UNIT III

Section 5

Topic TRANSGENIC ANIMALS

What is transgenesis?

Transgenesis is the procedure through which genetic information (DNA or RNA) is transferred from one organism to another. This results in the second organism and its descendants being grouped as transgenic animals (cloned organisms). Not all of the complete genetic material is initially transferred, only one or several genes, which have been previously; selected, extracted and isolated

Transgenic animals are animals that have been cloned. The medical and biotechnological uses of animal cloning are almost innumerable, as many diseases have been eradicated thanks to the production of these transgenic animals. Due to the controversial concept of cloning and scientific testing on animals, there are many questions that revolve around this topic. The most commonly asked question remains: what are the uses, advantages and disadvantages of transgenic animals?

Definition of transgenic animals

Transgenic animals are those that have been genetically modified.

Theoretically, all living beings can be genetically manipulated. Animals. such as: sheep, goats, pigs, cows, rabbits, rats, mice, fish, insects, parasites and even humans have previously been used in this modification process. Mice, however, are the most popularly tested animals in genetic modification studies.

The use of mice as a subject has proven easier and more beneficial to scientists than the use of other animals. A mouse’s organism can easily manipulate new genetic information within its cells. In addition, the transmission of the chosen genes to the progeny has proved to be quite simple. Mice are also great subjects because they give birth to numerous and large litters, providing the scientific test more chance of success. These animals are also easy to handle physically. A mouse’s genome is also very similar to that of a human, adding strength and important to the research.

The use of animals for testing has naturally been an incredibly controversial topic within animal rights. This plan aims to monitor used technology for animal cloning. In addition, aim is to survey the animals used in testing and cloned animals, recording any ongoing health issues. It isconcluded that they neither support or object to the cloning of animals.

The following diagram showing two methods of transgenesis  in mice.

