choosing the
perfect
partner

by IAN DAVISON

T is often said (at least, by me!) that one can be smart, well-educated, well-read, or intellectually gifted. But to be wise, one has first to be old. How often have we wrestled with a concept or a decision, only to have our struggles dismissed summarily by the casual opinion of someone older and wiser, with the intuitive wisdom that is borne of experience.

Choosing the perfect partner is a decision that most ordinary folk hope to do no more than once in their life, and they do so with varying degrees of success. There are some who get to make the choice several times, all usually without the wisdom of age. How often have we wished that that wisdom and experience were available to us at the same tender age that we were required to make this most important decision of our lives.

When your daughter chooses her mate, chances are you will have very little opportunity to influence that decision, and little chance, therefore, of exercising your newfound wisdom. Your first and only contribution to the process is likely to be paying for the reception. It will always be thus. Like us, our children will disregard their parents' wisdom to make their own choices, and will build their own wisdom with advancing age, only to have it discarded in turn by their children.

In summary, the process of sire selection is one in which we are all sadly inexperienced.

Choices in breeding alpacas, however, are governed by none of these social constraints. We are free to choose whatever sires we fancy for whatever females we choose for them. And whilst we have relied heavily on luck and intuition in the past, we are on the threshold of a new age in breeding alpacas, with the wisdom that only AGE can give us.

The AGE in question is, of course, the Across-herd Genetic Evaluation (AGE) program that is presently being implemented by the Australian Alpaca Association to underpin the genetic improvement that will be critical to the viability of a commercial alpaca industry. AGE has already been successfully implemented in the beef and dairy cattle industries, the wool and lamb meat industries, and in many other agricultural industries whose survival has
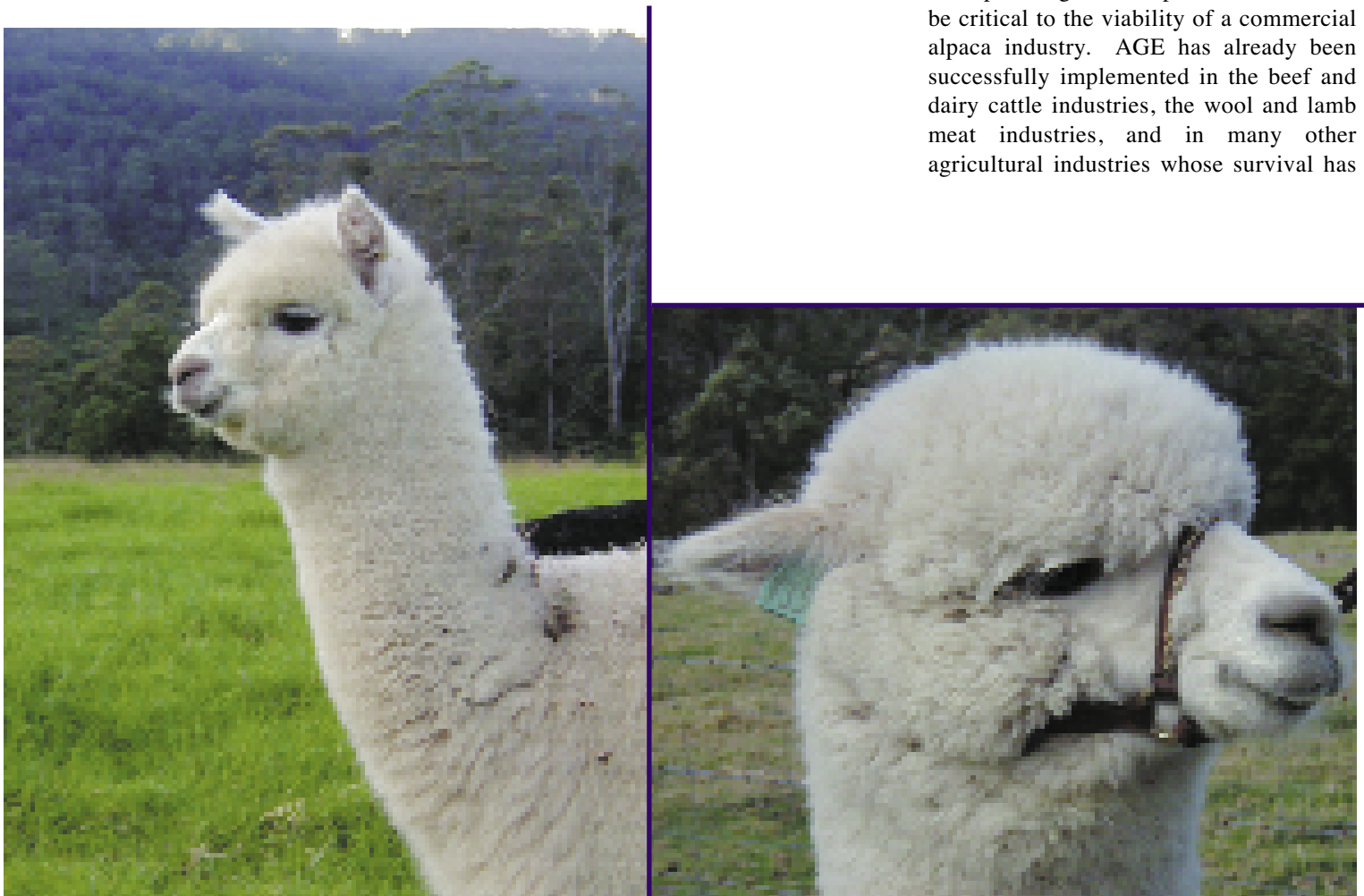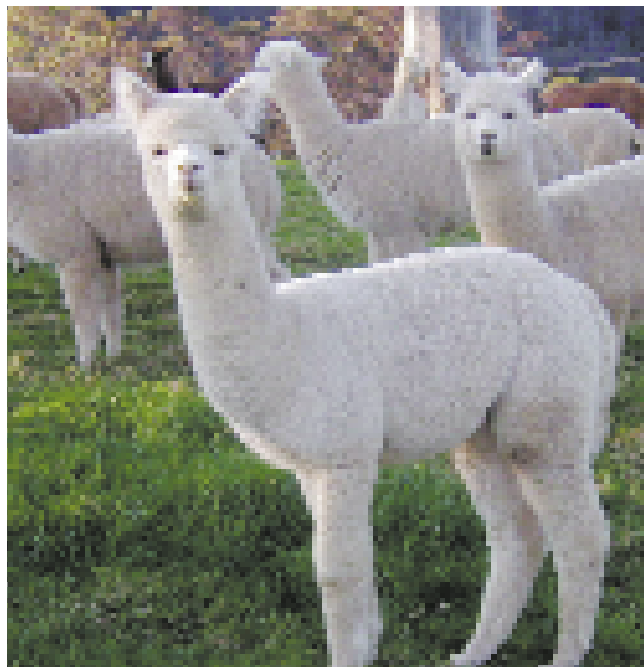
depended on improved productivity through genetic improvement.

The concept of the AGE is that many of the various characteristics that determine the 'phenotype' (roughly speaking, the appearance and characterising features) of any alpaca are genetically determined, and that selective breeding practices can result in progressive improvement in those characteristics ('traits'). The AGE will help us in making the breeding decisions that will result in that 'genetically improved alpaca'.

To do so, it must first identify those genetically determined traits which breeders regard as important in producing better alpacas. And to do that, we must define what constitutes 'better'. It is reasonable to suggest that 'better' is, directly or indirectly, related to productivity. So anything that improves the cash return on an alpaca at the end of the year is 'better'. Whilst increased fleece weights of finer fibre are the obvious means to improved productivity, so too are increased fertility and weaning rates, more efficient metabolism (less feeding), sustained commercial fleece production over the life of the alpaca, resistance to disease, and early sexual maturation. In summary, any trait that will make the alpaca more valuable, more productive, more durable, and more fertile than it might otherwise have been will produce a better and more valuable Australian alpaca.

Having identified the genetic traits we wish to measure, we must then ensure that they can be measured in a reliable and reproducible way. Many fleece characteristics can be objectively measured with a high degree of accuracy, but the sampling technique can result in wide variations, and therefore has to be done according to a very stringent protocol. Some fleece characteristics are harder to measure and define, for example handle, crimp and lustre, and for these traits to be recorded will require that acceptable protocols be devised to reliably and accurately measure those traits without significant variation between the values recorded by different observers. Other traits, such as the 'personality' of an alpaca, may be beyond accurate measurement or description, despite being of possible commercial importance or genetically defined. When the key traits have been selected (perhaps 30 or more), the AAA will implement a national program of education in measuring and recording those traits for the AGE.

Individual alpaca owners will then be invited to register some or all of their alpacas on the AGE. The owner will decide which of those traits he wishes to record, and for which

alpacas, and will record and submit data annually on those traits. Some traits, notably fleece measurements, are likely to be compulsory. It is envisaged that there will be an annual administration fee of about $5 per alpaca to the owner, but the balance of off-farm costs incurred by the AGE will be met through the AAA, and through state and federal government subsidy. In return, owners will receive a confidential summary of their AGE-registered alpacas' performance at the end of each year, for each of the traits that they have recorded, and will be able to make their own comparisons with the figures obtained for all alpacas registered on the program.

The AGE will be linked to the IAR database, enabling the data processors to compare values recorded for alpacas that are related (as progeny, siblings, half siblings, and antecedents). From these comparisons, estimates can be made of an alpaca's ability to pass on certain traits to his or her offspring, and this estimate is called an Estimated Breeding Value (EBV). An alpaca will have an EBV for every one of the traits recorded for it, and the higher the EBV, the better the performance for that trait that may be expected from its progeny.

Participation by breeders in the AGE will mean a lot of things. It will give the national industry a better handle on the quality of its herd across a range of performance parameters, and will also indicate how rapidly the industry is improving in each of those characteristics from one year to the next. It will allow individual breeders to assess the performance of their own herd against the national average for each of the assessed traits. It will allow breeders to make better decisions about sire selection, by seeking out sires with high EBV's for those traits which they have chosen as integral to their own breeding programs. It will allow owners to promote their own dams and sires, should they choose to do so, by publishing their own recorded data.

But most importantly, AGE will give to us the wisdom to accelerate genetic improvement in our industry through more objective breeding decisions.

The Australian Alpaca Industry has come of AGE! So get out there, and start measuring! Remember, if you can't measure it, you can't manage it. Every breeder has a valuable contribution to make to this new AGE of the Australian Alpaca.