





Calico Cat Genetics

Example of a Black Male Crossed with an Orange Female

Calico cats have a unique color pattern of black and orange. These colors are linked to genes of the x chromosome. When the embryo of a female is developing one X chromosome become inactive and forms a structure known as a Barr Body. It is random which X chromosome will form the Barr Body so the color of the animal will be random if it has a heterozygous genotype.

Genotype (what genes the kittens will have)		
	X^B	X^B
X^b	$X^B X^b$	$X^B X^b$
Y	$X^B Y$	$X^B Y$

Phenotype (what the kittens will look like)		
	X^B	X^B
X^b		
Y		



Common Questions about Calicos:

What about white spots?

White or lack of color is a different genetic phenomenon known as piebalding and is a complicated topic. (Maybe my project for next year.)

Can Calicos be male?

In very rare cases a cat may inherit two X chromosomes and one Y chromosome. This is known as Klinefelter Syndrome. This animal will be infertile and have other issues due to its genetic anomaly.

Can you clone a Calico?

While science hasn't reached a point where we can readily clone cats, even if we could you might be disappointed in a cloned calico. While it would have identical DNA, the Barr Body effect may not be the same in the new animal causing it to have a different coat pattern.

Sources

- <http://www.bio.miami.edu/dana/dox/calico.html>
- Wayne Township 4-H Calico Cat Workshop

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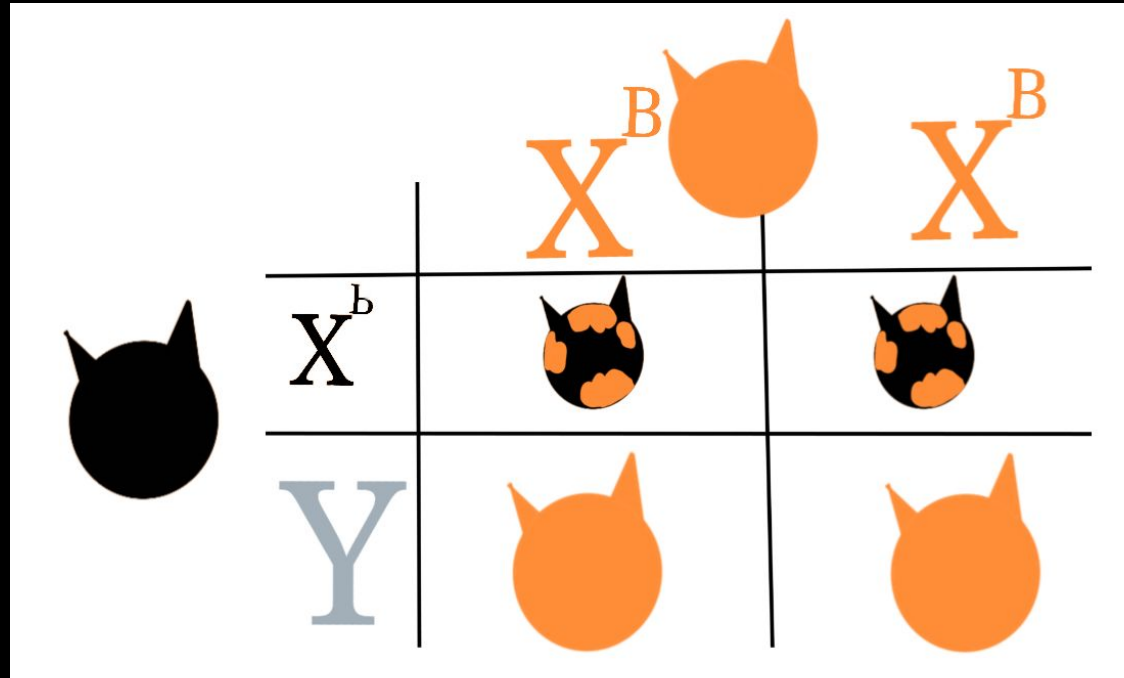


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