

# PASSING ON THE FecX<sup>G</sup> GENE MUTATION

	SIRE	DAM	<div> RAM LAMB </div> <div> <div>FROM SIRE</div> <div>FROM DAM</div> </div> <div> EWE LAMB </div> <div> <div>FROM SIRE</div> <div>FROM DAM</div> </div>
1. RAM NON-CARRIER  EWE NON-CARRIER	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>Progeny do not carry the FecX<sup>G</sup> gene mutation</div>
2. RAM CARRIER  EWE NON-CARRIER	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>Carrier ram always passes FecX<sup>G</sup> to his daughters</div>
3a. RAM NON-CARRIER  EWE CARRIER BUT DOES NOT PASS IT ON	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>50:50 chance of a carrier ewe passing the FecX<sup>G</sup> gene mutation to either sex offspring</div>
3b. RAM NON-CARRIER  EWE CARRIER AND PASSES IT ON	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>50:50 chance of a carrier ewe passing the FecX<sup>G</sup> gene mutation to either sex offspring</div>
4a. RAM CARRIER  EWE CARRIER BUT DOES NOT PASS IT ON	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>Carrier ram always passes FecX<sup>G</sup> to his daughters</div>
4b. RAM CARRIER  EWE CARRIER AND PASSES IT ON	<div>Y</div> <div>X</div> <div>X</div> <div>X</div>		<div> <div>Y</div> <div>X</div> <div>X</div> <div>X</div> </div> <div>Ewe has passed it on to her son</div> <div>Ewe lamb with 2 copies is STERILE</div>



Normal X and Y chromosomes



X chromosome with FecX<sup>G</sup> gene mutation