



A beginner's primer on how to use SIL ACE lists

The Advanced Central Evaluation or ACE reports are printed like standard SIL reports provided to ram breeders for their own flocks. They are publicly available on the internet at <http://www.sil.co.nz>. They provide a lot of information if you know where to look and how to interpret them. The reports are of great value to interested commercial farmers, but many will be unfamiliar with the format. The key features of ACE Terminal Sire Index list are described to help people unfamiliar with this information, and similar comments apply to all ACE lists.

The October 2004 lists will be used as examples.

The lists have a cover sheet which describes on the right hand side when the analysis was undertaken and when the lists were printed. The analysis date and number are the important parts as lists can be printed at any time. On the left hand side of this sheet is information describing the analysis. This states what flocks were used. In the October 2004 terminal sire analysis (<http://www.sil.co.nz/files/acereports/acetsOct2004.pdf>) 152 separate flocks were used, but results from only 70 flocks are reported. These are the flocks that have sufficient genetic linkage. Below this is the data that was selected for the analysis. In this case all available progeny parentage and measurements recorded from 1990 to 2004 has been utilised, but only results from 2001 to 2003 are reported. As this is a sire list, what is reported, are the sires producing progeny in the 2001-2003 birth years. The base year of 1995 is used. This means that the average animal born in 1995 has a zero overall breeding value and index, so all values are expressed relative to that base. If genetic progress is being made, animals born in later years will have better breeding values. All standard SIL indices use 1995 as the base year as this was the first year, prior to the creation of SIL, that comprehensive across flock and year analyses were undertaken.

Below this is the explanation of breeding values and economic indices and their abbreviations. In this case there is a Terminal Sire index, which is abbreviated as TS as well as its two sub-components Terminal Sire Growth (TSG) and Terminal Sire Meat (TSM). The economic index is calculated by multiplying the economic value of a trait in cents by the breeding value of the various goal traits and then summing them. The economic value is the expected gross margin of a unit change in a trait after accounting for additional costs and it is independent of the benefits of other goal traits. Therefore the index value of an individual is its expected overall economic benefit, in this case of using it as a terminal sire. The values are expressed per lamb slaughtered.

Breeding values and indices are the estimate of the genetic worth of an individual and on average they pass one half of those beneficial genes on to its progeny. This means an animal with an index value of \$10.00 will have progeny that on average are \$5.00 cents better than an average ram born in 1995.

Each SIL flock has a unique number and on the second page the stud name of that flock is listed. The reason for this system is that stud names are often not unique across breeds or countries.

Looking at the first page of the animal listing, the sires are listed in descending Terminal Sire index order. The top ranked animal is **68/01** from flock **699** and is listed first. The normal NZ convention is that the first numbers of the tag identifier **68/01** refer to the birth tag number of the animal born in a particular year of that flock and the two numbers after the forward slash refer to the year born. Using the table on the second page of the list for the flock identifies this ram as from flock **Glengarry**. This is a Poll Dorset flock owned by Ross Pratt in Fielding. Access to information about an owner can be obtained from the breeder search (<http://www.sil.co.nz/Buying%20Rams/Breeder%20search/>) on the SIL website and this provides the following information if Pratt is searched for: **Pratt, Ross & Ben, Poll Dorset, 245 Halcombe Rd, R D 5, Feilding PH: 06 323 3827**. Often the breeders also list additional information about the breeding objectives of their flock. Unfortunately, at this time it is not yet possible to search for a breeder using a flock number or name.

The first four columns listed identify the animals father and mother and the flocks they come from. For **699 68/01** its sire is **4323 211/98** or **Kurrelea 211/98**. This is a widely used reference ram from an Australian Poll Dorset stud. Tables similar to the SIL ACE lists for Australian genetic evaluations are available at <http://www.mla.com.au/lambplan/>. **Kurrelea 211/98** is on the latest 15th September 2004 Lambplan across flock and breed terminal sire list. It was ranked 18th on the ranked on the Australian Trade index. Interestingly this animal is listed as having 5008 recorded progeny, born on 77 studs, and 5 of the 17 rams better than it on the Australian Trade index are his sons.

The heading TS on the SIL ACE index refers to the abbreviation for the Terminal Sire index and **69/01** has a value of \$10.43 cents and is ranked first overall on that basis. The next two columns are the TSG or Terminal Sire Growth sub-index value and in this case the ram has a value of \$5.38 and is ranked second overall on that basis and the next two columns refer to the Terminal Sire Meat sub-index and the ram has a value of \$5.05 and is ranked twenty-first overall. Note that the two sub-indices add to Total Terminal Sire index i.e. \$5.38 + \$5.05 = \$10.43. This also identifies that the values used for the growth and meat sub-indices are independent of each other. One tells you how fast the animal grows and what that is worth and the other tells you how much better yielding the carcass is.

The next four columns give the individual breeding values for each of the 4 economic traits considered in the index. In this case WWTBV or weaning weight breeding value, CWBV or Carcass weight breeding value, LEANBV or carcass lean weight breeding value and FATBV or carcass fat weight breeding value. Ram 69/01 for instance has a weaning weight breeding value of 5.48 kilograms. Remember this means his progeny will on average wean 2.74 kilograms heavier than the average ram born in 1995.

The next column lists the number of progeny that this ram has had measured, in this case 119 animals. Some other animals have figures like 37/205. The first number refers to the number of animals born in the 2001-2003 period and the second figure after the forward slash refers to the total number of animals measured over all birth years.

The final two columns give the two major parental breed components. For 69/01 he is 100 percent Poll Dorset, because of this the percentage figure has been omitted. In some cases the percentages do not add to 100 and this is because the animal consists of a mixture of more than two breeds.

Finally, there is additional information that is not listed on the sheet itself, but is available in the other documents. Perhaps the most important is just what criteria are required to list an

animal and these are specified in the technical details of the analysis. Briefly a sire has to have sufficient measured progeny and its parentage has to be recorded.

In summary, a lot of information can now be obtained via the internet about the best rams in New Zealand, across all breeds, and as has been shown often there are also Australian links as well. The key is to know where to look and how to interpret the information.