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## EDITORIAL

Mankind has been using animals to improve human standards of living from the early days of civilization. The original selection of certain species for domestication was only a start. Within most species there has always been large genetic variation, which man has used to develop different breeds for a variety of purposes and products. At a later stage in the history of animal improvement, man began to practise selection within breeds, where there is also extensive genetic variation. This within breed selection has become very intense in developed countries in the recent years of this century, aided by the new knowledge of quantitative genetics and by the techniques of artificial insemination and embryo transfer. The twentieth century has also produced an increase in the use of crossbreeding and of breed substitution to increase the production of food and fibre from animals. The process continues and there is already on the horizon, the prospect of molecular engineering by which individual segments of hereditary material will be transferred between animals and breeds and species. Today the prospects for even more rapid increases in animal production due to genetic selection have never been greater. Established techniques in the developed countries are being quickly adapted to the different conditions and environments of developing countries. At the same time, the prospects are increasing for a quantum leap in the application of genetics in high technology societies.

In this situation, what is the place of preservation? Few would disagree with the preservation of an endangered species of domestic livestock. In theory, few would protest the preservation of a breed in danger of extinction; however, when the cost of the preservation has to be found, it becomes more difficult to find supporters. There are those who, with the promise of molecular engineering, would argue that it is not breeds as such which need preserving, but simply the gene segments which code for the unique traits of the breed. Clearly we have not reached that stage yet, and if the method is to be successful when the technology is available, it will be essential that the breeds concerned are still around.

Meanwhile preservation has to be followed in the light of the uniqueness of the breeds at risk, and also within the bounds of economic reality. There is no value for example in preserving animals or semen from a breed with a unique name, which is in fact genetically the same as another breed in an adjoining country, with a different name. The aim of FAO and UNEP in the conservation and management of animal genetic resources is to ensure that present production and future prospects for production from animals for the benefit of mankind are maximized at minimum cost. Data banks for example are visualized as having immediate value for enhancing livestock improvement projects by making available essential information for breed substitution and crossbreeding programmes which are the centrepiece of much current livestock improvement work in developing countries. At the same time, data banks will identify truly unique breeds which are endangered, and which may therefore merit having semen or fertilized ova stored cryogenically and which is much cheaper usually than the management of live animals not contributing to economic production. The preservation of livestock should be secondary to, and the servant of production, rather than being an academic end in itself; and the process of identifying which breeds to preserve must be closely tied to the realities of food and fibre production for human benefit.