



The ABC of AGE

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AGE (Across-herd Genetic Evaluation for Alpacas) is the new genetic improvement plan, first presented at the Noosa conference. It was strongly supported at the recent NatCom & Presidents meetings. A program such as AGE is a necessary feature for the alpaca industry to achieve profitable commercial fleece production by 2008.

To improve our alpacas, breeders make decisions about which animals we will use as parents of the next generation. We try to select animals that we believe have the best set of genes. From these matings, we hope that the next generation will have, on average, more desirable genes than the current generation. Most breeders are making these decisions based on physical appearance (phenotype) and inspecting some progeny of males. Programs such as AGE produce Estimated Breeding Values (EBVs) which are estimations of how well an animal will 'breed on' for a particular trait such as fleece weight or fineness. Here are some questions that you may have about the program.

Q I believe I am breeding very good animals. Why do we need AGE?

A Without some form of performance recording, it is impossible to know if you really are breeding good animals. AGE allows you to track your own performance across time and against other alpaca breeders. Commercial fleece producers will not consider alpacas without some evidence that they are buying animals that can make an acceptable return from their fleece.

Q Why is it hard to make simultaneous improvements in reduced fibre diameter (micron) & increased fleece weight?

A There is a positive link between fleece weight (FW) & fibre diameter (FD). ie. higher micron, heavier fleece weight & lower micron, lower fleece weight. When breeding finer animals there is a strong risk that FW will decrease along with micron unless you identify males & females that do not have this positive linkage. To realise a commercial future, both FW & micron need to be considered. AGE helps to identify animals that cut above average FW and have a below average FD.

Q I own a certified male. How will AGE affect me?

A If you only use your male in your own herd, each offspring will have EBVs calculated based on their own performance & the performance of their close relatives. If your male is used in other herds, AGE has the capacity to link the performance of your progeny with their close relatives in other herds. AGE helps to separate the impact of environmental factors (different management practices & farm

differences in soil, pasture & climate) from genetic performance.

Q Although I own a certified male, I still use an outside male owned by a neighbour for some matings. How should I use AGE?

A If your neighbour has entered the male in AGE, then it will be possible to establish the genetic value of the male & his progeny across different herds. If the male does not have any EBVs, then ask your neighbour to enter the male in AGE. If they refuse, then you may choose to use another male with EBVs that suit your breeding objectives.

Q Unfortunately my girls are coarse microned & cut low fleece weights. How should I use AGE?

A You need to look for males with a high EBV for FW & a negative EBV for FD. AGE will help you identify males who have the capacity to simultaneously improve fleece weight & reduce fibre diameter. As mentioned earlier, this is a rare but highly valued combination. It's also important that you do not rely solely on the EBVs. It is also necessary to check the male's conformation & other desirable fleece characteristics such as lustre and handle.

Q I do not like the idea of a scientist telling me what to breed for. Why should I join AGE?

A AGE is designed to measure the genetic value of animals as potential parents of the next generation. The program does not say how you should breed your animals; it only provides you with info that you can use to achieve your own breeding objectives.

Q What are the risks involved in joining the AGE

plan?

A You may find out that the performance of your herd is lagging behind other breeders who have similar breeding objectives to yourself. Initially, you may choose to keep the EBVs confidential and move towards full disclosure as the program becomes more established.

Q I would like to use embryo transfer (ET) with my best girls. What impact does AGE have on my ET plans.

A AGE helps to identify the best candidates for an ET program in your herd. Without EBVs, you are really judging all your girls based on their phenotype only, not on genetic potential as dams of the next generation.

Q How much will it cost me to find out the estimated breeding value of my animals?

A A cost of \$5.50 per animal has been suggested.

Q If I join the AGE plan, will I need to change any of my management practices?

A The main change will be the need to go to shorter joining periods to form common management groups (birth groups). To be able to calculate EBVs, progeny of a particular sire can only be compared if there is no more than a 10-week difference in age between the oldest and youngest crias in each management group. However, you can have a number of management groups & comparisons can be made between groups provided they are linked by common genetics (common sires). Ideally each management group should be as large as possible. It is important to ensure that all crias within each management group are treated exactly the same with no animals being given preferential treatment.

Finally, not every breeder will agree on the importance of each attribute included in the AGE program but you can choose to use the EBVs that are important to your breeding plan. It is likely that the attributes being measured will change over time but we need to pay attention to characteristics that have commercial value.

Personally, I see the AGE plan as a significant improvement on last year's GIP. AGE is open to Suri

breeders as well as non-white Huacaya breeders. I am confident that the adoption of EBVs will hasten the rate of genetic progress for all members. Discerning buyers of your stock will look at the phenotype, the pedigree and the EBVs of your animals. I urge all members to seriously consider supporting AGE. You can support AGE in a number of ways. By nominating some of your females and certified males. By buying animals based on superior EBVs and finally, choosing stud males based on their genetic value rather than on a sales pitch!

The AGE plan has been short-listed for RIRDC funding and the AAA needs to know by February how many members will support this improved plan. By showing your support for this innovation, there is a stronger chance of RIRDC supporting AGE. You can show your support by filling out the form on the AAA web site. The December 2002 AAA Newsletter also contains the form as well as more info about AGE. Don't forget to post your form back to the AAA.

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Postscript

The AGE program has been approved by RIRDC and will receive financial support over the next three years. The NZ alpaca association (AANZ) decided to support their members use of the AGE programme by subsidising members to use the service. Thus decision on the part of AANZ has meant that the adoption of AGE is higher in NZ than currently in Australia despite a significantly larger membership base.

The AGE working group have recommended that the minimum traits to be recorded are 1) FD; 2) CVFD; 3) Comfort Factor (% <30µ; 4) total fleece weight.

I would recommend that once you have worked out what your breeding objectives, it is desirable to also record and enter into AGE other commercially desirable traits. These could include birth & weaning weights; staple length, FD & fleece weights on second and subsequent shearings.

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