1973), the primary centre of domestication being in the middle-east. In dispersing the genotypes, these centers of origin may have played the same role as in plants. The localization of such a center in Ethiopia is not surprising as VAVILOV (1951) has already described that same centers for cereal plants.

A first conclusion to the round table could be to encourage more detailed studies in Ethiopian cattle, some of which could be performed using visible markers (LAUVERGNE).

In Asia, Dr. BARKER outlines the difficulties of preparing an inventory of native stocks mainly of the second type (primitive or traditional). While on the contrary in North America, the existing stocks were devised mainly from standard breeds imported from Europe last century (Dr. CRAWFORD).

Dr. RENDEL points out the fact that primitive and traditional stocks (the most difficult to study and the most fragile) are mainly in developing countries where the facilities for studies are limited. To help the strategies for these countries which are also suggested by Drs. BARKER and RENDEL, Dr. HICKMAN proposes a programme of technical assistance between teaching and research units of developing and developed countries.

These three authors consider that selection programs within native breed are very necessary for the maintaining of genetics stocks, particularly in these environments where upbreeding with exotic breeds is difficult. This would however result in a loss of part of the genetic variability and one must also emphasize the possibility of keeping native stocks in their original state in connection for example with forest and/or soil conservation.

The paper by CAMPO and OROZCO described the very interesting program of conservation of the Spanish hen varieties. This is mainly a project for conservation of standard breeds. According to Dr. CRAWFORD very little is done in North America to preserve standard breeds derived from European stock. As a matter of fact some of them are not really endangered.

#### CONCLUSIONS

Within the framework of genetical dynamics proposed by LAUVERGNE, the paper by ALBERRO illustrates the genetical variability of primitive or traditional populations in a secondary center of origin.

The paper by Dr. BARKER is then a description of a zone (Asia) where primitive stocks are in majority. This is contrary to the situation in North America as described by Dr. CRAWFORD.

The Spanish hen conservation program of Drs. CAMPO and OROZCO is an example of keeping standard breeds. The note of international organizations (RENDEL, HICKMAN) is mainly to assist developing countries in keeping and selecting their native stocks.

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(1) WCGALP: World Congress on Genetics applied to livestock production.