

# Rough Concrete was Making Cow's Lamé

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With the trend to larger herds, we must depend more on confined housing. The design of confinement facilities becomes critical in order to maintain maximum health and performance.

Many times I have made the statement that the environment of dairy cows should be clean, dry and comfortable. With enough concrete and roofing material, it is not too difficult to make that environment clean and dry, however, frequently we forget that 'comfortable' must be included.

It is somewhat oversimplified, but I also have stated that a dairy cow makes a profit only when she is in one of three positions: in the milking facility being milked, at the feed manger eating and lying down. In fact, there is some recent work that indicates blood flow to the udder increases rather dramatically when a dairy cow is lying down. This high blood flow would be expected to improve the ability to secrete milk.

## **WORK ON COMFORT.**

With these thoughts in mind, it becomes important that we design confinement housing, or any other housing area for that matter to provide maximum comfort and be conducive to cows lying down as many hours of the day as possible.

Mark's new dairy housing facility looked impressive from the outside. It consisted of two free stall barns, each with a capacity to handle two groups of 125 cows for a total of 500.

The barns have two rows of face in free stalls on either side with each stall approximately 4 by 8 feet in size. The free stalls were designed with a concrete base and brisket boards properly located. By all appearances, they should have been successful in providing a comfortable environment.

**During the first 7 to 10 days after moving into the facility, all seemed to go well. Cows were adapting to the new environment.**

**Unfortunately, after three to four weeks in the facility, things began to "go down hill".**

**The first sign of trouble was a gradual drop in dry matter intake.** The next sign was a rather **dramatic rise in the number of lame cows.**

When visiting the facility, one of the first things I noticed was a high percentage of the cows **standing in free stalls, not lying down**. It also was rather evident that many of the cows **appeared to be lame and showed evidence of pain when they walked**.

Close examination of several of the lame cows revealed a disturbing condition. **The bottoms of the feet appeared as though they had been ground away by some abrasive machine**. Closer examination revealed that several cows feet were worn to the point that they were **bleeding from the sole**.

A close look at the surface of the concrete in the free stall barn revealed the source of Mark's problem.

It is my standard recommendation that, in confined housing facilities, the concrete surface should be "rough but not abrasive." **The micro-surface should be smooth enough that it does not abrade the feet** of the animals as they move about. On the other hand, the micro-surface needs to be uneven enough so that there is good footing.

Many times, in dealing with well-qualified contractors who have not built dairy facilities before, it becomes difficult for them to understand this concept. **It is not unusual to find inexperienced dairy building contractors putting a "broom finish" onto the surface of the cow traffic areas**. Unfortunately, this type of finish was in Mark's new barn.

The condition was aggravated further by the fact that manure handling was done by flushing the alleys with large quantities of water. There was almost never a thin pad of manure covering the new concrete surface, as would be the case in barns in which manure was handled by scraping.

At this point, we were faced with two challenges: First, we need to correct the problem so that further deterioration of the feet was stopped, and, second, we had to treat animals that had problems and hopefully, maintain their production.

Fortunately this situation developed during a time of the year when rain was the least. We immediately moved all the cows off the concrete into dirt corrals. On a temporary basis, we were able to bring in portable feed bunks and maintain a respectable amount of dry matter intake.

Through the years, I have been involved with helping to correct a problem such as this using several different methods. The one that seems to be the most successful and least expensive was used in Mark's barn.

## **SMOOTHED ABRASIVE CONCRETE...**

First, we cast several (12 to 14 concrete blocks measuring approximately 8 inches thick by 14 to 16 inches wide and long. Each of these contained eye bolts so that they could be fastened together in a "pallet" or "gang". The concrete used to make this pallet also contained an extra amount of abrasive material.

The next step was to flush all the manure from the concrete.

After this, the concrete block pallet was attached behind a small tractor and then simply pulled over the concrete surface repeatedly until abrasiveness was worn down.

In other instances, we have corrected this problem in smaller areas by renting portable grinding devices.

**After this process was completed, we then contracted with an organization to grind grooves into the concrete surface to provide acceptable traction.**

As a part of the continuing process of correcting this problem when the cows were moved back into the barn, **we discontinued flushing the floors and began scraping the manure. A thin film of manure is left on the concrete surface which improved the conditioning of both the feet and the concrete surface.** Scraping was done for the next six to eight weeks after the cows were moved back into the facility.

In addition to these mechanical changes Mark also began to bed more frequently. As a result, cows used the free stalls better and were observed lying down more hours of the day than before.

Correcting the damage that had been done to the feet on many of the animals was more difficult.

Severely affected animals were treated with pain relievers and antibiotics if infection appeared to be present. We attached wooden blocks to the soles of the feet of many cows more severely affected.

Unfortunately, this problem, once created, is not easy to correct. However, our long-term success of reducing foot wear in the animals was rather satisfactory.

We continued to make sure free stalls were bedded properly and watched animals closely so newly affected animals were diagnosed early and removed from the concrete.

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