

KIDPLAN & EBVs – CAN THEY IMPROVE YOUR BREEDING AND PROFITABILITY?

or

“CAN YOU JUDGE A BOOK BY ITS COVER”?

7th June 2019

A growing number of breeders are using KIDPLAN, Estimated Breeding Values and Indices, and an increasing number of goat buyers are demanding solid data on the animals and genetics they buy. This begs the questions in the title : What could KIDPLAN do for me? Could it improve the animals in my herd and the profitability of my enterprise? How much time, effort and money would it take?

Assessing a goat is a bit like assessing a book. You can judge a book by its cover, or by checking the blurb on the inside page, or by reading the text. All these are valid and helpful, but they give you different views of the book. And so it is with goats. You can assess an animal by its appearance. You can take some ‘objective measurements’ on a particular day; or you can assess its genetic merit in detail.

Experts can judge the visible aspects of a goat and objective measurements are interesting. But the real value of an animal lies in its progeny, not in itself, and its ability to throw good progeny is determined by its genes, combined with those of its mate. The genetic recipe that defines those progeny is not visible to the naked eye and is usually obscured by all sorts of non-genetic ‘environmental’ factors (such as early nutrition or litter size). Like the text in the book, it can only be unravelled by going through it in detail, over time, together with the data on all known ancestors, relatives and progeny, carefully eliminating all the ‘environmental’ factors. So the real genetic value of a goat can only be assessed by ‘progeny testing’.

To illustrate this point, take a look at the ‘Quiz Question’ below. If you can get it right every time, you don’t need EBVs. If you are interested in productive capabilities and can’t get it right every time, you are rolling the dice each time you use an unassessed sire. The wrong sire can seriously damage your herd for years.

One of the World’s leading institutes for quantitative progeny testing and genetic selection of animals, including goats, is based at UNE in Armidale, NSW. The Sheep Genetics organisation, through its LAMBPLAN program, produces the breeding data that has helped to transform the fat lamb industry over the past 20 years. The sister program KIDPLAN started in the late 1980’s, collecting and processing data on meat goats and assessing the productive potential of newly imported genetics. After a promising start, KIDPLAN fell out of fashion from the late 1990s until about 2005, but there is now a resurgence of interest. Seven Boer studs have been using the KIDPLAN system in Australia and NZ - Cadenza, Crusader, Currabunga, Dudauman, Terramac (incorporating Macgregors and Terraweena), Tambookie and Winfield - and another three are overseas. Most are members of the Boer Select Breeders Group.

The KIDPLAN system reports genetic merit as Estimated Breeding Values (“EBVs”) and Indices, and there is a variety of these which cover a broad range of the animal’s characteristics. While leaving the breeding strategy and decisions to you, those EBVs and Indices will provide information on the traits you are interested in and help you decide which animal will best develop those traits in your herd. An animal that has a higher EBV or Index for a particular characteristic has higher genetic potential for improving that particular characteristic. To illustrate, a buck that has a higher Carcase Plus Index

will tend to produce kids that grow better carcasses faster up to the age of about 9-12 months than another one that has a lower Carcass Plus Index. Or, if you are having trouble with over-sized kids at birth, the Birth Weight EBV will help you select a sire that will throw kids with lower birth weights. Worm egg count EBVs will soon tell you which of your animals is lowering the worm resistance of your herd, causing you all that pain in the drenching race, and will help you find a buck to improve the situation.

One great benefit of KIDPLAN is that it ranks all the animals in your herd and compares them to other herds. That allows you to select the best you have, avoid the worst, and find an outside animal that will bring in improvements.

The basic data required is simple and is already recorded systematically in many studs. Pedigrees, birth type, rearing type and weaning weights are most important. Birth weights and other weights up to one year old are very helpful. Neither registrations nor full-blood status are necessary.

True KIDPLAN EBVs or Indices can only be obtained by submitting extensive data over an extended time to the Sheep Genetics organisation. Herds suitable for KIDPLAN would ideally :

- Be based on a sizable number of animals (say > 50 kids born per year from multiple bucks).
- Have pedigree records.
- Submit as much information on progeny and relatives as possible.
- Identify which animals have been exposed to different environmental influences (such as some animals being offered grain while others are not).

Critics of EBVs typically make two objections. First, "It's a lot of work". That's true, but it is interesting and rewarding work. Second, "If you use numbers to select animals, you will end up with an ugly, unsound animal." That's nonsense. Your selection for appearance and structure should be just as stringent as it is now – the numbers are an additional tool to be used together with the normal visual ones, including classification. Most breeders finish up giving roughly equal weight to visual and numerical information.

Some studs find 'objective measurements' to be useful for marketing and even breeding. But these are not true KIDPLAN EBVs and they give a limited perspective on the production value or genetic merit of the animal. In particular, true KIDPLAN EBVs cannot be calculated from data obtained in a single episode (at a show, for example) or from a group of animals that have not been treated identically. If, for example, you scan eye-muscle depth (EMD) on a line of yearlings (or kids at a show) and use that for selection purposes, you may well end up selecting the one with the highest measurement. But you will not know how it got that thick eye muscle or whether it can pass that trait to its progeny. Is the animal genetically programmed for muscularity? Is the EMD measurement highest because it was a well-fed single kid or because one breeder gave it extra feed for the show? Perhaps the animal that would throw the best carcasses is actually one in the middle of the pack who was raised as a triplet by a maiden mother? KIDPLAN will adjust for all these things and more. Unprocessed 'objective measurements' are like the blurb on the book – they are easy, cheap, interesting and marketable, but they are of limited value in assessing the genetic merits of your animals or animals that you buy.

So, to answer the title questions:

Q1: Will KIDPLAN improve your breeding and profitability? A: Yes, unless you and your customer are interested only in the visual aspects of the animal.

Q2: Can you assess the genetic merit of your animals with a smattering of 'objective measurements'? A: Very unlikely and only in a limited and risky way.

Q3: Will using KIDPLAN take time and effort? A: Yes.

To conclude, KIDPLAN is not for every breeder but, if you want to improve the production capabilities of your animals, it's the way to go. And there is no reason why their appearance and structure shouldn't continue to be just as good as it is now.

If you want to find out more, you can access a range of material at the following link :

<http://www.sheepgenetics.org.au/Breeding-services/KIDPLAN-Home>

Or contact

Sheep Genetics

P: 02 6773 3430

E: info@sheepgenetics.org.au

Colin Ramsay

Dudauman Park Boer Goat Stud

East Bland Station

Quandialla

NSW 2721

QUIZ QUESTION

Which of these two bucks would be the best sire for your breeding objective? Both have run together, never showed and never fed. Both have been Classified #7 to #8 on different occasions and have few, if any, visual faults. Both have immaculate and well-known pedigrees. But both have been thoroughly progeny-tested and the progeny they throw are dramatically different. One throws kids with good growth rates and about average reproductive capabilities. The other throws slow-growing kids with poor reproductive capabilities and low kid survival rates but is extraordinarily worm resistant. The choice would significantly change your herd.

BUCK A



BUCK B

