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Mohair Research Update No. 14

--Principles of Weaner Goat Management

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Introduction

Weaner goats are aged between the time of weaning and their first birthday. Weaners need the farm managers careful help so they can learn the ABCs of being a goat. Weaners face many challenges and high death rates have been recorded. To protect the weaner goats welfare and your investment it is best to provide high levels of nutrition and disease control. Weaner illthrift, lack of growth and high mortality in recently weaned Merino sheep has been known since the 1930s and has been a research priority for Australian wool growers but less is known about these problems in Angora goats.

In Australia, Angora goat kids are normally born in spring and weaned either in summer at 12-16 weeks of age or weaned around their first shearing in autumn. At weaning the mohair producer has put all their time and money into managing their does and bucks to get kids to weaning. All this work is pointless if the weaners then die. Not only are weaner deaths a waste of investment but premature weaner deaths costs a lot of future income. It is during their first two years that Angora goats produce their finest and most valuable fleeces. Thus both poor weaner goat management will impact on the health and survival of weaners, reduce mohair production and quality, and reduce financial returns.

Death rates

There are few reliable data on the death rates of Angora goat weaners as farmers are naturally reluctant to discuss this aspect of their management. So data from Merino sheep are a useful guide as both Angora goats and Merino sheep have a similar demand to produce a heavy fleece, are of a similar size,

have similar reproductive performance, and graze similar pastures.

The news is not good as a recent survey of farmers has shown that weaner death rates averaged 14% with a range of 4.5 to 26.8%. This is correct, some farmers lose over one quarter of their weaners and most lose one weaner in eight. That is right, each year the average loss is one weaner in eight. In some districts death rates of about 40% have been recorded for weaners.

The lightest weaners had about 4 times greater risk from death than the heaviest weaners. Shearing during the period December to May increased the hazard by 1.2 to 3.5 times the risk to unshorn weaners. This is scary as Angora weaner goats are all shorn during their first six months.

Angora goats commonly have a higher twinning rate than Merino sheep. As twins are usually lighter than single born kids, the risks to the health and welfare of twin born Angora goats are high following weaning. The most at risk kids from wet and windy weather are those with the lowest body condition score.

Critical issues and critical periods

The most critical issues for weaners are the live weight at the time of weaning, live weight gain following weaning and good health management. Thus nutrition at all stages in the life of the weaner is important.

There are four critical periods for weaner management: before kidding, during lactation, at weaning and after weaning.

Before kidding

Weaner management begins during pregnancy. There are two main preventive management activities required which help maintain good weaner health.

Disease management

To minimize exposure of weaners to internal parasites it is important to control internal parasites in does. Vaccination to control Clostridial diseases is also required. Ideally does will receive their annual booster Clostridial vaccination about 4 weeks prior to kidding. This provides early protection to young kids via antibodies in the colostrum (first milk).

Nutritional management

The major threat to kids is iodine deficiency which will render kids vulnerable to an early death. Iodine deficiency is particularly prevalent in the higher rainfall areas of southern and eastern Australia. Does need treatment with potassium iodide weeks prior to kidding.

Does also require good nutrition during late pregnancy to ensure good kid vigor and a high lactation performance. High lactation is the recipe for obtaining high weaning live weights.

Live weight at weaning

The future health and production of weaned goats is related to their live weight at weaning. Many future problems faced by weaners arise from being weaned at too low a live weight. To

understand what is required during lactation it is best to understand what live weight is needed at weaning.

What should the target weight be for weaning Angora goats?

Australian research has shown that cashmere bucks reach puberty in autumn at about 40% of their mother's live weight so weaning bucks at this live weight can prevent premature pregnancies. However a key point here is that puberty was reached in autumn. Kids could be heavier in late spring or early summer and not mate.

Current best practice in the Australian wool industry advises farmers to wean lambs when they are at least 23 kg and to feed weaned lambs below 23 kg in order to reach 23 kg as soon as possible. It has been suggested that the target weaning weight should be 45% of mature live weight when pastures die off at the end of spring rather than a specific 23 kg.

Data from the recent mohair benchmarking project has been used to calculate median live weights at weaning and the live weight of adult 5 year old does (Table 1). The median weight is where 50% of the kids are heavier and 50% of the kids are lighter. Median weaning weights ranged from 16.0 to 17.8 kg and on another farm it was 18.5 kg.

Farms A, B and C had weaning weights at about 40% of the does mature live weight but Farm D had weaners which were only 32% of the mature live weight of does. This indicates that on average the kids on Farm D were weaned about 4 kg too light.

Table 1. Weaning weight of Angora kids, live weight of 5 year old does, the percentage of mature live weight of kids at weaning, and lowest quartile of weaning weights from 4 farms.

Farm	Median weaning weight (kg)	Weight of 5 YO doe (kg)	Median weaning weight as % of 5 YO doe weight	Weaning weight for lowest quartile (kg)
A	16.0	39.9	40	14.5
B	17.8	45.2	39	14.3
C	16.4	42.8	38	14.8
D	16.0	50.1	32	14.1

However the risks are greater for the lightest kids, not the heaviest kids. Table 1 shows the lowest quartile of weaning weights. This is the weight where 25% of the kids are below. Basically 25% of all kids were less than 14.5 kg. So these kids were at least 6 kg too light and were less than 70% of their target weaning weight.

However none of the farms had weaners near the 45% of the doe live weight target used by the wool industry. Using the 45% target indicates that on average the kids were from 2 to 6.5 kg too light at weaning and the lightest quarter were at least 8 kg too light at weaning.

During lactation

Good weaner survival and mohair production is dependent on fast kid growth rates during lactation. During this time of their lives the kids have the greatest potential to grow. Kid growth

depends on high lactation performance of does which in turn depends on excellent nutrition and limited parasite infections. It is essential to have the correct stocking rate for does as too high stocking rate will lead to lower nutrition, higher parasite burdens and poor kid growth. It is beneficial to provide additional feed to does in early lactation to ensure a high level of milk production.

Lactation performance is also linked to the development of mohair producing skin follicles. High levels of lactation by does leads to high levels of kid growth and to more skin follicles. The greater the number of mohair producing follicles leads to finer mohair following weaning. As it is difficult to boost lactation after a poor start, the focus of management is ensuring good nutrition prior to and during the first two months of lactation.

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Preventative health management for kids includes providing two vaccinations against Clostridial diseases. Fast growing kids are vulnerable to pulpy kidney and tetanus which can be major causes of death.

In some districts trace mineral deficiencies in the soil and plants will limit kid growth. In these districts kids need direct supplementation via the vaccination program or with feed supplements.

Studies of lactating Angora does have shown that their lactation is substantially reduced from the peak by 13 weeks after kidding. This varies between does and years but the main point is that kids have about 3 months to get a good start in life. Weaning much later than about 13 weeks of age will not provide much more advantage to the kids. It is better to wean the kids, provide the kids with good feed and let the does recover in time for their next mating. Clearly choosing a period of good weather for weaning is preferred.

After weaning

Weaners constantly need your help as they learn the “ABCs of being a goat”. They lose their parental guidance, their warm mother as a shelter, their defense against predators and the experience and knowledge of the farm layout. They probably do not know the location of the best shelter or of the location of the water supply, particularly when moved into new pastures. Weaners can get lost in long grass. Weaners are more

vulnerable to grass seeds becoming lodged in their eyes. Weaners are more easily bogged in dams. Weaners are more easily caught in fences. Weaners can learn bad habits like escaping through fences, which can become a burden to farmers. Weaners can die unexpectedly and at high rates

At the end of the weaner year the doe weaners will be mated for the first time. They should be at least 25 kg and preferably 30 kg live weight at this first mating. The heavier the does at their first mating the more kids they will have, the more kids they will average over their lifetime, and the higher will be the survival rate of their kids.

Nutritional management

After weaning the aim is to have the weaners growing throughout their first year. The stocking rate requirements for weaners can be higher than for older goats. These grazing requirements are discussed in Mohair Update No 11.

From mid-summer, in most districts where goats are grazed, the nutritional value of pastures is low and declining. This can result in goats losing live weight at 1 kg per week or more. Weaners are the smallest goats on the farm and their body reserves are low. If weaners lose too much live weight they will die. The most vulnerable weaners are the lightest goats and they will die first. Thus having a high weaning weight is the first insurance against premature death.

Research with weaner Merino sheep showed that they do best on rapidly growing pastures or on pastures which is re-growing after hay making. Very long pastures should be avoided. If supplementary feeding is required to maintain or grow weaners it is best to use feed with a crude protein content of 16-18%.

Following their first shearing in autumn weaners face the winter period with little natural fleece protection. It is likely they suffer cold stress during the entire winter period. As autumn and winter progress most Angora weaner goats will have grazing conditions that are short and wet. Thus the smallest goats on the farm face difficult conditions.

Field experiments have been conducted on feeding weaner goats during the winter and early spring period. They showed that Angora weaners can grow during winter provided their energy and protein needs for growth are met. As pasture is usually the cheapest and easiest form of feeding grazing animals, mohair producers should evaluate their pasture management systems, particularly fertilizer practices, grazing management and pasture species in an effort to optimise their pasture resources and the nutrition of their goats during winter.

Supplementary feeding of 50:50 mixtures of crushed lupin/barley grain can provide benefits in live weight and mohair growth during the winter period but needs to be applied at relatively high levels (> 300 g/day) and for periods greater than 2 months. These grains should be supplemented with crushed limestone at 1.5% to ensure sufficient calcium is provided. Providing hay to weaners provides little benefit during winter.

Conclusions

To obtain good weaner survival and production requires good weaner management all year. The aim of weaner management is to reach weaning weights around 45% of adult does live weight. The key to achieving this target weight is rapid kid growth during lactation which is dependent on good nutritional management of does. There are also important animal health issues to manage.

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