

## Animal Biotechnology

### Learning Objectives

1. Know the methods of creating transgenic animals.
2. Be familiar with microinjection, embryonic stem cell transfer, gene targeting, and the use of retrovirus in gene transfer.
3. Know the current and potential uses for mice, cows, pigs, sheep, goats, birds.
4. Be familiar with the concept of xenotransplantation.
5. Be aware of the possible beneficial effects of biotechnology on diagnosing and treating animal diseases.
6. Know the methods of animal propagation, such as artificial insemination and animal cloning, and the potential applications of these methods.
7. Know how biotechnology is used to help maintain animal populations.
8. Be familiar with the regulatory processes surrounding transgenic animals, as well as the patenting of genetically engineered animals.