

Industry Survey

Title

Breeding Superior Parasite Resistant Genetics – Why is it not happening?

The Survey Intent:

Provide a greater understanding and explanation for the low industry uptake of breeding as a tool to combat the cost of parasitism.

Background

There is growing evidence suggesting the entire sheep industry would benefit greatly if more parasite resistant animals were available and used on commercial farms.

The commercial reasons are:

- The cost of undetected (untreated) parasitism is significant on many sheep farming operations
- Drenching is a significant cost on commercial sheep farms
- Drench resistance continues to permanently erode drench choices for many farmers
- Chemical usage in red meat production is a growing concern in key markets and is likely to alter drenching behaviour in the future

The breeding reasons are:

- Approx 13% of susceptible rams in a line have been shown to produce >50% of the egg out put on pasture (they can be identified and culled)
 - Less eggs on pasture = less L3 larvae = less drenching and higher LWG
- The trait is highly heritable (0.3)
- Relative to the value of the ram, resistance testing is relatively inexpensive (approx 1% – 3% of the value of the ram)
- If undertaken appropriately, selecting for this trait doesn't have to compromise productive traits

The Question:

“Given the opportunity, why do more commercial farmers not preferentially select and purchase proven parasite resistant rams and why do many breeders appear reluctant to undertake the screening and selection process? “

Methodology:

- Survey was undertaken in two sections
- 20 breeders were randomly selected to participate
- Breeders were from a range of breeds but all were breeders of maternal dam lines
- The breeders were all asked a standard set of questions
- 20 commercial farmers were randomly selected to participate
- The commercial farmers were asked a standard set of questions

Summary Findings – Breeders Survey

1. Do you currently breed for Parasite Resistance?

- 45% Yes
- 55% No

2. If not – why not

- The main reason was – *“Too many other things to select for”*
- The next reason was – *“A lack of understanding of the issue”*

3. If you do breed for Resistance – What are the key reasons?

- Ranked in order of preference
 - *“To reduce the reliance on anthelmintic (drench) use”*
 - *“To create a multifaceted animal that is sustainable in the market”*
 - *“Because clients request parasite resistant animals”*
 - *“To differentiate your animals from those of your competitors”*

4. What type of testing do you currently do (some breeders are doing more than one)

- 42% WormFEC
- 27% WormStar *
- 15% FEC testing (not on SIL)
- 10% Carla
- 6% Other

* Note: A number of breeders noted they received WormStar as part of their other gene tests. Many WormFEC breeders also received WormStar as part of their WormFEC involvement.

5. Of the main tests available, breeders rated their understanding of the tests as:

- WormFEC – Most rated their understanding as “Good” or “Excellent”
- WormStar – Responses varied, with most reporting “Some” or a “Good” understanding, however a third of the group responded they had “No” understanding
- Carla – Most responded they had “No” understanding while a smaller group had “Some” or a “Good” understanding of the test

6. What are the main reasons Breeders choose a specific form of testing?

- 26% - Accuracy/validity of results
- 19% - Price
- 19% - Ease/convenience
- 16% - Speed of receiving results
- 16% - All of the above
- 4% - Consistency

7. Breeders were asked how often they undertook testing

- 77% reported every year , 23% did not answer

8. Breeders were asked the following questions:

Note: Due to the relatively short time Carla has been available on the market the response results for this test may be poorly represented in the findings

- What is the cheapest test?
 - 45% - don't know
 - 23% - FEC (not on SIL)
 - 14% - WormFEC
 - 14% - WormStar
 - 5% - Carla
- What is the most accurate test?
 - 50% - do not know
 - 36% - WormFEC
 - 9% - WormStar
 - 5% - Carla
 - 0% - FEC (not on SIL)

- What's the most convenient?
 - 32% - don't know
 - 27% - WormStar
 - 18% - FEC (not on SIL)
 - 14% - WormFEC
 - 9% - Carla

- What has the fastest turn around?
 - 45% - don't know
 - 23% - WormFEC
 - 14% - FEC (not on SIL)
 - 9% - WormStar
 - 5% - Carla

- What test has the most consistent results?
 - 41% - don't know
 - 32% - WormFEC
 - 14% - WormStar
 - 5% - FEC (not on SIL)
 - 5% - Carla

9. Breeders were asked how they thought the tests were priced

	Not Expensive	Well Priced	Too Expensive	Did not Answer
WormFEC	18%	36%	9%	63%
FEC – Not on SIL	9%	18%	9%	64%
WormSTAR	0%	18%	32%	50%
Carla	0%	13%	32%	55%

10. Breeders were asked how accurate the rankings obtained from the following tests are

	Not accurate	Fairly Accurate	Very Accurate	Don't know
WormFEC	5%	36%	23%	36%
FEC – Not on SIL	9%	23%	0%	68%
WormSTAR	23%	23%	9%	45%
Carla	0%	18%	0%	82%

11. Breeders were asked how convenient the testing options were for them

	Inconvenient	Relatively Convenient	Very convenient	Did Not Answer
WormFEC	23%	50%	9%	18%
FEC - Not on SIL	14%	32%	5%	50%
WormSTAR	5%	32%	27%	36%
Carla	14%	36%	0%	50%

12. Breeders were asked how quickly would you expect to see results for each of these testing options

- Breeders responded strongly that results should be available within 2- 3 weeks for all the tests available

13. Breeders were asked if their clients ask to see parasite data before purchasing Rams/Ewes

- 45% responded this never happens
- 45% responded that this sometimes happens
- 5% responded that this often occurs
- 5% did not answer the question

14. Breeders were asked if they believe commercial farmers will pay more for genetically superior animals proven through these testing services

- 41% said "Yes"
- 41% said "No"
- 18% Did not know

15. Breeders were asked if they believed the energy going into a genetic solution will have more or less value in the future market

- 77% said "More value"
- 9% said "No more value"
- 5% said "Less value"
- 5% Did not answer

Summary Findings - Commercial Farmers

- 1. Farmers were asked if they asked to see the Rams parasite resistance info when buying their Rams**
 - 80% said “No”
 - 20% said “Yes”

- 2. Farmers were asked if they would pay more for a genetically superior animal in regards to parasites**
 - 100% said “Yes” or “Probably”

- 3. Farmers were asked how important they believed breeding for parasite resistance is for sheep farmers in NZ**
 - 60% said “Very important”
 - 25% said “Important”

- 4. Farmers were asked if they believe the energy going into a genetic solution will have, more, less, or no further value in the future market**
 - 95% said “More”
 - 5% said “No further value”

- 5. Farmers were asked if they quarantine drench Rams before bringing them onto their properties**
 - 55% said “No”
 - 45% said “Yes”

Conclusions/Recommendations

This survey has demonstrated that both breeders and Commercial farmers recognised the importance of a breeding approach to managing the impact of parasitism. 95% of surveyed commercial farmers believe this approach will add “more value” in the future market place. While 77% of Breeders believe a genetic approach to the issue will add “more value” in the future market. Furthermore, 85% of Commercial farmers surveyed also believed the opportunity was either “very important” or “important” to the New Zealand sheep industry.

Given this collective view of the opportunity, will commercial farmers pay more for genetically superior sires and will more Breeders undertake the screening and selection process to make them available? 100% of Commercial farmers surveyed said they “would” or “probably would” be prepared to pay more for these superior sires. 41% of Breeders also believed Commercial farmers would be prepared to pay more for genetically superior sires. However 80% of the Commercial farmers surveyed do not request or look at any parasite resistance sire data when buying their rams.

The costs associated with screening sires for parasite resistance is estimated at approximately 1-2% of the value of the ram. Given it appears to be a relatively inexpensive exercise and an opportunity for Breeders, surprisingly only 45% of Breeders undertake any screening or selection for this trait (and much of this is by default through other bundled DNA testing). The main reasons for this were reported as “too many other things to select for” or a “lack of understanding of the process and outcome”.

So what appears to be the core reasons for the low uptake of breeding as a tool in managing parasitism?

- There is a general lack of understanding of the breeding opportunity for both Commercial farmers and Breeders for selecting for this trait
- There is a significant lack of understanding among Breeders of the various screening and selection options available
 - When Breeders were asked to categorise the accuracy of the breeding ranking produced through various tests available, 57% did not answer the question
- Most Breeders appear confused by the pricing structures of the various screening and selection tests available
 - When asked to classify the various test for price (expensive, well priced etc) 58% of Breeders did not answer the question
- Many Breeders signalled the return of their raw and ranking data when undertaking screening was frustratingly slow. Breeders indicated the desired return time is between 2-3 weeks.

So what does the industry need to do to increase the uptake and utilisation of breeding as a tool to combat parasitism?

- The industry need some clear and concise resources for Breeders and Commercial farmers to better understand and validate the opportunity for them
- Breeders (breed societies) need to take a greater lead in disseminating information about breeding for this trait as they need to be well ahead of their Commercial clients
- The service providers of the screening tests need to work more collectively and transparently (pricing etc) in their activities to ensure the breeding opportunity is not suppressed or lost to the industry