

Coefficient of Inbreeding

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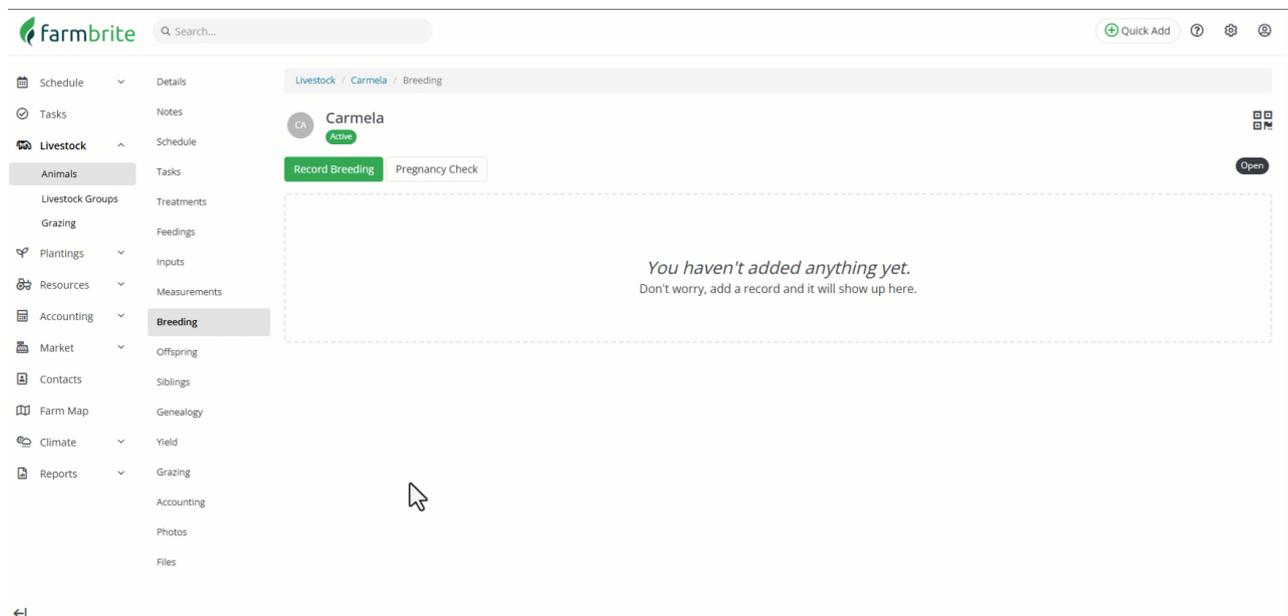
Determining the best partner match for your animals is critical to successful livestock breeding. Beyond considering breeding characteristics like coat/color, temperament, or size, you'll of course want to ensure the animals are genetically diverse enough to produce viable and productive offspring. Calculating and using a coefficient of inbreeding (COI) can ensure your animal pairs are not too closely related for viable breeding, and help you keep your herd diverse enough to be productive for years to come. You'll see an opportunity to calculate the COI when selecting a sire on a breeding record, helping you know immediately if the match has potential, or might result in too close breeding that could lead to problems.

Of course, this all depends on setting up your animal's genealogy and pedigree so this can be calculated accurately! [Check out this article](#) if you have not yet made those connections as it's a great place to get started.

Calculating the Coefficient of Inbreeding

You'll calculate the coefficient of inbreeding feature when selecting a sire for a breeding record. To do this, simply navigate to the dam's record to [record the breeding](#), and select your sire from the Bred With menu. Click the button to Calculate COI, and the coefficient of inbreeding will be displayed, along with the inbreeding percentage of each shared ancestor.

In our example below, we compare the COI of two different sires with this dam. Our first selection, Bobby, returned a COI of 28.13%, which is probably a bit too high for our purposes. you'll note the yellow alert shown, which is displayed when the COI is higher than 12.5%. We then select a different bull, Tony, who is more compatible at 6.25% COI.



You can also view the coefficient of inbreeding for an individual animal itself on the animal's genealogy page. Just navigate to their genealogy chart and click the Actions button (3 Dots) at the top, and choose Coefficient of Inbreeding. Their lineage is calculated and the COI is displayed. In our example below we see that Ginny shares the same grandfather on both sides of her pedigree, resulting in a 12.5% COI.

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Livestock / Ginny

Ginny Active

Select Ancestors

Pedigree of: Ginny

Born on: - Color: Sex: Female
Breed: Weight: 1100.0 lbs Registry #:

Ancestor Levels: 4

Parents	GrandParents	Great GrandParents	Great Great GrandParents
Tony B Color: - Weight: - Birth Date: - Reg #:	Silvio Color: - Weight: - Birth Date: - Reg #:	+ Add Sire	
		+ Add Dam	
	Angie Color: - Weight: - Birth Date: - Reg #:	+ Add Sire	
		+ Add Dam	
Carmela Color: - Weight: - Birth Date: - Reg #:	Silvio Color: - Weight: - Birth Date: - Reg #:	+ Add Sire	
		+ Add Dam	
	Rosalie Color: - Weight: - Birth Date: - Reg #:	+ Add Sire	
		+ Add Dam	

Reach out to us if you have any questions about setting up genealogy or determining coefficient of inbreeding!

We would like to acknowledge Sam Kauffman at Nabssar.org for providing inspiration for this feature with their [inbreeding calculator tool](#). If you would like to learn more about this concept overall, you might [check out this article](#) from the Food and Agricultural Organization of the United Nations.