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J-DSANA

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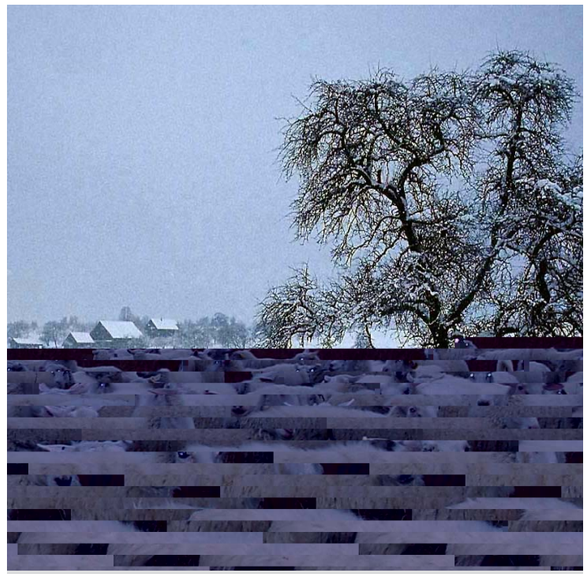
Le Journal de l'Association des Producteurs d'Ovins Laitiers d'Amérique du Nord

Winter/Spring Issue 2007 Volume V Number 1

Board of Directors



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J-DSANA is the official publication of the Dairy Sheep Association of North America

www.dsana.org

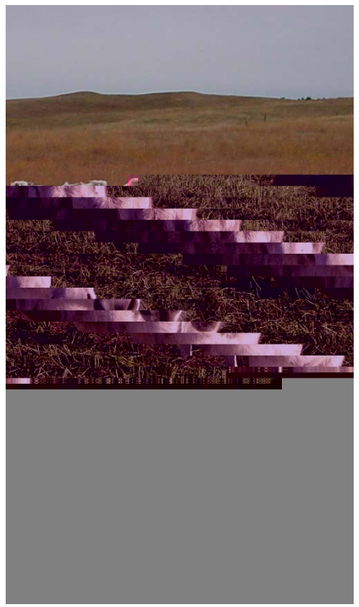
Editor's notes

Pat Elliott
Winter/Spring Issue

I think that no one in the sheep dairy industry is sitting around with time to spare at this time of year. By the end of the conference in November I had commitments from people to help, write, or contribute to this issue, but when I came to put it together--that was another story.

Most everyone had forgotten what I wrote down as they spoke or were just plain too busy to deal with anything beyond getting through the day. However, I think you will enjoy this newsy and helpful issue with practical ideas and food for thought.

Please send your news to me. It was fun talking to each of you who contributed this time and if I missed you, call me at 540-854-4159 or e-mail to Everona1@earthlink.netthis year.



East Friesians in the sand hills of Nebraska

Membership ▪ *L'Adhésion*

DSANA welcomes all current or future sheep dairy producers, artisanal farmstead cheese producers, sellers, suppliers, industry professionals, and academic researchers with an interest in sheep dairying, dairy genetics, sheep milk cheese production, and sheep milk based product development. DSANA also welcomes any individual who is a friend of the sheep dairying industry.

DSANA accueille tous les producteurs (trices) de lait de brebis, les transformateurs artisanaux, les fromagers de ferme, les vendeurs, les fournisseurs, les professionnels dans la filière des ovins laitiers, les chercheurs académiques...enfin, tous et toutes qui s'intéressent vivement à la production et à la transformation du lait de brebis. Nous accueillons également les ami(e)s de l'industrie laitière ovine.

Benefits of membership ▪ *Bénéfices de l'adhésion à DSANA*

- ✓ Quarterly DSANA Newsletter • *Journal tous les trois mois*
- ✓ DSANA website • *Site web de DSANA*
- ✓ Discount admission to the Great Lakes Dairy Sheep Symposium • *Tarif réduit pour le symposium annuel des Grands Lacs sur la brebis laitiére*
- ✓ Voting rights to help determine the future of the association in the industry • *Droit de vote pour déterminer les orientations de l'Association au sein de l'industrie*

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A principal member is one who is currently milking sheep in a state/province licensed facility, or is actively involved in getting milk to the market, brokering milk sales, producing or distributing sheep milk based products.

Un membre principal producteur de lait de brebis avec un agrément provincial ou d'état, ou êtes-vous activement impliqué dans l'achat ou la vente de lait de brebis aux transformateurs, la production de produits à base de lait de brebis.

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November (Symposium issue)
March (Winter/Spring issue)
July (Summer issue)

Deadlines for submission of material is three weeks prior to publishing. The editor reserves the right to move material to future issues if needed. Past issues are available on the DSANA website (www.dsana.org).

Table 2. Total cost ($US) of feed for raising replacement ewe

Feed	Feed Amount (lbs.)	Cost $
Milk Replacer	34	56
(OR Ewe milk 150 lbs/2lambs @ $.65/lb)	(150 lbs fluid)	(49)
Grain @$440/ton	12	3
Grain @ $200/ton	98	10
Grain @ $180/ton	263	24
Hay @ $150/ton	460	35
TOTAL		**$128**

There are a lot of hidden feed costs with the cost of fencing, water system, guard animals and de-worming. And, medicine, vaccines, bedding and labor will add to the economic investment.

This general analysis is a start for each farm to estimate the input of just feed into their replacements. Being able to select the animals you want to keep as early as possible will allow you to focus your resources only on the livestock that will improve your production or income. Keeping animals for meat markets is viable and these feed costs should help producers analyze what the market price should be for a good profit.

The author welcomes your farm numbers to compare with this article.

Carol Delaney, Small Ruminant Dairy Specialist
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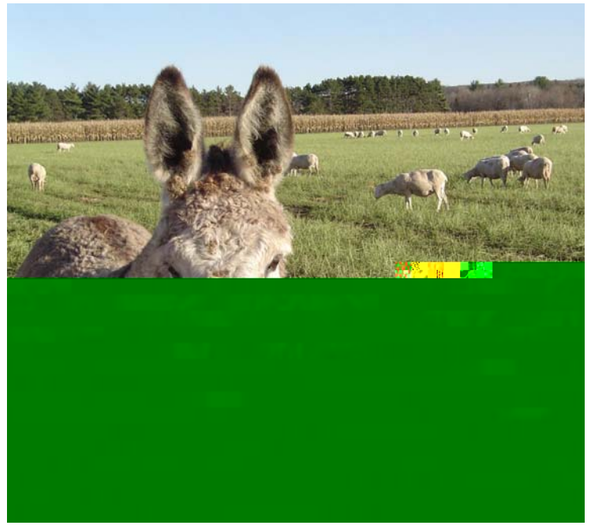
2006/2007 New England Dairy/Meat Goat and Dairy Sheep Directory can be found at: www.uvm.edu/sustainableagriculture/smallrumi.html

It's lambing time at the Spooner Ag Research Station



A fantastic guard on duty at the Spooner Ag Research Station

Our Mission ▪ *Notre Mission*

DSANA will promote effective dairy sheep management by educating, supporting and encouraging new and established sheep milk dairies, farmsteads, and artisanal sheep milk cheesemakers.

DSANA fera la promotion de la gestion efficace des troupeaux de brebis laitières par la formation, l'encouragement et le soutien des producteurs (trices) de lait de brebis (autant les dèbutants que les plus expérimentés), ainsi que les fromageries fermières et artisanales.

DSANA will promote cooperation and exchange of information among producers of sheep milk and cheesemakers.

DSANA incitera la coopération et l'échange d'idées entre producteurs (trices) et transformateurs (trices) de lait de brebis.

DSANA will also promote the products manufactured from sheep milk.

DSANA fera la promotion des produits fabriqués à partir du lait de brebis.

DSANA will help producers organize activities for the genetic improvement of dairy sheep.

DSANA soutiendra les producteurs/trices pour les aider à orgainser des activités visant l'amélioration génétique des ovins laitiers.

DSANA will endeavor to inform and educate the public as to the merits and availability of sheep dairy products.

DSANA s'efforcera d'informer et d'éduquer le public quant (aux mérites) à la valeur nutritive et à la disponibilité des produits fait à partir du lait de brebis.

DSANA will strive to help foster international understanding and the free exchange of ideas between North American based producers and producers abroad.

DSANA s'efforcera de favoriser une meilleure entente internationale et soutiendral l'échange libre des idées entre les producteurs d'Amérique du Nord, anisi qu'ailleurs dans le monde.

A Yahoo group has been established to discuss questions that arise during the use of the worksheets and accounting systems. This Yahoo group is restricted to individuals who have attended presentations of the project details. In order for the project to succeed, it is essential that all participants have a basic level of understanding before implementing the system. The group will be used to resolve questions on how the system should be used.

The feed costs of raising ewe replacements

Carol Delaney
Small Ruminant Dairy Specialist
UVM Center for Sustainable Agriculture

Lambing brings on new lactations and gives a choice of replacement or meat animals to raise or sell. How much does this feed cost in the Northeast which is at least 50% of the expense? This is a useful figure to know when selling animals, buying in or having someone custom-raise your own replacements.

Let's start from birth until the replacement drops its first lamb the next year. We will assume that the replacement gives birth at 13 months of age and the lambs graze in the summer and fall and eat hay in the winter. We will round up numbers.

Replacement Lambs

Lambs should be cheaper to raise on pasture than on hay as long as a parasite control strategy is implemented. To start, weaning choice will affect feed cost and labor. While some practice day-old weaning, a common practice in the Northeast is weaning when the lamb is ready to go off milk, which I will present here, modeled after 3-Corner Field farm in Shushan, NY operated by Karen Weinberg, Paul Boghardt and their daughters. This management keeps lambs destined for meat or the dairy together to streamline their pasture system.

Karen and Paul wean lambs at 5-6 weeks with access to lamb starter and hay. Initial lamb creep grain is 20% lamb starter then switched by slowly mixing in 16% dairy/shepherd pellets. They are eating .5 lbs per day at weaning so, .25 lbs/day average during the whole nursing period. Then a two-week creep area transition after weaning so the lambs are in the same creep area they were when they were nursing. They can be watched closely and let out to graze and the change is softened by keeping their environment the same. By summer, the lambs have transitioned from the 16% pellet to whole corn and eating one lb per day. Use of grazing for as long as possible (they were still grazing as of Dec. 8, 2006!) and then grain continues at 1 lb per day plus about 3 lbs of hay. Closer to lambing the hay fed is second cut but first cut is fed in the fall/early winter. In the last 6 weeks of gestation, the lambs get 1.5 lbs of corn per day. Lambs are about 90 lbs at breeding time and lamb at approximately 130 lbs of body weight.

Table 1. Total grain and hay (pounds) intake for lamb replacements

Month	lbs./day	lbs.	% cr pro
0-1.5	.25 X 45 days	12	16
1.5-2	.5 X 15 days	8	16-20
3-8	1 X 90 days	90	16
	1 X 90 days (corn)	90	10
9-11.5	1 X 105 days (corn)	105	10
11.5-13	1.5 X 45 days (corn)	68	
TOTAL GRAIN	**390 DAYS**	**371**	
0-1.5	.5 hay X 21 days	10	
9-13	3 hay X 150 days	450	
TOTAL HAY	**171 DAYS**	**460**	

Hay in the early and weaning period is low because grazing starts at weaning so an estimate of .5 lbs per day for 3 weeks gives 10 lbs of hay per lamb with waste. If grazing ends in November, the lambs can graze until about 8 months of age before switching to hay. From months 9-13 (150 days duration), the lambs can eat about 3 lbs of hay per day or 450 lbs. They are still getting 1 lb of whole corn per day and increase to 1.5 lbs of corn per day in the last 6 weeks of gestation. See Table 1.

Back to the nursing stage: If you nurse for six weeks in early lactation and your production is 500 lbs per ewe, you will lose about 30% of the lactation (20-50% according to Practical Sheep Dairying by Olivia Mills) or 150 lbs. If this is worth $0.65 per pound than that cost is $98 for 2 lambs, most likely. If you feed milk replacer, you will need about .75 lbs/day of powder on average and this sells at $41 per 25 lbs at one local feed company or $1.64/lb of powder. For 45 days, this would be 34 lbs of powder or $56. Table 2 gives and estimate of feed cost from the variables give but each producer can put in their own prices and recalculate the total.

Highlights from the Symposium

Pat Elliott

If you didn't get to LaCrosse in November, you missed a great conference. Here are a few highlights and interesting points that I jotted down.

1. When you artificially inseminate, leave CIDRs in for 14 days, give shot, and inseminate at 55 hours.
2. When upgrading for milk production--choose rams by daughters and granddaughters for production
3. To increase producer numbers--a good suggestion was to have mentors for various areas. Introduction packets were suggested. For example, informational packets should be available for people interested in starting sheep dairying.
4. Sheep will produce more milk if it is darker at night.
5. Be sure the sheep are clean of parasites in the spring. As an animal gets closer to its genetic potential, it doesn't take as many worms to damage production.
6. Check the background of "experts."
7. In explaining the cost of his cheese, someone said, "If I was making any money, I'd feel guilty about it."
8. Dan Guertin and Tom Kieffer are going to help those interested to figure out, "How much does it cost me to produce a pound of milk?"
9. Kate Arding said that the person to whom you sell your milk (cheese) needs to understand the cheese and your story, to give you feedback, to sell your cheese (milk) in the right condition, to give you some kind of sales projection, and to pay the invoices. I say, from experience, "Amen" to that.
10. Giles Lagriffoul gave an interesting talk about milk production and cheesemaking in the French Pyreenes where the average farm is 60 acres of mountainous or hilly land with perhaps 260 ewes of local breeds, and dairy or beef cattle also on the farm. They have out-of-season lambing in October and the culling rate is 20%.

These are just a few of the things I heard in the first few talks. If you were there, what struck you as a jewel? I will put more in the next issue. Go back and look at the talks and your notes. They have food for thought in them.

What our members tell us

Pat Elliott

I have been having fun contacting people around the country about how their sheep year is starting out. Here are some of the comments;

Ethel Jensen, where we went on the tour with the Symposium, says she started to lamb on February 18. They have been busy building as we saw when we were there. The first several lambs are the ones to admire–there won't be time later!

Scott Burrington and Terri are in the process of getting a double-12 rapid exit parlor built so they can eventually milk their planned 350 sheep–sounds exciting.

I received a great letter from Eric Bzikot, our host for next year. He has an article on Ontario in this issue that will make you sure to want to visit there for the upcoming Symposium in November 2007. Get your passport ready now if you are flying, he says.

The news from Oregon: Colleen Smith reports that they will be starting to milk their 150 Lacaune flock this year. They had good results from AI last year.

Colleen also mentions Brendan Enright, who has been at the last two DSANA meetings and is well, started with good soft cheese on the market. I visited him during the ACS last summer he's got the cheese and the will to succeed. Ancient Heritage is another established sheep dairy in Oregon who was also, I believe, at the ACS last summer. Colleen also knows of Shannon Diges in Idaho and Terry Felda in eastern Oregon and also knows of two Washington State dairies – Black Sheep Creamery and Monteillet Fromagerie.

Many of you have heard of Sally Jackson as the legendary first commercial sheep cheese maker in the US (I suppose someone might argue that –please let me know if you know differently). And, remarkably, Sally is still doing it. Kate Arding has had a visit with her and was impressed. She also uses other types of milk.

From eastern Tennessee, we hear from Tim Clark that he is milking and looking to expand, and that Rogers' Dairy and Blackberry Farm will be in production later this year. Blackberry will be processing for them. Hurray for getting together –strength in numbers (and enthusiasm).

News from Ontario, Canada

Eric Bzikot
Conn

Production of sheep milk in Ontario is on a steady increase, both in numbers of producers and in the size of their flocks. The demand for sheep milk is now probably leading the supply. Our most important processor today, as in the past, is Shepherd Gourmet Dairy, majority owned by former DSANA director Stew Cardiff. Shepherd Gourmet Dairy (SGD) along with their producers, the Shepherd Gourmet Producer Group, is providing significant volumes of high quality sheep milk products which compete successfully with imports from Europe. Their goal is for long term stability for commercial sheep milking operations in South West Ontario. SGD receives considerable volumes of fluid sheep milk from members of their group, all with above average flocks. Stew also owns Cardiff Farms near Brussels, Ontario, which is a major supplier to the plant. As a farmer and a processor, Stew makes sure there is a balance and fairness in profits between the two entities and shares these numbers with the SG Producer Group leaders. In the 3 1/2 years since Stew has been involved in the processing, Shepherd Gourmet Dairy Group has provided a reliable income and a reliable supply contract to members, which they can take to their bank. Stew's future outlook is cautiously optimistic, knowing that our growth has to be managed wisely as an over-supply position will hurt the farmer in the end.

There is at least one other processor planning to greatly increase production of their sheep milk cheese and looking for business minded farmers to partner with. These two concerns alone will require the production from several thousand sheep.

At the other end of the scale we have Milky Whey Farm and the Back Forty making quite small amounts of very good cheese which finds ready acceptance at very high prices.

Between these there is a number of mid–sized operations such as the Ewenity Dairy Co-op. Our own Best Baa Farm's plant is in its final stages of construction and should be operational in a few months. To the east of Toronto, Petra Cooper is set to break ground for the construction of her cheese plant. The notable feature of this structure will be it's energy efficient and environmentally friendly design. Although this plant will not be limited to using sheep milk, it will create a demand in that area.

So the climate for sheep milk producers here is very encouraging. There is considerable scope for expansion but producers do need to monitor their costs and stay efficient. It's also very important for farmers to be loyal to their buyers and not be tempted to skip to another processor for a slightly better price. We are still a fledgling industry in which processors will have difficulty withstanding wild swings in price or volumes of delivery.

We are very excited to have the opportunity to host the Great Lakes Dairy Sheep Symposium this fall. An organizing committee has been struck and planning is well under way, with much interest and encouragement from connected organizations. I am convinced we will provide an interesting and enjoyable event for our visitors and also raise the profile of our domestic sheep milk industry and spur it to further success. Coincidentally, the symposium is taking place at the same time as the Royal Winter Fair in Toronto. This is an annual event featuring livestock exhibits and would be well worth a visit at the same time. As US citizens now require valid passports to return home by air (land crossings do not yet require passports), I would urge people thinking of coming to the symposium to check that their passports are in order for November 2007.

Using whey on the sheep dairy farm

Pat Elliott

Even if you sell all your milk, what happens to its whey is important to you. Whey is 88% of your output so it is important to see that some economically valuable use is made of it that will reflect back to your income.

When I started making cheese, I read that whey could be spread on the ground for fertilizer. That is true, I suppose, but is a lot of work for little gain.

Another suggestion that we do use is to feed it to the milking ewes. A certain percentage of them really like it and will fight for it. It certainly gets them to come running into the holding area where we give it to them. Actually we put it in old foot troughs before we let the ewes in so we won't get trampled.

However, I am always complaining in the winter about the cost of milk replacer and it occurred to me three years ago to try using the whey for part of the milk replacer. I never found anything written about substituting whey for milk replacer. I asked several people who raise lambs if they had ever tried it. They never had and were dubious.

Whey has, of course, much less protein and fat than milk but it has some of each and lactose and vitamins as

milking operation. Of the original 26 farms, nine farms are still actively milking. The remaining 17 farms went out of the sheep dairy business. Over the last 10 years, the coop has had approximately 20 additional individuals who tried, or seriously investigated, sheep dairying. Of these, 14 have ended up leaving the sheep dairying business.

Approach

Since the primary reason for farms not succeeding in the sheep dairy business seems to be financial, it was evident to us that a method was needed for defining the costs incurred by the sheep dairies. In the fields of agricultural economics, accounting, and statistics, many models and methods for farm budgeting, recordkeeping and analysis have been developed and are used regularly in the cow dairy, beef, crop farming, and other segments. These approaches often utilize very sophisticated types of financial analysis and generally look at the financial health of the farm as a whole. In most cases, these approaches cannot be easily utilized by an individual farm owner without the assistance of someone who is specially trained on the financial jargon and complex calculations used. Since the sheep dairy industry is still in its infancy, it lacks the necessary funding to develop and administer these types of financial tools. We have attempted to draw upon this work to develop some relatively simple, farmer friendly tools that can be used in our situation.

Our approach was to breakdown the components of financial analysis of sheep dairy farms into smaller pieces and then to address these components individually in a way that would be easily used by farms without the need for specialized help.

We wish to clearly state at the outset that we fully realize that by focusing only on the direct cost of milk production, a farm will not be able to predict success or failure. It will, however, provide one key component in that determination, i.e. the direct cost of milk production. We also realize that each farm may allocate direct and indirect costs differently across multiple farm enterprises for tax and overall farm budgeting purposes. The goal of establishing a standardized method for calculating the cost of milk production, in isolation from the rest of the farm operation, is to allow a variety of farms with different situations to gauge their direct cost of production against other farms to determine if their cost of production is higher or lower than other farms.

By benchmarking the average and range of costs in each of these categories, farmers will be able to determine how they compare to others in the industry. If, by using the standardized calculations, a farm determines that their cost of production is significantly higher than other farms, that farm will be able to compare their costs across the different categories with other farms to determine in which category(ies) their costs are out of line. By being able to identify problem areas, the farm can concentrate on different ways to bring these costs down. Conversely, if a farm finds that their overall cost of production is at the lower end of the scale, they can help to establish 'best practices' in the sheep dairy industry that other sheep dairy farms can follow to be more successful.

Implications If Not Addressed

The cycle of people getting into sheep dairying and then leaving has resulted in no appreciable increase in the number of sheep dairy farms in North America over the last five years. There are still estimated to be about 100 sheep dairy farms in North America, roughly the same number as 5 years ago. Unless we can find a way for people getting into sheep dairying, as well as those already in the business, to be more successful, sheep dairying will remain a curiosity and never reach the critical mass needed to turn it into a thriving industry. Without this critical mass, we will never be able to establish effective breeding programs and production levels that will allow us to compete effectively with sheep dairies across the world.

Conclusion

It is now clear that the farmers currently milking sheep, or contemplating entering sheep dairying, must ask both, "How much will I be paid for my milk?", as well as, "How much will it cost me to produce a pound of milk?"

The long-term viability of the sheep dairy industry in North America requires the long term success of its dairy farms. In order for the sheep dairy industry to flourish and grow, we need to identify the critical issues around sustainability and to establish best practices that can benefit individuals and the entire industry. We hope that a standardized system for determination of the direct costs of sheep milk production will be a first step in making this happen.

Current Status of the Project

During the symposium, 14 farms indicated that they would be interested in participating in this project. Prior to next year's symposium, we will solicit the results from participating farms for a presentation to the general membership. If this first step proves to be successful, additional components of a comprehensive system will be developed to encompass the other components of the whole farm picture in order to assess overall farm profitability.

Also, producers are going to have to face the economic challenge of maintaining a flock of the right size to be able to stay in the business.

"Five to eight years ago, people who were getting in were thinking small," he says, adding that a flock of his size is about the size of operation that is economically feasible.

In addition, the industry is really focusing on continuing to improve genetics of the dairy breed for the future, which creates a whole new set of challenges.

Many producers rely on imported semen to improve their genetics; however, they can run into restrictions trying to get it into the country.

For example, those wishing to import semen from Lacaune rams out of France run into problems because of the bluetongue outbreak in that country, causing importation issues.

"It's going to be a little more complicated," says Berger, adding that the U.S. Department of Agriculture is working on this issue.

But even with the challenges, the future for the industry is looking bright.

"The market is big," says Berger. "About 10 percent of the population is very willing and able to try the product. People are very curious. They are interested and they want to try it." Are you interested in the dairy sheep industry? Yves Berger says that producers who raise Dorset or Polypay ewes are already in a good position because those breeds are commonly crossbred with dairy-sheep breeds to produce a milking sheep. But learning about the industry and knowing your markets are extremely important. For more information on the sheep-dairy business, visit these Web sites:

www.uwex.edu/ces/animalscience/sheep (University of Wisconsin-Madison)

http://ecommerce.uwex.edu (CD - Principles of Sheep Dairying in North America)

www.attra.org http://www.sheepmilk.biz/ (Wisconsin Sheep Dairy Cooperative)

Sheep dairy farm econonmic analysis – Cost of milk production

Tom Kieffer and Dan Guertin
Wisconsin Sheep Dairy Cooperative

Introduction

Like many new agricultural industries, the sheep dairy industry seems to hold out the promise of being a profitable venture for newcomers. With the high milk prices being paid by processors, and the premium prices commanded by sheep milk cheeses in the market place, it often seems that this should be an easy business to make a profit. The reality of this promise can be seen by the small number of individuals that stay in the business for five or more years. While there are no official statistics available, our observations of the industry over the last ten years suggests a high attrition rate among sheep dairy farms with only about 30% staying in the business five or more years. The reasons people leave the business are varied, some because of health issues, some because of lack of labor, but most because they were not able to make enough money milking sheep. Worse yet, they didn't have a way to identify why they were losing money or not making as much money as they needed to. The uncertainties of the business don't only affect newcomers, as many of the sheep dairy pioneers in North America, large and small, have also moved on to other activities.

At the 12th Annual Great Lakes Dairy Sheep Symposium in LaCrosse, WI, Tom Kieffer and I introduced a proposal for a standardized system for record keeping and determination of the direct costs of sheep milk production. The goal of this project is to develop a *simple,* standardized method to calculate the direct cost of milk production. The establishment of a standardized method makes it possible for individual farms to compare their costs with other farms in order to identify areas to focus on for improvement. By doing this, we hope to help reduce the high turnover rate of sheep dairy farms as well as help farmers, and the industry as a whole, improve profitability.

History

In 1996, the Wisconsin Sheep Dairy Cooperative (WSDC) was formed with an initial membership of 26 farms. Of these farms, only six farms were actually milking sheep. The remaining farms were in various stages of planning and/or setting up to milk. The primary question asked by the initial members was, "How much will I be paid for my milk?" In the ensuing 10 years, this question continued to be asked by everyone interested in either joining the coop or setting up an independent sheep

well--all the soluble stuff from the milk that didn't get trapped in the casein matrix.

We started adding it cautiously to the milk replacer and have experimented with the amount and when to add it so that now we have an easy formula for us to follow. Lambs would choose milk over whey if they had a choice of two bowls, but we introduce it gradually and they acquire a taste for it that lasts.

Our schedule for whey use is as follows:

Age of lamb	Proportion of milk replacer to whey
Newborn	Colostrum
1 ½ days to 8 days, 10 days if a quad or very small	All milk replacer 4 X a day- as much as they want
8 or10 days to 2 weeks	1 part whey to 3 parts milk replacer about 1½ cups per lamb 3 X per day
2 to 3 weeks	Half milk replacer, half whey 1½ cups 3 x per day
3 to 4 weeks (15-25 lbs)	¾ parts whey, ¼ part milk replacer 2 cups twice a day
4 weeks or 25 lbs. or more; 20 lbs. if a quad)	All whey 2 cups twice a day, later once a day after eating solids well

We prefer to hand feed using a bucket and nipples until the lambs can drink from a trough. We feel we can monitor individual intake and condition better. The whey is at room temperature (from the dairy) and used within a day.

Lambs fed whey until they go to the farmer's market or the freezer lamb trade are very tender and tasty. Also there isn't the fat in it that one wants to use sparingly for the replacement ewe lambs. The young lambs get what they need and the older lambs have what is left, and if any other is left, then the milking ewes.

They are also--of course--eating hay, water, and lamb pellets and or cracked corn depending on their track (replacements or market). We give everyone lamb pellets until 25 pounds for the coccidian protection.

This program saves money for us. I don't see any problem for the lambs although I worry they might not be getting enough calcium. It would be helpful to have a comparison study done with feeding milk replacer.

Ask the vet

Terri MacKenzie

A column of seasonally topical animal health answers to questions posed by the membership. Submit questions to Dr Terri MacKenzie at tmack@frontiernet.net and the best ones will be printed for the membership's benefit.

Why do some of my lambs fail to try to thrive even after I think they have had a good start?

Up to 50% of lamb deaths in the first week of life can be attributed to cold-stress induced hypothermia/ hypoglycemia/starvation complex. Hypothermia is lower than normal body temperature and hypoglycemia is lower than normal blood sugar levels (sugar is the body's gasoline).

Well developed lambs from healthy ewes are born with something called brown fat, which is an energy supply they can muster up and survive on, under normal environmental conditions, for about 24 hours. That being said, there are several factors which work against the lambs, even if they get a very good first meal or two. Birth weight, exposure, difficult lambing, injuries, disease, multiple births and lambs from underfed, young or aged ewes all contribute to increased risk of death in lambs. Most cases of hypothermia less than five hours old are suffering from exposure, whereas most cases older than 12 hours old are suffering from starvation.

Birth weights of five lbs (2.2kg) or less are 10-15% more likely to die in the first week of life than heavier lambs. These are lambs from multiple births, from very young or old ewes and from underfed ewes. This is simply a matter of physics--the body mass (weight) to surface area ratio. Heat production is a product of mass and heat loss the product of surface area. Small lambs have higher surface area to mass ratio and suffer greater heat loss risk whereas larger lambs have lower surface area compared to their mass and are therefore more resistant to cold stress. In short, the smaller the lamb, the harder to maintain body temperature.

Exposure to the elements, especially wind and rain, but also air temperature is the biggest cause of hypothermia and death in lambs less than five hours old because birth fluids wetting the coat cause evaporative heat loss. Adverse environmental conditions delay drying and increase heat loss very early on. In the first few hours of life, lambs are unable to control body temperature regardless of weight or environment, so you can see how critical it is to ensure lambs are dried off as soon as possible and rise to get muscles warmed up and nurse to increase energy. It is interesting to note that the

sheltered air temperature at which a lamb begins to lose more heat than it would normally produce in its first couple of days is at or below 98.6°F (37°C) for five lb (2.2kg) lambs!

Dystocia (difficult lambing), injuries and disease cause weakness, failure to thrive and increase the risk of hypothermia, hypoglycemia and starvation in lambs, especially over the first 24 hours. Lambs that develop illness early tend to chill because they are weak and do not move about or nurse and because the infection causes the heart to beat weakly and circulation to be poor, further chilling the lamb. These lambs use up their reserves, become hypoglycemic if not attended to, and starve.

A quick note about "mis-mothering" should be added, which is common in first timers and multiple births where the lambs suffer the combination of not getting licked dry and being less likely to nurse well.

What to do? Your thermometer is your best friend! A lamb suffering mild hypothermia, that is body temperature of 98.6-102.2°F (37-39°C), needs first to be dried off, then stomach tubed with 25mL (mL is the same as a cc) per pound body weight (50cc/kg) colostrum (or milk if older than 24hr) then put in a sheltered, dry pen with the ewe and monitored. A lamb suffering more severe hypothermia of less than 98.6°F (37°C) body temperature needs to be dried off, given a 20% dextrose in saline solution warmed up to 102.5°F (39°C) intraperitoneally at a rate of 25 to 50cc, depending on size, and then put into a warming box at 100.5 to 104°F (38-40°C).

Only when the lamb's body temperature reaches 98.6°F (37°C) can you stomach tube or feed. When the lamb is strong enough to nurse you can place it in a sheltered, dry pen with the ewe and monitored.

So, basically, you have to dry and warm them up and keep them warm and dry. Once warm, then get colostrum or milk into them. Why is this order so important? Because the body chemistry is very temperature-sensitive. Chemicals called enzymes that control the body's biochemical processes like muscle function, cellular absorption, secretion of digestive juices (acids and more enzymes) simply fail to work at lower than normal body temperature. So, if you have a cold lamb, their leg muscles don't work well so they often cannot stand, their facial muscles don't work well so they cannot suckle and they cannot absorb or digest anything you put in their stomachs. In addition, the heart does not beat efficiently, the blood vessels constrict to try to keep the trunk warm, and you get a vicious cycle of cold muscles in the extremities and poor circulation to the brain.

Please note that stomach tubing equipment is available through Premier and other suppliers as well as your veterinarian as is a 20% dextrose solution and instruction how to administer it. It is always advised to develop a good working relationship with a local veterinarian for questions, advice and medical attention - may the latter be rare.

Happy--and healthy--lambing!!

Sheep dairies are making their mark on the sheep industry

Becky Talley
Sheep Industry News

Sheep have always been touted as a multipurpose animal. The animal has a stellar reputation for being very efficient, providing both food and fiber to consumers. However, another lesser-used product of the ovine is becoming a booming business for some producers across the country, making sheep a triple threat when it comes to production.

Sheep's milk is becoming a valued commodity as more and more consumers are expanding their palate and looking to try the many products made from the milk.

In the United States, sheep dairies are mainly located in Wisconsin, eastern states, like New York or Vermont, and, in more recent years, the West Coast states, according to Yves Berger, superintendent and sheep researcher at the University of Wisconsin-Madison's Spooner Ag Research Station, home to the only dairy sheep research program in the country.

For the first year ever, the Wisconsin Agriculture Statistic Service conducted a survey of the state's sheep dairies in September. The survey showed that sheep dairies were making an impact on the state's ag industry. According to the survey, the state had 11 licensed sheep dairies that milk more than 2,250 ewes at an average milk production of 369 pounds per ewe.

Berger says there are likely more sheep dairies in the state that did not respond to the survey but is excited that the industry is garnering attention.

"That's a very good move for us," he says of the survey. "We start to be recognized as something with potential." And at the core of this potential, is a very unique, nutritious product that is gaining in popularity throughout the country.

When compared to cow's milk, sheep's milk has a higher unsaturated fat content, which equates to easier digestion, and has a 5 percent to 6 percent protein content versus the 3 percent to 4 percent in cow's milk.

Sheep's milk is also higher in calcium and many vitamins than cow's milk.

In addition, sheep's milk is about 18 percent to 20 percent solid content, so twice as much cheese can be made from sheep's milk as can be made with the same amount of cow's milk.

Cheesemaker, Sid Cook, owner of Carr Valley Cheese Company Inc., La Valle, Wis., has been using sheep's milk to make several different varieties of cheese for many years.

About eight years ago, he was approached by a sheep-dairy owner who was looking for a market for the milk. He went ahead and began crafting cheese out of sheep's milk and has been doing it ever since.

"The first year or two, we gave away more than we sold," he relates.

But soon, people started realizing the draw of the sheep-milk cheese.

"We had people start coming here just for these cheeses," he says, adding that chefs began to express interest in the cheese because of the unique dishes it can be used to prepare.

According to Cook, sheep's milk creates a cheese like no other.

"Sheep milk gives a completely different profile. That's part of the success we have had with it," he says.

Cook says cheese made with sheep's milk will give a sweet, tart flavor on the front of a tongue with a 'lamby' flavor on the finish.

The cheesemaker did not want to mimic European cheeses made with sheep's milk, so he has crafted many American original cheeses; something that has proven very popular with his customers.

"It's a growing segment for us. There is a huge demand for unique flavor profiles and American originals," he says, adding that there has been a huge growth in specialty and artisan cheeses in the past 10 years.

In all, Carr Valley Cheese Co. Inc. offers 13 cheeses made from sheep's milk. Five cheeses are made entirely with sheep's milk and eight varieties are a blend of different milks.

The cheeses are sold in higher-end retail stores, such as Whole Foods, and are used widely by chefs because they are such unique products.

According to Cook, it is more expensive than cheese made from cow's milk, mostly because the cost to produce the milk is higher, but people will pay the price because of the quality of the product.

Wisconsin sheep dairies play a large part in Cook's business because it is through them that he purchases his fresh milk.

The Wisconsin Sheep Dairy Cooperative was formed in 1996 to give sheep dairies a chance to tap into interested buyers, such as Cook, who purchases his sheep's milk from the co-op.

Tom Kieffer, owner of Dream Valley Farm, LLC, Strum, Wis., is a founding member of the co-op and continues to run a dairy today. According to Kieffer, the co-op has seen a boom in its members. Since 1997, the co-op's annual sales have increased about 25-percent annually.

Kieffer's operation currently milks about 300 East Friesian and Lacaune ewes. When he started, he was raising a small flock of sheep and decided to get into the sheep-dairy business but realized the need to expand his flock was necessary.

"With a small farm operation, it became apparent that it wasn't going to be enough cash flow to support itself," he says, adding in the early years, the sheep dairy business was a pretty big gamble.

However, with the formation of the co-op and subsequent markets opening up for the milk, the industry has seen more stability.

Kieffer says that he does not foresee expanding his herd but adds that there is a lot of growth in the industry.

"All indications show that it is going to grow," he says.

And with all growing agriculture industries, there are challenges that sheep dairies face for the future.

Both Berger and Kieffer believe that identifying markets for the milk is important for current producers and those that are looking to get into the industry.

"Before you start, you absolutely have to know what you are doing with the milk," Berger says.

"This being such a micro industry in the United States, one cannot just assume they will be able to sell their milk," adds Kieffer.