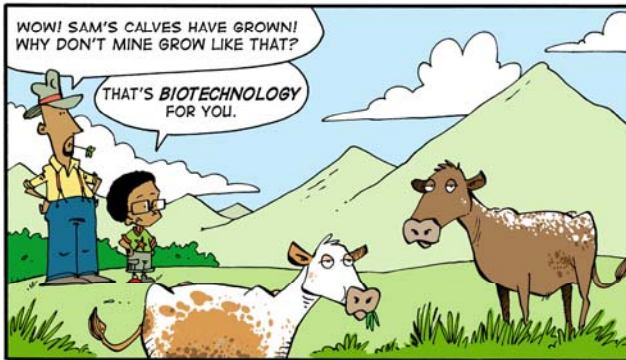


BIOTECHNOLOGY: SELECTIVE BREEDING



GENES

HAVE YOU NOTICED HOW CHILDREN AND ANIMALS OFTEN LOOK LIKE THEIR PARENTS?

OUR BODIES ARE BUILT ACCORDING TO INSTRUCTIONS CALLED **GENES**. GENES GIVE A PERSON OR ANIMAL ITS SPECIAL QUALITIES.

HALF OUR GENES COME FROM OUR MOTHER (IN AN EGG CELL) AND HALF FROM OUR FATHER (IN A SPERM CELL).

EGG

SPERM

BABY

BREEDING

CATTLE ARE OFTEN KEPT TO PRODUCE MEAT. A BULL IS MATED WITH A COW. A GOOD BULL HAS A BETTER CHANCE OF PRODUCING GOOD CALVES.

A CALF THAT RECEIVES GOOD GENES GROWS WELL, PRODUCING LOTS OF BEEF. SOME CALVES GROW POORLY, AND ARE REMOVED FROM THE HERD.

HEY BABE... COME HERE OFTEN?

OVER TIME, THE FARMER HAS MORE AND MORE CATTLE THAT GROW WELL.

AFRICAN CATTLE ARE SUITED TO AFRICAN CONDITIONS. THEY HAVE GENES THAT HELP THEM SURVIVE IN DRY AREAS AND FIGHT DISEASES.

SOME CATTLE HAVE GENES THAT MAKE THEM GROW QUICKLY AND PRODUCE GOOD BEEF.

THE CALF OF AN AFRICAN COW AND A BEEF PRODUCING BULL SURVIVES AFRICAN CONDITIONS **AND** PRODUCES GOOD BEEF.



GROUP FARMING

WHY NOT SHARE THE COST OF THE BULL WITH A GROUP OF FARMERS?

A GOOD BULL WILL PRODUCE MORE GOOD BEEF PRODUCING CALVES. KEEP THESE TO MATE AGAIN. YOU CAN SELL THE OTHERS.

YOU CAN TRADE YOUR BULL WITH OTHER FARMERS TO GET A GOOD MIXTURE OF GENES (A BULL SHOULD NOT MATE WITH HIS DAUGHTER)

BULL FOR SALE

ARTIFICIAL INSEMINATION

ONLY THE SPERM OF THE BULL IS REQUIRED.

YOU CAN BUY THE SPERM OF A GENETICALLY SUPERIOR BULL WITHOUT BUYING THE BULL. WHEN A COW IS READY TO MATE, THE SPERM IS INSERTED INTO HER. IT FERTILISES AN EGG, WHICH GROWS INTO A CALF.

NOT ALL CALVES HAVE THE DESIRED QUALITIES. SELECT ONLY THE ONES THAT DO FOR THE NEXT MATING.

LET GAIN BULL SPERM