



A GREENER WORLD
Our Food. Our Farms. Our Future. Let's Choose!

A Greener World Technical Advice Fact Sheet No. 17

Age of Weaning Lambs

Certified Animal Welfare Approved by A Greener World (AGW) has the most rigorous standards for farm animal welfare currently in use by any organization in North America. Its standards have been developed in collaboration with scientists, veterinarians, researchers and farmers across the globe to maximize practicable, high-welfare farm management.

Lambs are capable of eating grass alongside their mothers within a week or so of birth. It is also possible to wean lambs from their mothers at less than three months of age. However, in the vast majority of cases, Certified Animal Welfare Approved by AGW does not feel that early weaning is in the best interest of welfare for the lamb. This paper looks at the issues surrounding weaning age of lambs and the reasons why the Certified Animal Welfare Approved by AGW standards specify a minimum weaning age of three months.

Weaning at three months of age

First, it is important to consider the scientific justifications for why Certified Animal Welfare Approved by AGW asks farmers to wean lambs at three months of age.

Maternal behavior in the ewe develops quickly after birth and continues for several months. Removing the lamb from the ewe as part of the normal farming practice of weaning can disrupt the normal development of social relationships. Weaning at three months may not be considered a major cause of stress as the ewe-lamb bond is naturally weakening, although natural weaning would not take place for another month or even more. Writing in *The Welfare of Sheep*, part of the scientifically referenced Animal Welfare series of books, Dwyer (2008) suggests that weaning before three months may be more traumatic than when lambs are weaned at three months or older, although there is limited published data on this point.

Generally, weaning time is more stressful for lambs than ewes. At weaning the lambs are challenged not only by being separated from their mother, but also by their need to fend for themselves nutritionally. Their immune systems are not yet fully developed and they are more

susceptible to disease. Schichowski *et al* (2008) demonstrate that younger lambs were more stressed by weaning procedures when compared with older lambs, stating:

“This may be due to the stronger mother-young bond. The relationship between the ewe and its lamb(s) disengages with age of the offspring and as the lambs become more autonomous. The intervals between suckling increase with age, indicating that 16-wk-old lambs are more accustomed to a separation from the mother than younger lambs. With age, the distance between mother and young becomes longer. Older lambs also move more frequently and further from the ewe than younger lambs, and they do not vocalize as much as younger ones. Increased vocalization rates in lambs occur after a stressor such as separation. Younger lambs show more activity, such as running around in the stable and searching for their dam.”

The key recommendation from this paper is that “[t]o abate the separation stress for lambs at weaning, weaning should occur when lambs are as old as possible.”

Demir (1995) reaches a similar conclusion, stating that “Weaning is usually accompanied by stress, causing a drop in food consumption and decreasing the growth rate, thus modifying body composition. This effect becomes relatively smaller as weaning age or slaughter weight increases.”

Mastitis and loss of condition

Generally, mastitis is more common in early weaning systems because the lamb is removed from the ewe when milk production is still high. While milk production peaks at around three to four weeks after birth, lactation can continue to 15 weeks or more after lambs are born. Weaning lambs from ewes whose milk production has not declined sufficiently puts severe stress on the udder. Some farmers cut feed and water to ewes to quickly reduce milk production at weaning time, but this in itself can be a welfare issue. It is better to allow milk production to decline naturally before removing the lamb, rather than having to try to artificially stop milk production to avoid mastitis.

Conversely, some farmers have stated that if they wean after three months of age there is a greater risk of mastitis and/or there is significant loss of ewe condition, particularly with ewes bearing twins. The fact that some farmers have seen problems with mastitis from ewes raising twins is not just about the number of lambs and how much they butt the udder, but also about ewe and lamb nutrition. Udder problems at four to eight weeks into lactation can often be related to insufficient milk to supply the demands of lambs. If the lambs are making constant

demands on the ewe for milk, but the ewe cannot meet those demands, the lambs will butt even more furiously. This creates an ever deteriorating situation where aggressive nursing habits of hungry lambs may lead to udder and teat trauma.

Problems are further exacerbated when pasture and/or feed quality is poor. In this situation, the lambs need to receive a high percentage of their nutrients from maternal milk and will be even more demanding of the ewe. As the ewe is unable to obtain sufficient nutrition from pasture and feed to maintain milk production, the situation can get steadily worse.

Cold weather conditions can also increase mastitis problems. Sporadic mastitis in the first two months of lactation can often be associated with the impact of cold weather, which not only increases the maintenance requirements of the ewe and reduces the energy she has to put towards milk production, but also decreases overall grass and forage growth. Sporadic mastitis is more commonly reported in ewes nursing triplets than twins and is rarely seen in ewes rearing singles, strengthening the link with appropriate feeding.

The importance of good nutrition

Condition scoring ewes and providing top quality nutrition is extremely important to ensure a good milk supply, while providing lambs with high quality feed will help them to gradually move towards independence from the ewe. Appropriate ewe condition scoring at lambing and maintaining an appropriate level of nutrition during the first two months of lactation should help to prevent teat skin abrasions caused by over-vigorous sucking from hungry twin lambs. It is also important that feeding programs take account of changing weather conditions and pasture quality.

Appropriate trace mineral intake for late pregnancy and lactation is also very important. Inadequate selenium /vitamin E and trace mineral intake is associated with poor immune function and an increased susceptibility to many diseases, including mastitis.

A minimum 10 week gap between weaning and re-servicing ewes will help to ensure correct ewe condition, and should provide plenty of time for them to recover from lactation before going to the ram. Weaning lambs at three months of age still allows more than enough time for this recovery period.

Parasites and weaning age

Some reports suggest that parasite problems are more likely when lambs are left suckling ewes for more than two months. Research indicates that this is more likely to be related to grazing management and the worm burden of particular pastures, rather than weaning age. In other words, if lambs and ewes are moved to pastures that are “clean” or “safe” (those with lower parasite burdens from being rested or used to graze other species) then they can remain suckling without adverse effect from parasites.

Dynes *et al* (2006) found early weaning (7-8 weeks) reduced liveweight gain by at least 25 per cent compared to weaning at 14-16 weeks, and that lambs remained 5kg lighter at the completion of the experiments. They found that parasite infection had modest effects on lamb performance and there was no interaction between weaning age and parasite infection in either year, so later weaning did not incur a higher parasite burden.

Some advice in forums for sheep farmers [see, for example, www.ranching-with-sheep.com/internal-parasites.html] also suggest that later weaning is better when parasites are a concern: “Delay weaning lambs until a later age and consider stress free weaning techniques. Weaning is very stressful to lambs and this is the time many will succumb to worm loads.” The forums also repeat the importance of good pasture management to minimize worm burdens:

“Worms live on pasture so a well thought out pasture rotation can prevent ewes and lambs from re-ingesting worm larvae. Moving animals every two weeks and not allowing them to return to a grazed paddock until sufficient time has elapsed can keep the flock ahead of parasites. Utilizing multi species grazing practices can also provide a break in the parasite cycle as other ruminants serve as a dead end host to the sheep worms thus helping to prevent the spread of larvae. Having poultry follow sheep in the rotation is another way to eliminate a lot of larvae.”

Iposu (2007) examined whether the act of suckling or the ingestion of milk could actually protect the lamb against internal parasites, and concluded that:

- a. suckling may reduce the establishment of nematode larvae through the direct effect of milk and,
- b. suckling may enhance rapid development of host immunity to infection.

In the study, lambs that were either weaned or left on the ewe were deliberately infected with parasites. They found that suckled lambs had a greater ability to resist worm establishment, with significantly smaller numbers of older larvae and lower total worm burdens at 84 days of

age. This is consistent with work from Zeng *et al* (2001), who established that worm burdens were smaller in milk-fed lambs.

In an earlier study, Watson and Gill (1991) reported that the mean fecal egg count for weaned lambs was twice that for suckled lambs when the animals were experimentally infected with 5,000 *Haemonchus contortus* and 10,000 *Trichostrongylus colubriformis*. They attributed this to the possibility that the immune response was hastened in the suckled lambs as a result of milk feeding. In their conclusion, Watson and Gill stated that:

“Lambs weaned at eight weeks old were compared with control lambs which remained with their dams; both groups grazed the same pasture. Weaning significantly reduced the growth rate, control lambs being, on average, 6kg heavier than weaned lambs at 15 weeks old. When contamination of pasture with larval parasites was light, both groups of lambs suffered only modest parasitic infections. When lambs were experimentally infected with 5,000 *Haemonchus contortus* and 10,000 *Trichostrongylus colubriformis* larvae at eight weeks old, the mean faecal egg count for weaned lambs was twice that for controls at 12 weeks old (P less than 0.001) and weaned lambs suffered a significantly greater decline in packed cell volume than controls over the next four weeks. Antibody responses following immunization with either ovalbumin or *Brucella abortus* at four and at eight weeks old, did not differ significantly between control and weaned lambs. In contrast serum antibody responses to *H. contortus* and *T. colubriformis* differed significantly between the two groups, with controls responding earlier and more strongly than weaned lambs. The practical significance of these findings is that up to three months old, suckled lambs, when faced with a substantial parasite challenge, have much better prospects than weaned lambs.”

Weaning age and lamb growth and productivity

Some farmers have stated that they do not wish to keep lambs with ewes after 75 days because the ewe generally has little milk after this time. It is fair to say that, at 75 days lactation, the quantity of milk is dropping but not that there is little or no milk after this time. In fact, lactation in the ewe can extend to 120 days.

Aside from the welfare benefits of higher weaning age, some studies also show that later weaning results in greater productivity. For example, Armstrong and Eadie (1973) noted that lambs which remained with their dams displayed a better growth rate than weaned lambs as a result of the longer period of milk consumption. Similarly, Caneque *et al* (2001) compared

lambs weaned at 45 days, 65 days and unweaned until slaughter, and found that unweaned lambs which were raised on a grass-based diet with an *ad lib* concentrate supplement exhibited a greater production efficiency than their weaned counterparts, with greater growth, lower concentrate consumption and higher carcass dressing at slaughter.

Summary

In some instances, weaning lambs before the age of three months may be the best thing for their welfare and/or the welfare of their mothers. However, research indicates that in most cases later weaning is better for both lamb and ewe welfare. On this basis, when farms wish to carry out routine early weaning, Certified Animal Welfare Approved by AGW needs to be absolutely sure that farmers have attempted all management options to maintain suckling to three months, and that all other factors such as nutrition – including both pasture and supplementary feed when necessary – have been optimized.

References:

Armstrong, R. H. and Eadie, J. (1973). Some aspects of the growth of hill lambs. Report of the Hill Farming Research Organisation, no. 6, pp. 57-68.

Cañeque V., Velasco S., Díaz, M., Pérez, C., Huidobro, F., Lauzurica, S., Manzanares, C. and González, J. (2001). Effect of weaning age and slaughter weight on carcass and meat quality of Talaverana breed lambs raised at pasture. *Animal Science*, **73**: 85-95

Demir, H. (1995). Investigations on growing Kivircik lambs weaned at different times. *Veteriner Fakultesi Dergisi Istambul* **21**: 142-150.

Dwyer, C.M. (ed) (2008). *The Welfare of Sheep*, Springer, New York.

Dynes, R.A., Moss, R. A., Bray, A. R. and McAnulty, R.W. (2006). Effect of weaning age on growth rates of lambs infected by gastrointestinal parasites. *Proceedings of the New Zealand Grassland Association* **68**: 139–142.

Iposu, S.O. (2007). Effect of suckling on response to nematode parasites in young lambs, PhD, Lincoln University, New Zealand.

http://researcharchive.lincoln.ac.nz/dspace/bitstream/10182/115/1/iposu_phd.pdf

Schichowski, S., Moors, E. and Gauly, M. (2008). Effects of weaning lambs in two stages or by abrupt separation on their behavior and growth rate. *Journal of Animal Science*, vol. 86 no. 1, 220-225.

Watson, D.L. and Gill, H.S. (1991). Effect of weaning on antibody responses and nematode parasitism in Merino lambs. *Research in Veterinary Science*, vol 51, 128 - 132.

Zeng, S., Lawton, D.E., Przemeck, S.M., Simcock, D.C. and Simpson, H.V. (2001). Reduced *Ostertagia circumcincta* burdens in milk-fed lambs. *New Zealand Veterinary Journal*, vol 49, 2-7.

**Written by Anna Bassett (lead technical advisor, Certified Animal Welfare Approved by AGW)
2009**

Age of Weaning Lambs is one of A Greener World's Technical Advice Fact Sheet range, designed to provide practical advice and support to farmers and ranchers. For more information, visit agreenerworld.org.

KEYWORDS

Lamb age, weaning, mastitis, loss of condition, nutrition, parasites