



Virtual Sheep Conference 2021

INZAC: An Irish versus New Zealand animal comparison - Q&A's

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1. Is the lamb weaning rate per ewe not lower in NZ compared to Ireland? i.e 1.2 vs 1.4ish here. How would lamb mortality compare country to country?

The national average weaning rate in New Zealand was 132% in 2018. An increased weaning rate reported for the NZ group within this study demonstrates their suitability in an Irish production system. Mortality rates however are not recorded on the vast majority of farms in New Zealand, but one study operated on a research farm showed results of 5% lamb mortality at tagging, although due to the difference in production systems between Ireland and New Zealand, reasons such as predation or exposure to weather conditions when lambing outdoors are often of concern.

2. Have the NZ genetics been testing at commercial levels and what are the rating at this level?

After so many years is there a gap between NZ and elite Irish and from a day to day managed do you find the NZ ewes hold condition better during the season BSI?

To begin, NZ genetics were only available for use within the pedigree flock in Athenry. Since its establishment, rams have been available to farmers involved in the BETTER farm programme, offspring from these rams have been purchased back from Teagasc in order to set up a study which looks at NZ cross Irish comparison.

Analysis of ewe body condition score is carried out at seven key time points throughout the year within the INZAC flock. This data is currently being analysed as part of the study. Preliminary results show that NZ ewes have a greater BCS at all time points, demonstrating their ability to maintain BCS throughout the year in comparison to the Irish ewes. This research will be published later this year.

3. Would barren rate not be higher due to the use of Laproscopic AI? Are ewes not more likely to skip a repeat after laproscopic Ai compared to natural service?

Silent heats after AI is sometimes seen, which is part of the reason why we leave rams with the ewes for two repeat cycles post AI. With excellent conception rates to AI however, averaging 78% across four years, the rams pick up most of these ewes resulting in overall barren rates of 5 to 7% at scanning.

4. Did Nicola scan loin muscle and backfat only, or did she complete a CT scan?

CT scanning was not carried out within this flock. While it's considered to be more accurate than ultrasound scanning, it is quite labour intensive and expensive to set up so ultrasound scanning through Sheep Ireland's data recording system was thought to be the best option for widespread use. Given the difference in NZ and Irish fat and muscle scores from the ultrasound scanning, we would anticipate interesting results from the specific shoulder, hind and leg measurements that a CT would provide so perhaps more detailed analysis would be of interesting in the future.

5. Nicola's presentation was excellent. Was the monetary value of the superior NZ or High Irish genetics per ewe calculated?

This economic analysis is currently underway and I'm sure it will give an interesting conclusion to this phase of the study. However, previous research that compared five star and one star ewes concluded that there is up to a €5 difference over the lifetime of the ewe.

6. Have economics per ewe (gross or net margin) been applied base on reproductive performance of NZ vs High Irish v Low Irish?

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Hi Nicola, Would it not be fair to say that a more intensive level of farming and care would have benefited the NZ genetics across your trial? As in NZ the farming system they originated from would have involved more extensive practices, outdoor lambing etc and thus they would have been exposed to less environmental and management stresses when they came here compared to in NZ? Which group had a higher carcass price at slaughter or was more valuable at point of sale?

Yes, results from this study show the suitability of New Zealand genetics in an intensive system but the objective of the study was to manage both Irish and NZ genetics in the same environment and to then see how they compared. For example, it demonstrated that if management practices in NZ became more similar to Irish practices that output could be increased. While extensive systems are practiced in NZ and some threats such as exposure or predation at lambing would be minimal in Ireland, the NZ animals would have faced new challenges in Ireland too such as synchronization, laparoscopic AI, increased handling, more intensive grazing etc.

All lambs, regardless of genetic merit group, were drafted when they reached the drafting target for the given month, e.g. 43kg in June, 44kg in July and 45kg in August. However, a small proportion of the flock (usually only the lambs classified as not fit for breeding) would be slaughtered so data in this area is minimal. Therefore we use the ultrasound scanning of all lambs as a predictor. Increased muscle and fat depth within the NZ animals could possibly indicate a greater kill out percentage which could too increase carcass price at slaughter but this research has not yet been carried out as is only of my opinion given the data to date. NZ cross Irish ewes will lamb down this Spring in Athenry and their offspring slaughtered which will give a greater indication of possible improvements in carcass quality etc. using NZ genetics.

7. Has there been any health trait comparisons carried out in the INZAC flocks? How prevalent is Laryngeal Chondritis in the different flocks?

Health traits including lameness, mastitis, prolapse etc. are recorded on ewes across the INZAC flock each year. Analysis of these traits is underway. Laryngeal Chondritis is not an issue that we have seen within the flock to date but we aim to record this in the future if it becomes apparent within the flock.

8. From Nicola's studies and time spent in NZ what are her main learnings Irish sheep farmers can take from our NZ counterparts breeding policies. Are their breeding policy objectives different due to the fact they have much larger flocks?

Overall, breeding objectives between both countries are similar. The greatest focus within the maternal index in NZ is placed upon lamb growth, followed by reproduction and lamb survival; similar to Ireland. From my time spent visiting flocks in New Zealand, the ability to make genetic progress using genetic evaluations was clear. Some farmers were so far advanced in genetic selection and ram quality that they were culling high genetic rams based on specific traits within the index where a ram was inferior. While genetic indexes were available in New Zealand 25 years prior to Ireland, I believe this gives a great indication on how the industry can evolve in a relatively short space of time once commercial farmers see the benefits and drive demand for rams of superior genetics.

While fundamental breeding objectives are similar across flocks both large and small, the economic benefit to large flocks is amplified due to the increased number of rams used each year, i.e. a farmer with 3000 ewes may run 30 rams each year. If we assume 1.4 lambs tailed per ewe mated and rams are used for four breeding seasons, using rams in the top 20% provide an additional \$1,116 in value compared to rams within the top 50%, (based on the average percentiles in 2017). Therefore, selecting rams from the top 20% compared to the average ram works out at \$33,480 additional value to the farmer.

9. In the first study... which breed performed best in each of the 2 Irish groups?

Two breeds were used within the study in the interest of fairness, i.e. that results couldn't be attributed to be due to a specific breed, but the objective of the study was to compare the genetic merit groups not the breeds themselves. Therefore, results have not been published comparing breeds. However, due to the variety of traits that were measured, it would be difficult to say which performed better even if they were published as what might be performing very well in one trait could perform badly in another.

10. How can ordinary sheep farmers progress when most pedigree breeders don't utilise breeding info e.g. to many breed for type e.g. a great head?

As part of my research, using models, I looked at various possible ways that the industry could improve its genetic progress. Options included importing from NZ, using both Irish and NZ genetics, using Irish genetics only etc. Greatest improvements in both genetics and economics came from using Irish genetics only (without importing NZ genetics) but requires commercial farmers to shift towards purchasing 5 star Irish rams. Therefore, the potential to make improvements in the future actually lies with the commercial farmer who will in time increase the demand for five star rams across the country.

The Sheep Ireland website has a useful tool whereby you can search flocks/rams which fit the genetic profile you desire. Their annual sale would also be a good opportunity to purchase five star rams. If you usually source from the same local breeders, I would suggest that you select a few rams that you find to be suitable in terms of breed, quality, physical attributes etc., and then make your final decision based on their genetic merit. This might mean selecting a four star ram over three star ram which would be ranked in the top 40% of rams recorded compared to the top 60%, so everything is progress! Hopefully, in time some more pedigree breeders will realise the demand for high star rams and their availability will be increased.