

# CHICKENS AND GENETIC SELECTION

**Genetic selection has been an important tool in the development of today's food.**

**Corn is a good example.  
Corn is native to the Americas,  
but today's corn is VERY different  
from the corn of yesterday. This  
is because of genetic selection by  
agriculturalists over many, many  
generations.**



**WILD  
CORN**

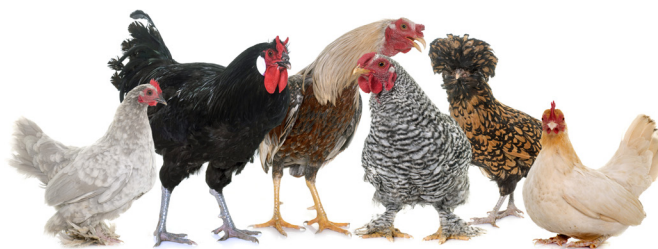


**CORN  
TODAY**

**WILD JUNGLE  
FOWL**



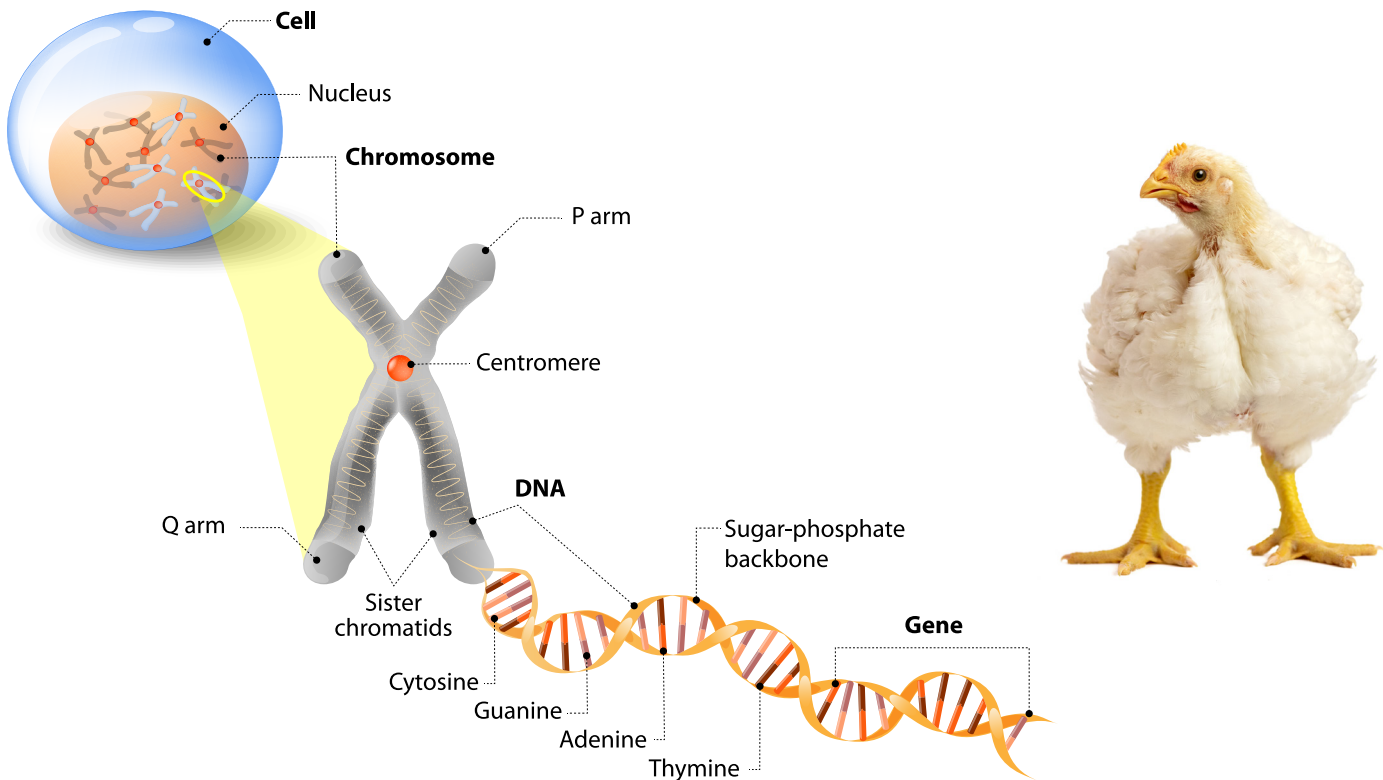
**SOME OF THE  
DIFFERENT  
BREEDS OF  
CHICKENS**



**It is the same with  
chickens.  
All the different  
types of chickens  
today were  
developed from  
the Red Junglefowl  
of Southeast  
Asia, through  
generations of  
genetic selection.**

# GENETIC SELECTION

An important tool in the development of today's chicken



## IMPORTANT TERMS TO UNDERSTAND

**GENETICS** is the part of science that studies genes. Scientists who study genetics are called geneticists.

**GENES** Genes are the basic units of heredity. That is, they are involved in the inheritance of how an organism looks and functions. This is the case for all plants and animals. This includes humans. Genes carry the information that will determine what characteristics an organism will inherit from their parents.

Genes are made up of DNA. DNA stands for **DeoxyRibonucleic Acid**. It is a long molecule that stores the actual instructions required for determining what characteristics are inherited.

Genes are located on a larger structure called a **CHROMOSOME**. Chromosomes are tiny structures inside every cell of an organism. The information inside chromosomes acts like a recipe that tells cells how to function and reproduce.

Every form of life has its own unique set of instructions, including you.

# GENETIC SELECTION

## An important tool in the development of today's chicken

Different genes control for different things. Important genetic characteristics for meat chickens include growth rate, feed efficiency, reproductive efficiency, amount and quality of meat, and liveability.

Breeders select chickens that excel in these characteristics and use those chickens to produce the next generation. As a result, the offspring grow faster and use feed more efficiently with each generation.

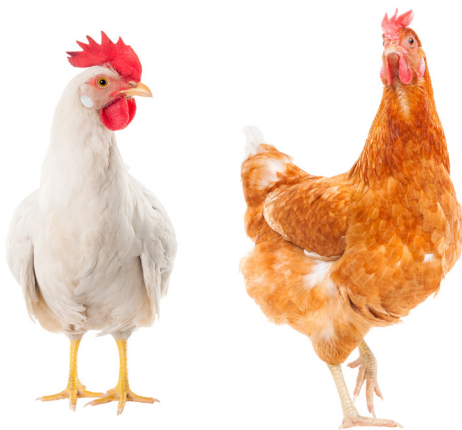
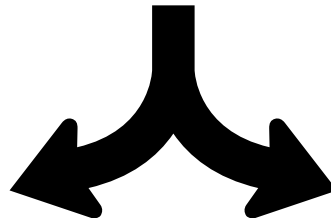
This was how today's meat chickens, called BROILERS, were developed. It took over 50 years of genetic selection, but now we have a chicken that produces more meat with less feed than the chicken of 50 years ago!

The breeders for the egg industry did the same thing. So now we have chickens breed just for efficient meat production and chickens breed just for efficient egg production. These are two totally different looking chickens.



**Original Junglefowl**

**Generations of  
genetically selecting  
for different traits**



**Efficient producers of  
white or brown eggs**



**Efficient producers of  
chicken meat**