

Animal Genetic Resources

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Agr 201

Do we need animals?





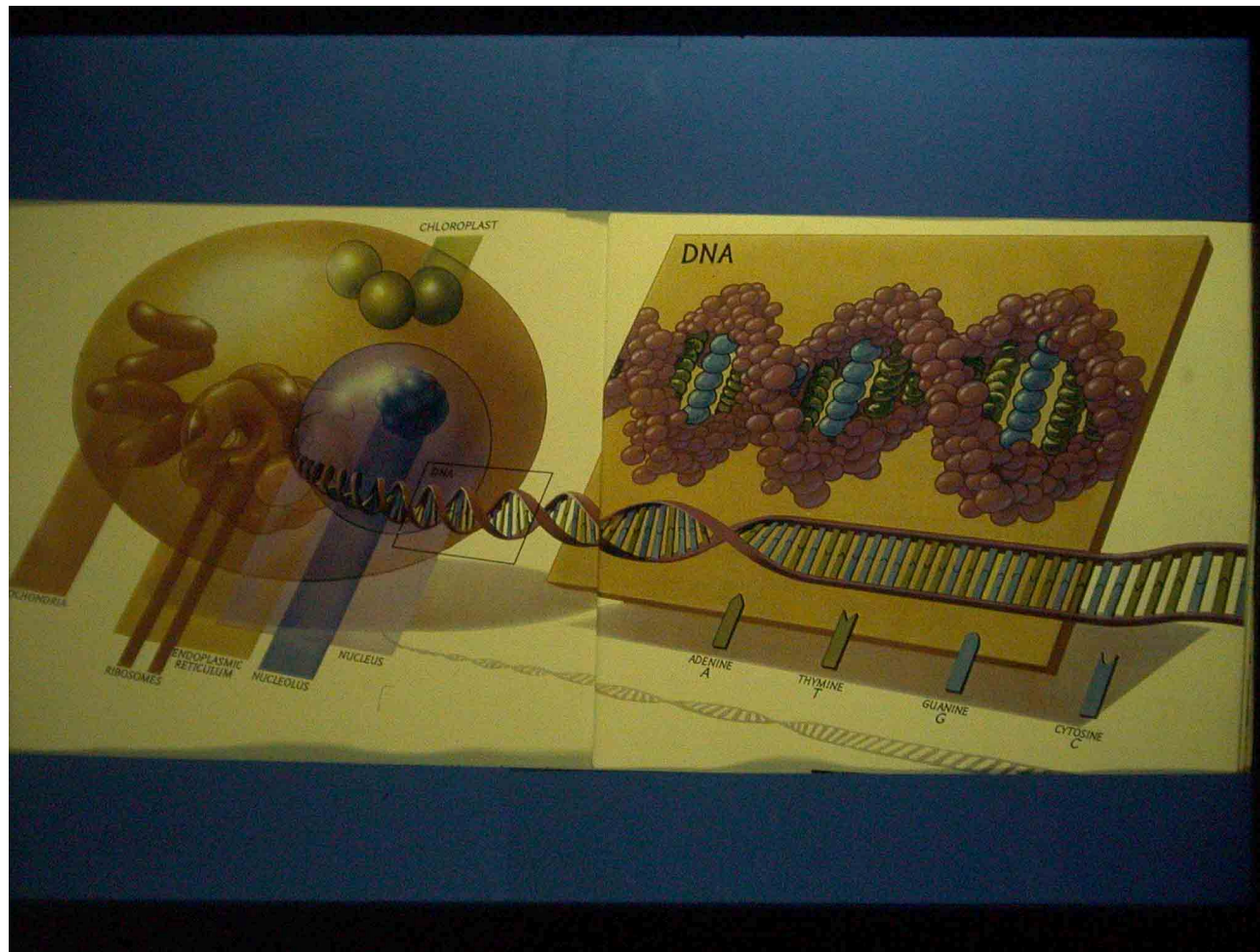
- Every effort should be made to improve the efficiency of animals and conserve their genetic resources if they are going to compete successfully.
- Animal breeding is the science dealing with changing and utilizing genetic differences among species, breeds and individuals and aiming at improving animal traits of direct or indirect value for humans

- Species: A group of individuals which have certain common characteristics that distinguish them from other groups of individuals. Within a specie the individuals are fertile when mated, in different species they are not.



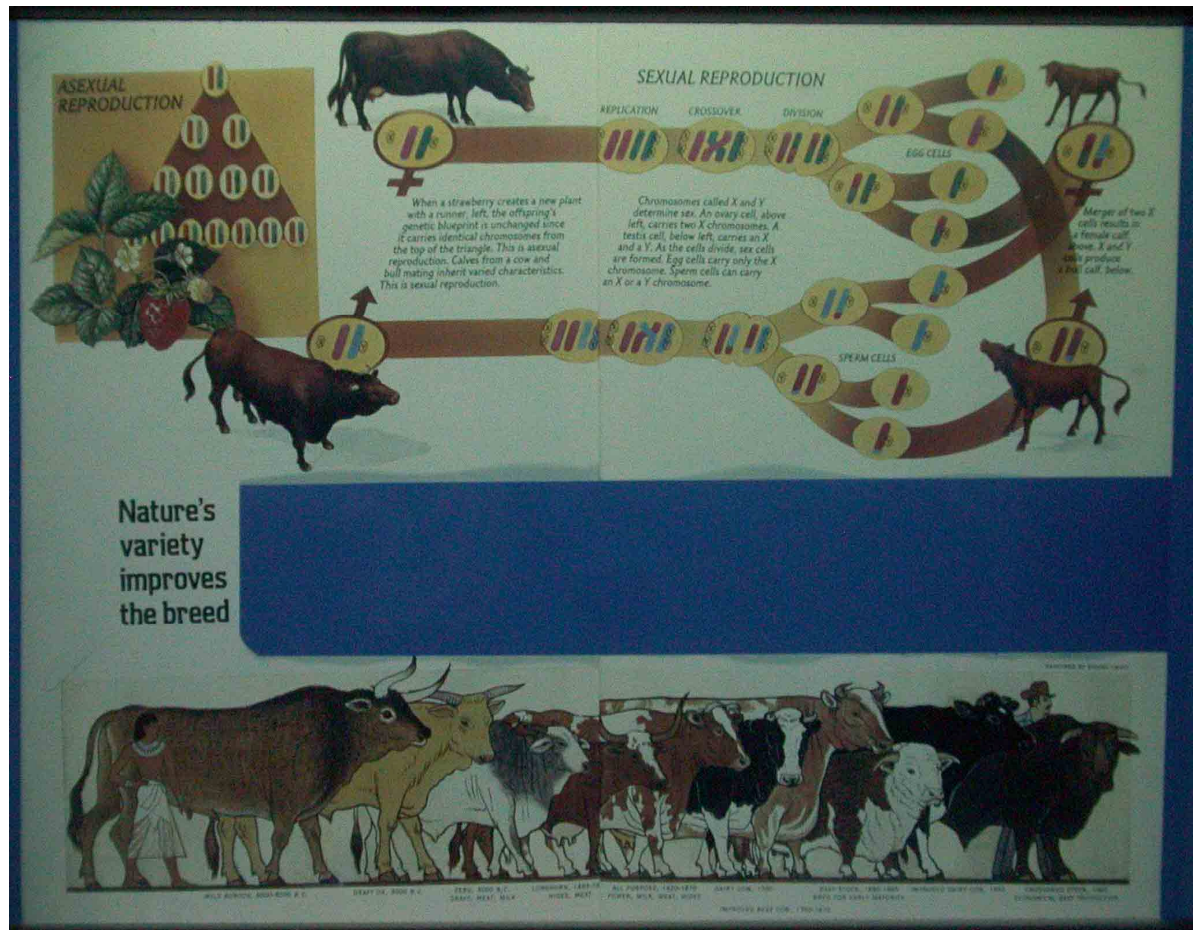


- Breeds: Animals which have a common origin and common characteristics which distinguish them from other groups of animals within that same specie.
- Traits: A characteristic of an individual that can be determined by senses.



- Gene: A unit of inheritance carrying information about a trait.

- Gamete: A male or female reproductive cell carrying genes from parents to offspring.
- Fertilization: The union of the male and female gametes to form a new individual.
- Selection: Allowing certain individuals to produce the next generation, selection may be natural or artificial by man.



- Pure breeding: Mating of animals within a breed with other animals within the same breed.
- Cross breeding: Mating of animals of two or more different breeds.

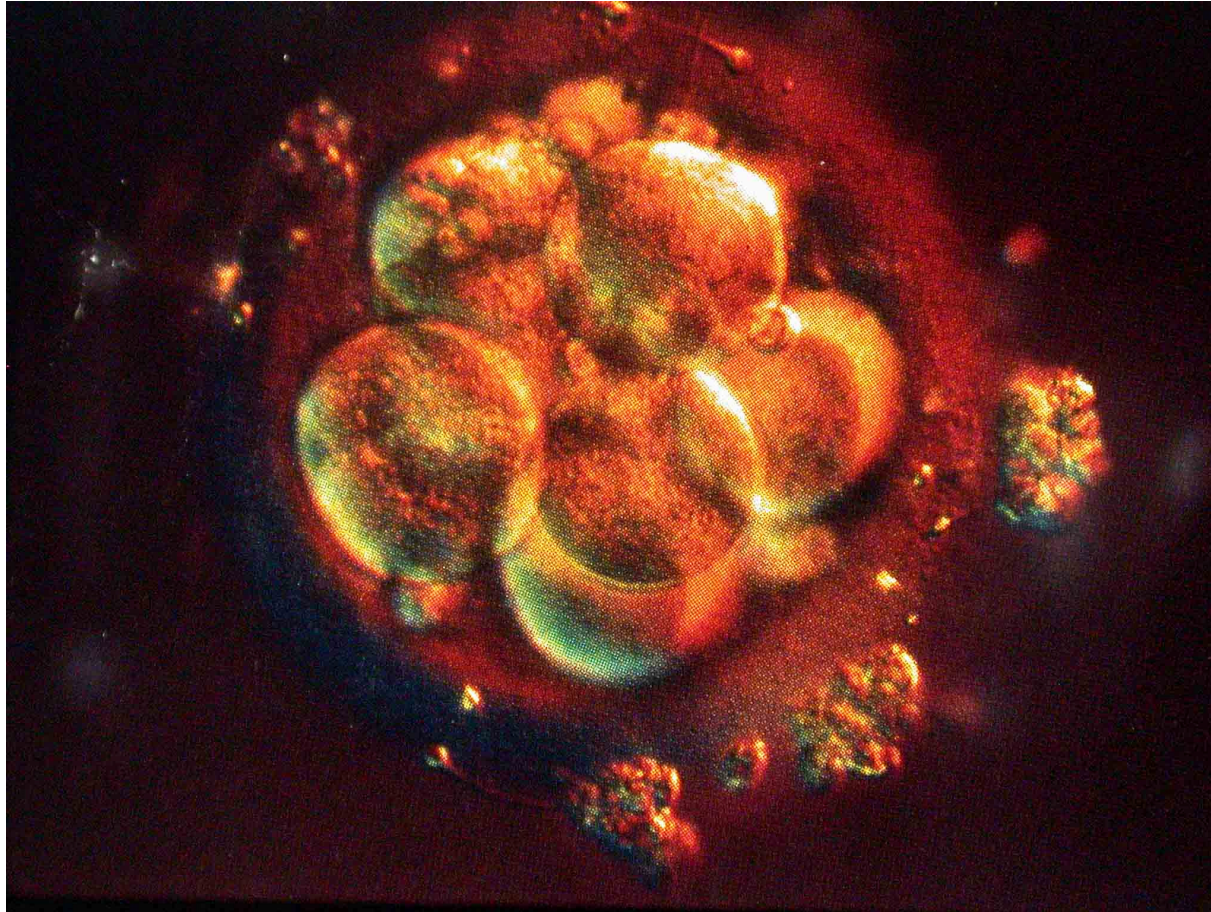
- Fertility: The ability to reproduce.
- Estrus: Period during which the female is receptive to the male, also called heat.
- Estrous cycle: Interval between heat periods.
- Gestation: Pregnancy, the carrying of the fetus from fertilization to delivery.



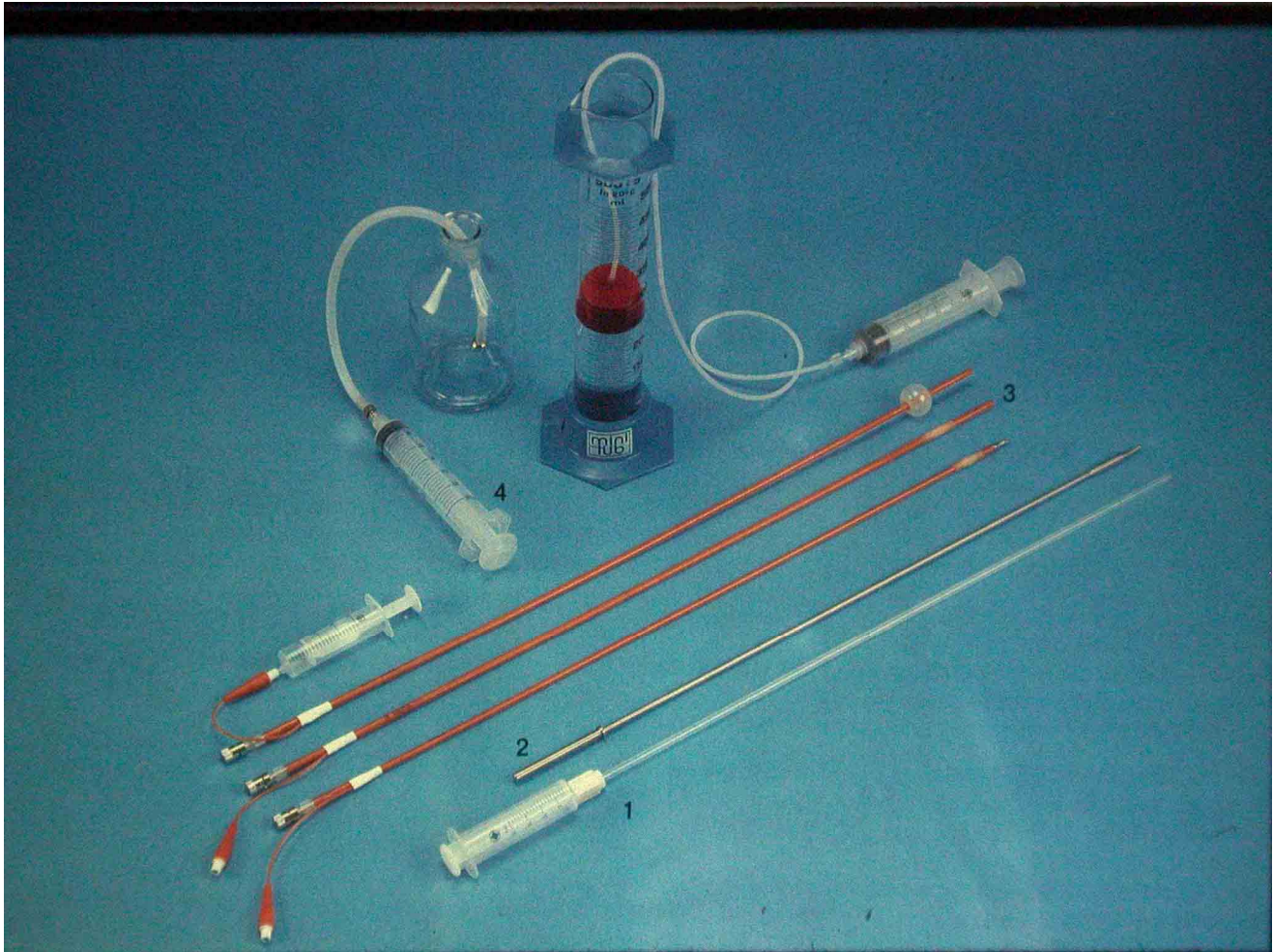


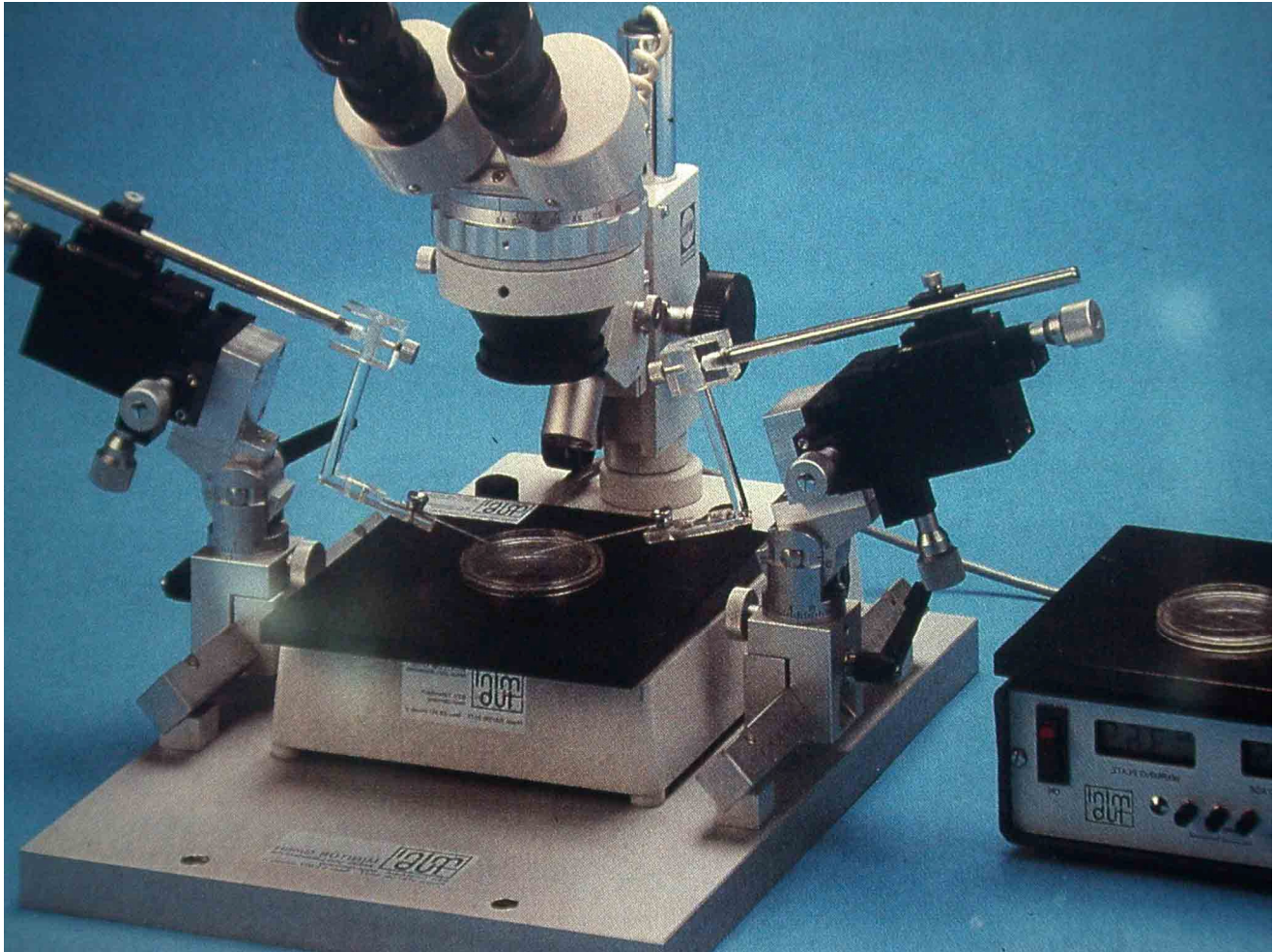
- Artificial Insemination: The artificial introduction by instruments of male sperms into the reproductive tract of a female.
- Superovulation: Hormonal stimulation of the female to produce a large number of eggs.

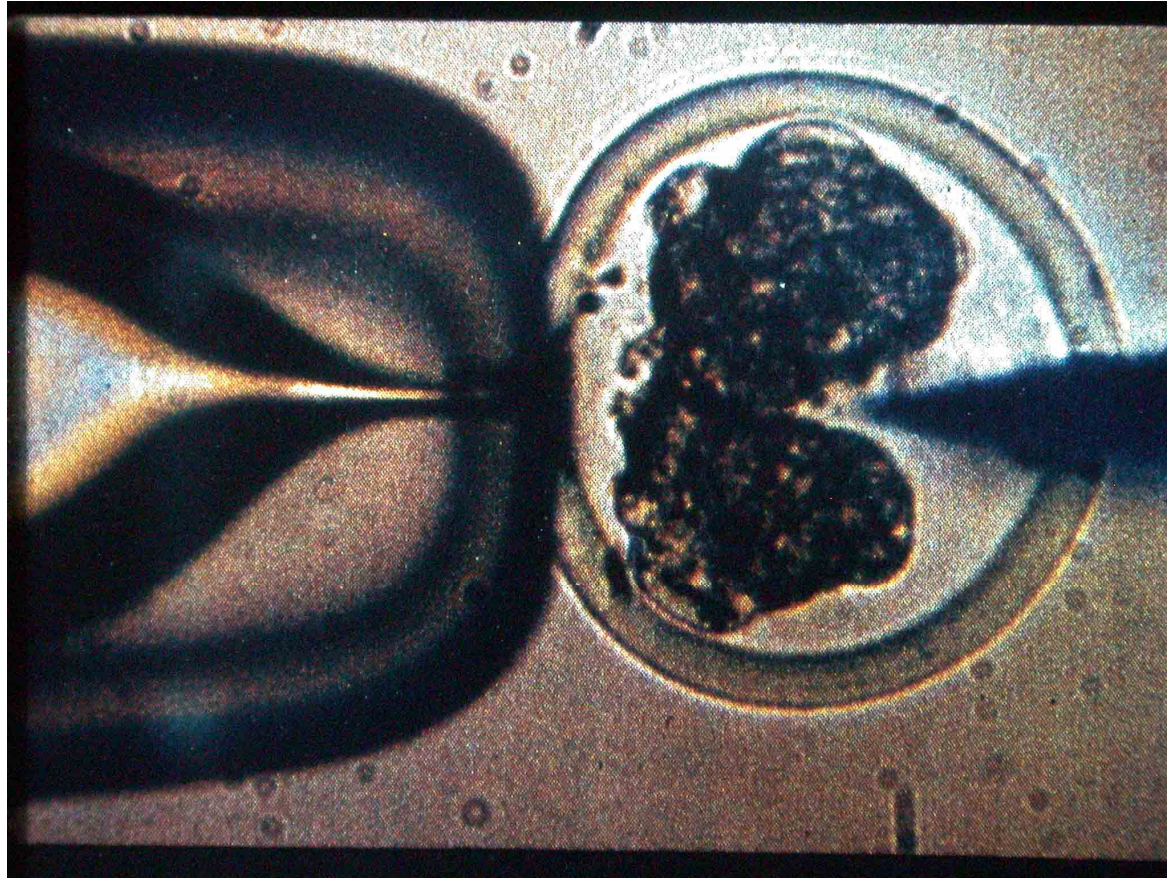




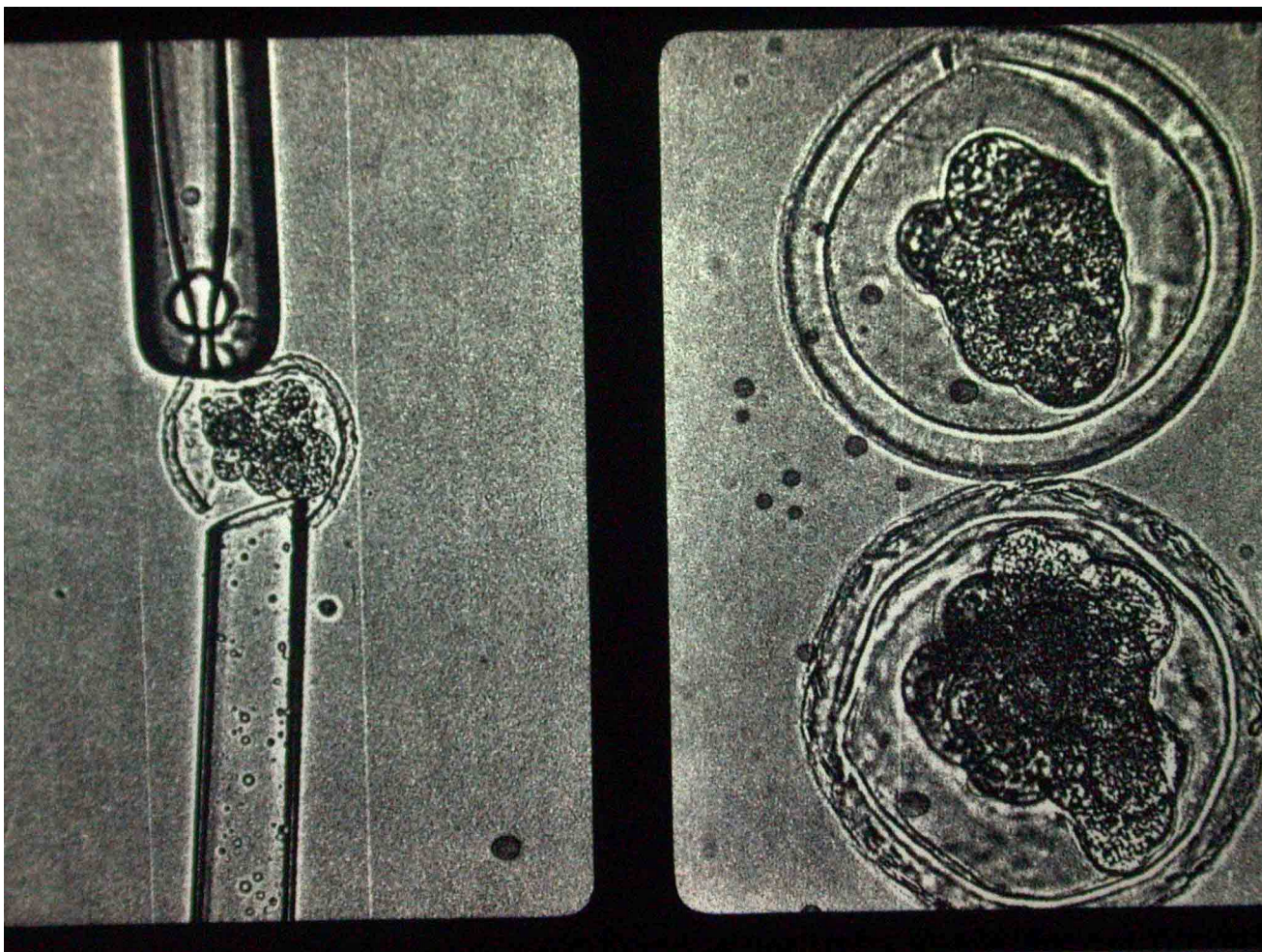
- In vitro fertilization: Fusion between male and female sex cells performed artificially in the laboratory.



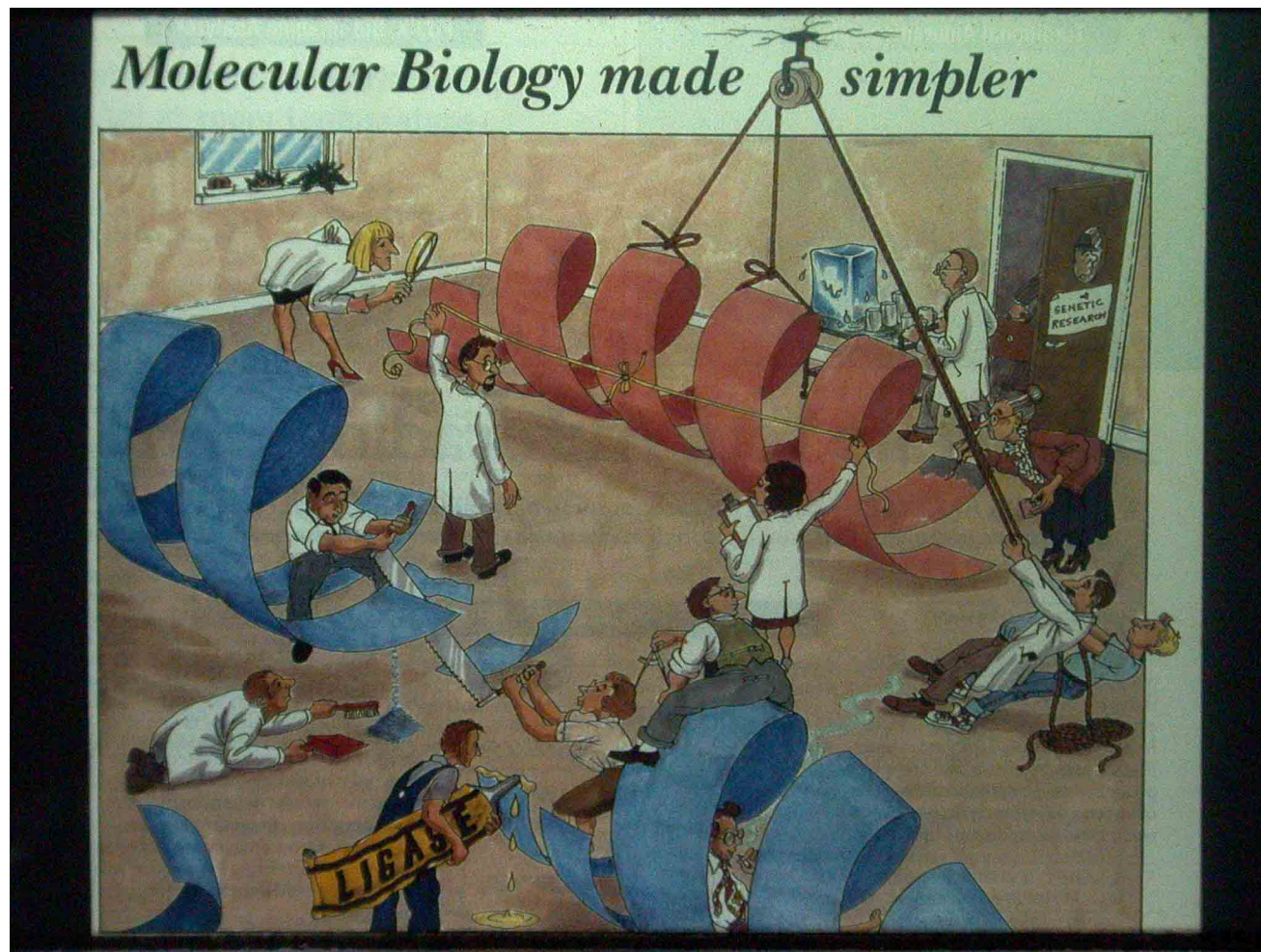




- Embryo transfer: Transfer of a living embryo from a donor animal to a recipient one.
- Embryo splitting: The micromanipulation of an embryo to divide it into many embryos.







- Genetic Engineering: The genetic transfer of material from one organism to another.

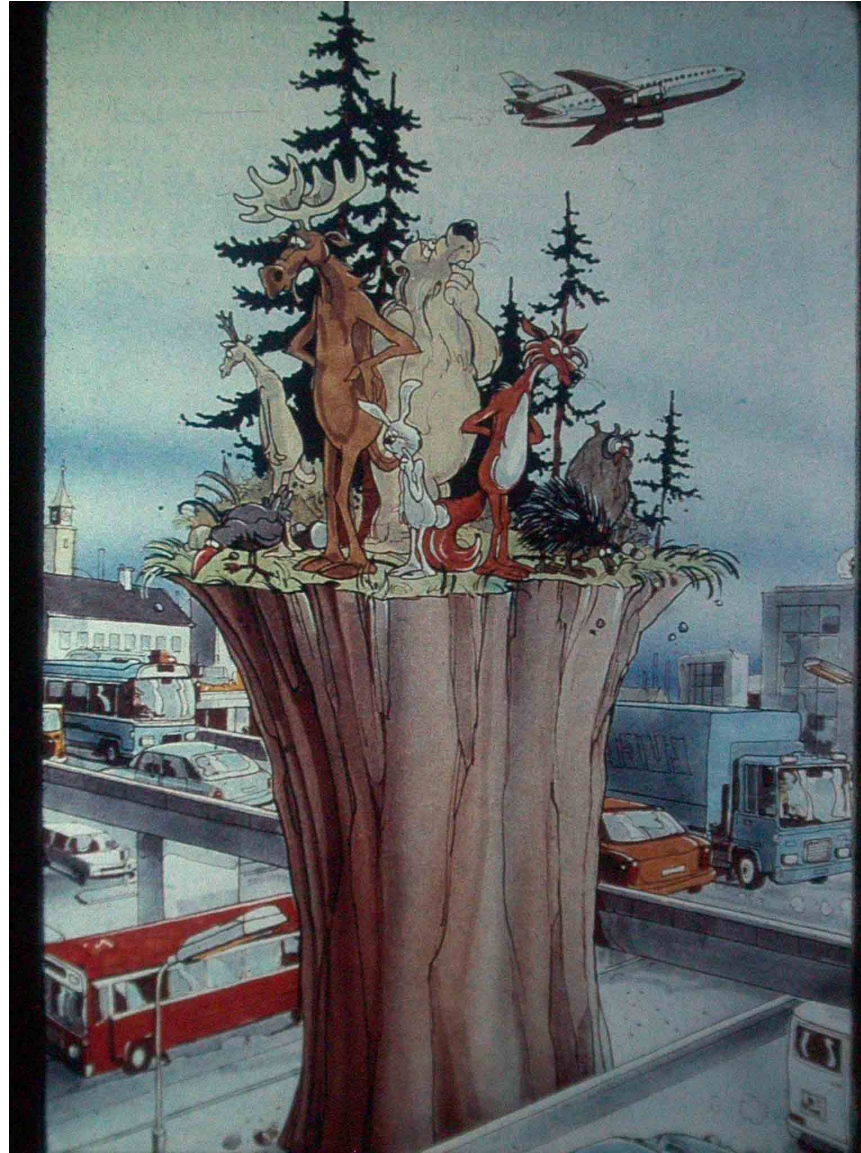
Supermouse





- Transgenics: The production of a genetically modified animal.

Loss of biodiversity







- Cloning: The duplication of an organism to form a new identical one.