



Alpaca breeding programs

At present the Australian alpaca industry is based on small populations that are widely dispersed throughout the country. Most alpacas are maintained in herds of 50 or less and there is significant in-herd variability in quality, quantity and colour of fibre produced.

The first step in the design of any breeding program is to define the breeding objectives. Lack of success in breeding plans can usually be traced to poorly defined objective or frequent changes in the breeding objective.

To ensure commercial profitability, selection for high fleece weight, low fibre diameter, high yield, body weight and fertility characteristics should be considered.

Genetic gain is more rapid if only one character is under selection.

The most objective way of comparing an animal's genetic ability is to study information on each animal relative to all the others in a discrete group.

Mobile mating (trailer matings) are a mechanism to disperse the genetics of elite males and provide the opportunity for progeny testing in different environments. An alternative method is to deliver females to a central breeding facility and then return pregnant females to their home.

Caution with these methods is advised, for while good genetic gains can be achieved, sometimes the reverse can also occur with a recessive gene being introduced to the alpaca population at large. The other area of concern is the spread of disease and preventative care should be exercised at all times.

Reproduction

Alpacas can be bred all year round. The females are induced ovulators and require coital stimulation for the egg to be released from the ovary. They are usually re-mated 18 to 21 days after giving birth.

A good breeding female alpaca (hembra) is capable of producing one offspring a year for 15 to 20 years. Females are usually bred from around 14 to 16 months of age, depending on bodyweight.

Generally hembras need to attain approximately 65% of their mature weight in order to ensure a high likelihood of conception whilst avoiding stunting and birthing difficulties. In Australia 50 kilograms is considered a suitable mating weight.

Males mature at between 2 and 3 years of age.

Mating takes place in the sitting position and usually lasts for 20 to 25 minutes. A non-pregnant female will sit in the company of a male, indicating her desire to be mated. Once pregnant, she will spit at the male - a useful indication of pregnancy.

Reproductive performance is of primary importance, as a high weaning rate has the advantages of:

- allowing faster increase in herd size,
- providing greater potential for genetic selection and/or culling,
- enabling better growth rates and fibre production from the younger animals from a breeding program.

A baby alpaca is called a cria. After a gestation of between 11 and 11.5 months the cria is almost always born in the daylight hours, usually in the morning. The birth is generally quick and trouble free. In most cases, the cria is on its feet and looking to suckle within the hour.

Average birth weight is between 6 and 8 kilograms.

Twin births are extremely rare in alpacas. Twins were never recorded in more than 12,000 births over 12 years at La Raya Research Station in Peru.

Cria are weaned at 4 to 5 months of age at approximately 35 kilograms liveweight.

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