



How sires are selected to appear on SIL ACE lists

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SIL ACE background

SIL ACE is the large national across-flock, across-breed genetic evaluation that SIL performs in New Zealand. Overall index and trait leader lists are provided for the “top” 200 (or 100) sires across a number of traits and indexes.

How does SIL select sires to appear on these lists?

To be on these lists, sires must:

1. have been used as sires in flocks that are genetically connected for the trait or the index (connected for all component traits) that is the focus of the list, during the years specified as the report years (see front page of list),
2. be highly rated for the index that is the focus of that list,
3. have at least 20 progeny with performance records specific to that goal trait group (50 sib or daughter lambing records for reproduction) across all the connected flocks.

For indexes, they must have the minimum number of progeny records for each component trait of the index.

SIL limits lists to the top 200 animals or the top 100 animals when there are fewer sires in the flocks being considered. This is roughly the top 10%, of sires considered. So they really are trait or index leaders.

Reproduction – a special case

Progeny information comes in much later for Reproduction than for other traits. If the same criteria were applied to Reproduction data as for other traits, sires would not be in the running to be on a trait leader list for Reproduction for more than 2 years in many cases, because too few ewe progeny enter the flock.

Where sires have good information on close female relatives, we can get a useful measure of genetic merit from the reproductive performance of these. SIL ACE allows sires to appear on the Reproduction trait leader list when they have a minimum of 50 lambing records on daughters **OR half-sisters** (through their sire).

Why are sires I expect to see not on the lists?

Animals may not be on a list for a number of reasons, usually related to the criteria for inclusion not being met. So they may not appear on a list because:

1. the flock they were used in was not genetically connected to the main SIL ACE flock group for that trait or for one of the traits in an index,
2. their index is below (or has dropped below) that of the top 200 animals listed,
3. they do not have enough progeny with performance records for the trait (or traits) considered for an index (note that this includes sib records for Reproduction)

Some animals may appear on a SIL ACE leader list then disappear off a later list. This will occur for the above reasons or because the range of years for which we compile the list that is reported has changed. Typically SIL ACE reports on sires used in the last 3 years. Every year, at a certain time, we increment a year, so a cohort of sires is added (the newest report year) and another is removed (the “oldest” report year).

In this context, report year refers to the year in which a sire has progeny. SIL may perform a genetic evaluation for the years 1992-2007 but only report on sires used in the years 2005-2007. As long as a sire was used in these “report” years, he is in the hunt to be on the SIL ACE leader lists.

Take Home message

SIL ACE leader lists, for sires, for the key traits and indexes, are restricted to animals with progeny information contributing to their BVs and indexes. The exception is Reproduction where progeny performance comes in much later so sib information is also used.

These sires are “proven” insofar as they have a minimum number of progeny performance records.

Acknowledgement

Previously, SIL used a simple system to determine which animals could appear on SIL ACE leader lists, based on the flock they were used in and the number of progeny they had. This new system (April 2008) is more sophisticated in that it counts how many progeny have trait measurements, separately, for each goal trait group (sub-index).

SIL would like to thank Russell Welsh for bringing to our attention short-comings in the way animals were previously selected to appear on ACE leader lists.

Need more information?

If you have any queries about the ideas and terms in this document, please send them by email to silhelp@sheepimprovement.co.nz or telephone 0800-silhelp (0800-745-435)