

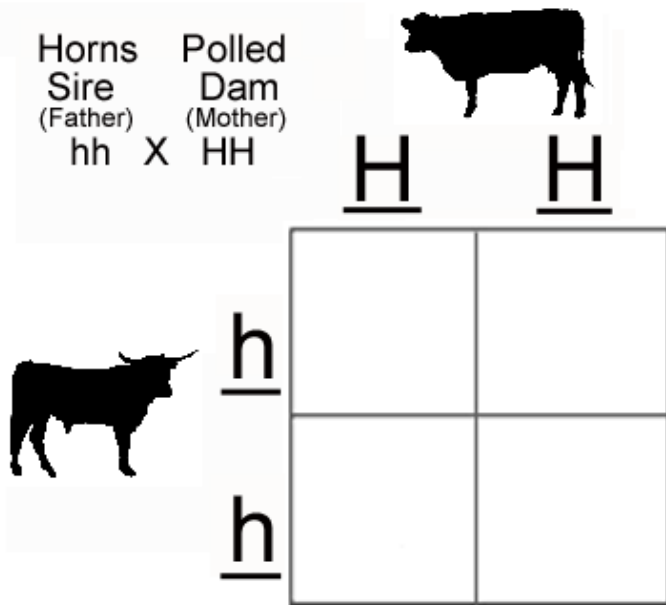
# Bos Taurus Horn Genetics

## To be used with the Bos Taurus Horn Genetics Power Point

Many ranchers use longhorn bulls on their beef herds because the longhorn produces a much smaller calf. However Longhorns have horns and most beef cattle do not. Ranchers prefer not to have horns on their cattle. Fill out the Punnett Squares to show the results of possible crosses. List the possible resulting genotypes and phenotypes and their likely percentages.

### 1. Homozygous Cross

Horns Sire (Father)  $hh$  X Polled Dam (Mother)  $HH$



	<u>H</u>	<u>H</u>
<u>h</u>		
<u>h</u>		

Genotypes :

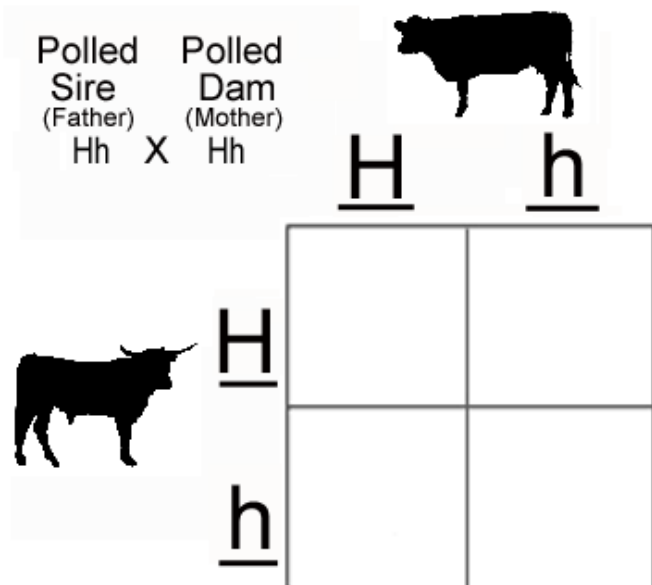
\_\_\_\_\_%HH  
 \_\_\_\_\_%Hh  
 \_\_\_\_\_%hh

Phenotypes:

\_\_\_\_\_% Horns  
 \_\_\_\_\_% Polled

### 2. Heterozygous Cross

Polled Sire (Father)  $Hh$  X Polled Dam (Mother)  $Hh$



	<u>H</u>	<u>h</u>
<u>H</u>		
<u>h</u>		

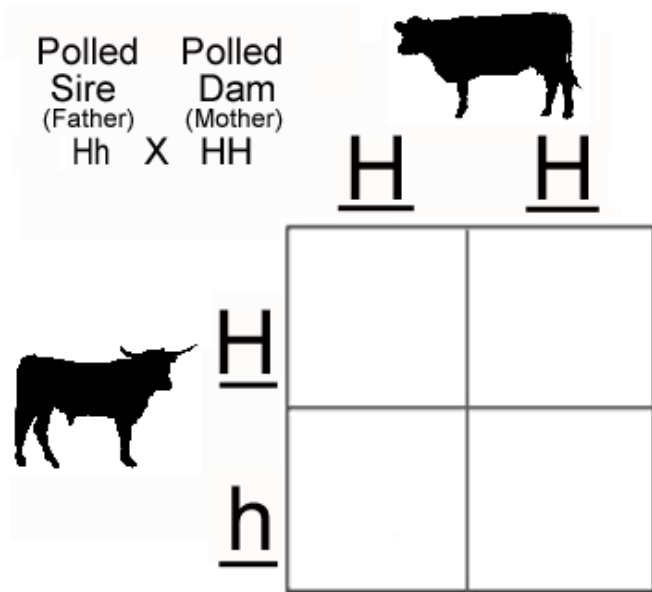
Genotypes :

\_\_\_\_\_%HH  
 \_\_\_\_\_%Hh  
 \_\_\_\_\_%hh

Phenotypes:

\_\_\_\_\_% Horns  
 \_\_\_\_\_% Polled

### 3. Homozygous / Heterozygous Cross



Genotypes :

\_\_\_\_\_ %HH

\_\_\_\_\_ %Hh

\_\_\_\_\_ %hh

Phenotypes:

\_\_\_\_\_ % Horns

\_\_\_\_\_ % Polled

4. Based on what you just learned about horn genetics which two statements are true about the calf on slide 11? (This calf will have horns)

- A. Both of this calf's parents had horns
- B. This calf's sire and dam both carry the recessive allele for horns.
- C. The genotype represented by this calf is hh.
- D. The genotype represented by this calf is either Hh or HH.

# Bos Taurus Genetics Answers

Answers:

1. Genotypes 0% HH 100% Hh 0% hh Phenotypes 0% Horns 100% Polled
2. Genotypes 25% HH 50% Hh 25% hh Phenotypes 25% Horns 75% Polled
3. Genotypes 50% HH 50% Hh 0% hh Phenotypes 0% Horns 100% Polled
4. Both B & C