

# **BEGINNING MANAGEMENT FOR A SHEEP DAIRY**

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What I intend to do in this presentation is give a brief overview of basic management options and decisions new sheep dairy producers will have to consider in setting up their operations. What any individual producer will decide to do will depend on a large variety of factors, including financial resources, husbandry experience, existing facilities and lifestyle considerations, to name a few.

## **What type of sheep to milk?**

### **1. Starting with an existing flock:**

I personally believe it is difficult to impossible to have a viable sheep dairy farm without dairy type sheep. In a dairy sheep operation, income from milk sold has to exceed the greater costs of running a sheep dairy operation. While there are certainly individual exceptions in any sheep breed, on average only dairy sheep and their crosses will produce an adequate amount of milk to meet this requirement.

In North America, with the exception of a few Lacaune, the only true dairy sheep we have available is the East Friesian. Most of you probably know that the East Friesian is considered the most productive dairy sheep in the world.

That being said, it would be very expensive to start an operation with all purebred or even crossbred dairy sheep. On an established sheep farm, you already have sheep and the facilities to manage them, so I believe the best approach would be to buy the best quality East Friesian rams you can find and afford and spend a year or two creating your own crossbred flock. In addition to being the least expensive way to build a sheep dairy flock, this approach also takes advantage of built-in flock immunity to pathogens that are specific to your operation.

The East Friesian is a prolific lambing breed, averaging about a 230 percent lamb drop. So even if you never end up milking sheep, the East Friesian crossbred ewes you produce will be very good commercial lamb producers, having a high percentage lamb drop and plenty of milk to raise those twins and triplets.

### **2. Starting a flock from scratch:**

My advice for starting a dairy sheep flock from scratch isn't much different. I would recommend buying the best quality commercial type ewes you can find, and then buying East Friesian rams to breed to those ewes. Good quality commercial ewe lambs should be available for \$100 or less, depending on the source and the quantity you buy, while East Friesian crossbred ewes, if you could find them, would run a minimum of between \$350 to \$400 each. Again, plan on at least a year of breeding-up to produce your dairy sheep flock.

## **Milk Seasonally or Year Round?**

### **1. Seasonally:**

Because of the strong seasonal breeding characteristics of dairy sheep breeds, most dairy sheep farms worldwide milk only seasonally. There are obvious advantages to this approach, not the least being that you get some time off each year from the milking routine. You are also working with the nature of the sheep, and especially if you will be a pasture-based operation, you can plan your lambing to take advantage of the best quality grass. Also, if you are not milking in the Fall and Winter, your stored feed will not have to be as high quality as it would if you were feeding lactating ewes.

The disadvantage of seasonal milking is that your labor and facilities will be over-taxed at certain times of the year, and under utilized at other times.

### **2. Year Round:**

The biggest possible advantage to year round milking may depend on your market. If you are selling your milk to established cheese makers, odds are their operations will need milk all year. If you are near enough to your buyer to be able to deliver fresh milk in the Fall and Early Winter months, you will almost certainly receive a premium price for that milk. Of course, if you plan to make your own cheese and want to be in the market with your product all year, you will also be forced to milk all year.

Other advantages are that the demands on your labor and facilities will be more evenly distributed throughout the year, and that you will have a more consistent revenue stream throughout the year.

The obvious first disadvantage to milking all year is that there is never a break from the milking routine. Also, year round milking means that at least a portion of your flock will have to lamb “out of season” so that you will have lactating ewes all year. While this can be accomplished using light control protocols, there are costs associated with setting up facilities for light control, and because light control protocols are not 100 per cent effective, there will inevitably be ewes that will miss a year of production.

Also, the quality of your stored feed will have to be much higher to feed lactating ewes through the Fall and early Winter.

## **Feeding Options:**

### **1. Pasture:**

Well-managed pasture with simple supplementation is an excellent way to feed even high producing dairy sheep. The key phrase here is “well-managed.” It is beyond the scope of this presentation to discuss everything that goes into producing high quality pasture, but suffice to say there is quite a learning curve associated with becoming a skilled “grass farmer.” There are many publications and seminars devoted to grazing management.

The advantages of a well managed grazing operation are many, including less labor, cheaper feed costs, healthier animals and healthier milk. There will also be much less manure accumulation in the barn, which will save the labor and expense of frequent barn cleaning.

However grazing is a more “knowledge intensive” approach that might not be appropriate for the beginning farmer. New farmers must carefully consider paddock design, and fencing costs in setting up a pasture based system. Grazing is also much more dependent on weather than some other systems, and parasite control becomes a concern, because many wormers are not approved for lactating ewes. The quality of the pastures will always vary with the seasons, which can affect milk quantity and quality.

Finally, if you are endeavoring to have a year round lambing flock using light control, ewes that are on pasture at night will not be eligible for that protocol.

## 2. Confinement Feeding:

In this system the milking flock is confined in a barn or dry lot/barn and feed is brought to them. This feed can be as simple as free choice hay in the barn and a grain supplement in the parlor, as sophisticated as a balanced TMR or Total Mixed Ration, or somewhere in between. Again, it is beyond the scope of this presentation to go into a discussion of balancing rations for dairy sheep. Rather I want to simply point out different feeding options and the advantages and disadvantages of each.

The advantage of confinement feeding, other than being simple for beginners, is control. Control of the animals, and control of the quality of the rations. The milking flock can stay under lights during part of the night, which can increase lactation length and encourage out of season breeding for producers who wish to milk all year.

The largest disadvantage is greater feed costs, either through buying forage from off the farm or through harvesting on farm forage and transporting it to the sheep. Also the barn and/or dry lot will have to be cleaned more frequently.

## **How to Manage Lambs:**

One of the biggest decisions facing the dairy sheep producer is how the lambs will be raised.

1. Raise all lambs artificially from two to three days old.
2. Let ewes raise lambs for 30 to 40 days, then start milking
3. Milk ewes with lambs once a day for 30 to 40 days
4. Sell baby lambs at two to three days old.

Each system has advantages and disadvantages, and which is the best for any given operation depends on a number of factors. In our operation, in any given year we will use all of the above options.

System One and System Four are most appropriate if you want to maximize milk production. These systems will be most profitable if you are receiving a high price for your milk, and especially if you are selling your milk as finished products. I figure the average ewe will produce about 90 to 120 pounds of milk in the first 30 days of her lactation. At a price of \$0.65 per pound, this milk would be worth between \$58.00 and \$78.00. Of course the loss would be greater for higher producing ewes.

System One will only be profitable if you have a premium market for hot house lambs, and you have the specialized facilities and excess labor required to artificially raise a large number of lambs. I think it costs about \$50.00 in direct cost to raise a lamb from three days old to hot house lamb weight. In most markets a 40-pound hot house lamb will bring between \$55.00 and \$65.00. At those prices this enterprise is marginal at best. However, if you can average \$70 to \$75 per lamb, it might pay.

On the other hand, if you can find someone who specializes in raising baby lambs in your area, you could sell your three-day-old lambs for between \$8.00 and \$12.00. This is only slightly less than you would make by raising the lambs to 40 pounds, and you won't incur the inevitable death loss associated with raising a large number of lambs artificially. Of course in this system you would still have to artificially raise your replacement lambs, but replacement lambs are much more valuable than hot house lambs, so the payback is better.

The least labor option is to allow the moms to raise their lambs for 30 to 40 days, wean the lambs and then start milking. However, in this system you will lose the \$58.00 to \$78.00 worth of milk from the first 30 to 40 days, and the lactations of some ewes will be shorter as a result of this system, which means you would ultimately lose more money on milk lost.

I believe that for most farms, the once a day system is the optimal one. In this system the lambs spend the days with their mothers, and are separated at night. The ewes are milked only in the morning. The lambs are then weaned at 30 to 40 days old, and the ewes are then moved to the twice a day system.

Although this system has a few drawbacks, which I'll explain in a moment, this is the most profitable approach if you are selling milk and not finished products. A study at the University of Wisconsin a few years ago, concluded that ewes that are milked once a day for 30 days while raising their lambs, produce only about 66 pounds less milk in that time than they would if they were milked twice a day. This is primarily because the additional stimulation of the nursing lambs causes the ewes to produce more in the morning milkings than they would if the lambs were not nursing during the day.

At a price of 65 cents a pound, the milk lost amounts to about \$43.00. Remember that it cost at least \$50.00 each to raise a lamb to weaning artificially. So if your once a day ewe is raising a single, you are about seven dollars ahead of the game, however, if she is raising twins, you are \$57.00 ahead.

Other than the minimal labor required to separate the lambs each day, the major disadvantage of the once a day system is a somewhat lower fat percentage in the milk from the once a day ewes. This reduction in fat is only temporary, however. When the lambs are weaned and the ewes are started on a twice a day milking schedule, the fat in their milk quickly rises to normal for the flock.

The reduced level of fat in the milk from the once a day ewes could be a problem if all of your ewes are on a once a day schedule at the beginning of a milking season. However, if some of the milking flock is also on a twice a day schedule, the mixed milk will usually be in the acceptable range

The other disadvantage we have found is a slightly higher percentage of mastitis in the once a day ewe group. This is probably because well maintained milking machines are actually gentler on the udders than the lambs.

### **What to do with the milk:**

Unfortunately, there is not yet an established infrastructure in the United States for sheep milk like there is for cow milk. If you milk cows anywhere in this country, the milk truck will come and take it away. You may not like the price you get, but at least you can sell it. This is not the case with sheep milk. As a producer of sheep milk, you must arrange to find a market for either the fluid milk or the finished products.

There are basically three options, depending on how much milk you plan to produce, where you are located, and what skills you possess, or are willing to acquire.

The first and simplest option for beginning operations is to find an established cheese or yogurt maker who would like to buy your milk. You may be lucky enough to have a sheep cheese processor near you. If so, they may want to buy your milk.

If there are no sheep cheese processors near you, look for small or medium sized cow or goat milk processors who may want to buy your milk so they can add a line of sheep milk products to their established products. Forget about larger cheese plants, their equipment is sized for batches that are far larger than the amounts of milk you will be able to supply. Goat cheese producers are usually a good fit. They have equipment sized to handle small batches, and they probably already have an established customer base.

The advantage of this option is that once you get the milk to the cheese plant, your job is done. You don't have the added work of processing the milk and marketing the finished products. You are then free to concentrate on doing what probably led you to milking sheep in the first place: being a farmer. The disadvantage is that you don't get a share of the profits of the finished products.

A variation on this approach if you are lucky enough to have a cheese plant near you is to contract for them to make products to your specifications under your label. You would then be responsible for the marketing of the finished product, but would not have to possess the cheese making skills and do the extra work of processing the milk. Or, you might form a partnership with the management of the cheese plant so that you sell them milk at a lower price in exchange for a share of the profits from the cheese.

The advantage here is that you will participate in the profits from the cheese. The disadvantage is the work of marketing the cheese.

The final option is to do everything yourself: Milk the sheep, and make and market the cheese. This may be your only option if you don't have a cheese plant near you. And, while this approach may ultimately be the most rewarding for some, it is by far the most difficult and expensive to accomplish.

The cost to build and maintain a processing facility can vary greatly depending on the regulations in your state, the kind of product you intend to make, and how much milk you will have to process. However, you can be sure that compared to setting up a facility to milk sheep on an established farm, building a creamery is an expensive undertaking. Of course you will also have to learn to make cheese too if you don't already know how.

Before starting such an undertaking, you must have a good knowledge base of the potential market for your products and a realistic expectation of returns in the early years.