Ram DNA Scheme - Understanding the Results

All members are invited to test their rams. Shearling rams and stock rams. They must be registered hence for shearling rams the sample must be sent at time of registration.

DNA samples are to be collected by the breeder at home.

Sample kits (nasal swabs) can be obtained from the office. There is a charge for this service.

The below information is to help you translate the results:

Please note all the information given above is advice only. The Lleyn Sheep Society accepts no responsibility for the outcome. It is always recommended that if you are looking to follow such guidance, you do your research and if possible obtain expert information and advice.

Failed	**NR**	No Result- sample failed and new sample required
SCRAPIE GENOTYPE		
Scrapie	**ARR/ARR**	Most resistant
	ARR/AHQ	Resistant, but require careful breeding selection
	ARR/ARH	
	ARR/ARQ	
	AHQ/AHQ	Little resistance and require careful breeding selection
	AHQ/ARH	
	AHQ/ARQ	
	ARH/ARH	
	ARH/ARQ	
	ARQ/ARQ	
	ARR/VRQ	Susceptible
	AHQ/VRQ	Highly susceptible
	ARH/VRQ	
	ARQ/VRQ	
	VRQ/VRQ	
MYOSTATIN RESULT		
G/G	**Wildtype = non carrier.** Sheep like this have 'standard' levels of muscle.	
A/G	**Carrier = has one copy of the Myomax gene.** Therefore the ram has 7% more muscle than non-carriers. He will pass on one copy to half of his progeny (both male and female). The lambs have a 50% or 100% chance of inheriting a second copy from the dam, if she is a carrier with one or two copies herself.	
A/A	**Double Muscled = has two copies of the Myomax gene.** Has 14% more muscle than non-carriers. Every lamb from this ram will carry one copy of the gene. The lambs have 50% or 100% chance of inheriting a second copy from the dam, if she is a carrier with one or two copies herself.	

PROLIFICACY RESULT		
Most Lleyn rams do not carry either prolificacy gene FecX(G) or FecG(H). The Lleyn has a reputation as being prolific based on a proportion of the ewes (around 5-15%) carrying one or the other genes.		
FecX (G)	**G/G**	**Wildtype = non carrier.** If he is put to ewes which have not inherited prolificacy genes from their dams, the rams daughters will give the normal 170% lambing that non-gene carriers Lleyn ewes produce.
	A/A	**Carrier of the gene.** As this gene is on the X-chromosome, ALL his daughters will be gene-carriers and they could average 220-240% lambing. None of his sons will inherit this gene.
FecG (H)	**G/G**	**Wildtype = non carrier.** If he is put to ewes which have not inherited prolificacy genes from their dams, the rams daughters will give the normal 170% lambing that non-gene carriers Lleyn ewes produce.
	A/G	**Carrier of the gene.** As this is not on the sex chromosome, the inheritance by both daughters and sons will be random and unpredictable. The gene will be passed on an average of 50% of the time. Carrier daughters could average around 270-290% lambing.
	A/A	**Homozygous Carrier** = carries two copies, although this has not been seen yet
It is recommended that gene carrier rams are not be put to prolific ewes who may be gene carriers themselves. They should be used on ewes that normally give singles or twins to minimise the chance of sterile offspring.		
Ewes carrying prolificacy genes are important, especially FecX(G) carriers which usually give twins or triplets. Without them, Lleyn would average 170%. FecG(H) carriers can give multiples, triplets, quads, quins and are less desirable.		