

**"CATTLE EMBRYO TRANSFER
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The author John L. Curtis, has done an excellent job in describing very clearly and in a detailed manner the steps involved in Cattle Embryo Transfer Procedure as per the title of the manual. However, the detailed coverage with which laboratory procedures are treated prompts one to ask whether the manual really was meant for ranchers and dairy men among others as the author suggests in the preface.

To justify the investment in terms of money and time, it is always worthwhile for anyone trying to embark on an Embryo Transfer (ET) programme to ask oneself a few things. Why do ET? Where/When should it be done? How best should it be done for the whole programme to be a success? Whereas the steps in EP procedure *per se* as described in the manual remain essentially the same wherever it is practised, rational answers to the above questions may be very different in different places of the world. At the moment, direct copying of ET programmes as practised in developed countries by a developing country like Tanzania would be irrelevant and a waste of resources.

However, in specific areas of developing countries including Tanzania, dairying is being carried out with relative success, using imported pure bred *Bos taurus* as well as crossbred animals. Perhaps these areas are where the technique of ET could be of most use to a country like Tanzania where milk and milk products supply does not meet demand. The usefulness of ET in such situations would be realized when the technique is used on a limited scale at a nucleus herd with an ultimate aim of strengthening artificial insemination (AI) service in the country. In my opinion AI

remains the best tool of bringing about genetic improvement for milk production from cattle in specific areas of a country like Tanzania. Unfortunately, the potential advantages of AI have not yet been fully realized in many developing countries including Tanzania. For example a centralized AI scheme based on the use of deep frozen semen has not been very successful. Apart from organisational and logistical problems, lack of proven replacement bulls has contributed to the failure of a centralized AI scheme.

Perhaps the introduction of numerous decentralized AI centres using refrigerated semen or coconut extended semen may meet with more success. Bulls to be used as sire in such a decentralized AI scheme would be the offspring of a limited scale importation of embryos, a product of proven bulls and elite dams. Recipient cows would be from a nucleus herd e.g. University Farm under regular herd health reproductive control programme. Such a limited scale use of ET to complement an AI scheme in a country like Tanzania would circumvent the high costs of progeny testing or direct importation of live replacement bulls. In addition, a systematic use of ET in a limited nucleus of animals within the Tanzania dairy cattle population could exploit developments in the fields of cloning and sexing of embryos to add further to the efficiency of the scheme. Apart from production of AI sires the ET technique would be a very useful tool in the advancement of research and training at the Sokoine University of Agriculture, Tanzania. This manual is a useful one for those who would like to learn the technique of ET for the first time as well as a reference material for those already familiar with the technique. It is recommended to animal scientists, students as well as practising veterinarians interested in the subject. Those already involved in national AI scheme are particularly urged to read the manual for inspiration.

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