

IS YOUR MILKING PARLOR RESTRICTING YOUR PRODUCTIVITY?

What are restrictions in your milking parlor?

First and foremost, dairies need to understand what restrictions are in the milking parlor. A restriction is anything that impairs or constricts the milk path from the cow to the milk pipeline. This could be anything in the



milk path. Some of the culprits are claws and milk hoses that have too small of a diameter for the flow rates or production of the milking herd. Milk meters that restrict milk flow through a small hole to measure the milk, or one that needs to weigh milk without having a consistent vacuum are also causing milk to be restricted. It is most likely that any type of milk yield indicator is restricting the productivity of your cows. The biggest and most influential restriction is anytime that milk is lifted, lifting



the milk causes a slug to form, drastically limiting the amount of vacuum that can get to the teat end of the cow. Lifting milk can be found in many different places in the milking

parlor. It could be as simple as milk hoses that are too long. It is also often found in milk yield indicators or in milk meters that need to lift the milk in order to measure the amount of milk that is going through the device.

How do I know if there are any milk restrictions in my milking equipment?

There are a few different ways to tell if the milk from your cows is getting restricted from your milking equipment. Perhaps, the easiest and most visual way to check is to watch the milk hoses that are coming off the

claw. Are the hoses bouncing at all? If so, this is visually showing you that there is a slug of milk being formed in the milk path. Secondly, a dairy can have a technician from their local dairy equipment dealership check the average claw vacuum, if the vacuum is fluctuating more than a couple tenths of an inch during peak milk flow, then the milk is being restricted. Lastly, the dealership technician can check the vacuum on the inlet and outlet side of the different pieces of equipment along the milk path, and if there is a vacuum drop over the piece of equipment, then this is showing that the particular piece of equipment is restricting the milk path.



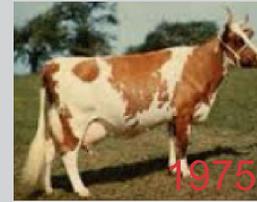
The vacuum drop comes from the piece of equipment being "full" of milk and not letting the appropriate amount of vacuum to pass further up the milk path.

Why would I

have a problem now?

I know what you are thinking, you have had the equipment for a while and there is no problem with it, or these are the same size hoses and claws that they have

been selling for years. It is true, the same 5/8-inch hose, claw, and equipment has been sold for years, in fact 5/8 became popular in the late 70's. Let's take a look at how cows and dairy farming has changed in the last 35 years. The average milk production of a 1980 herd of cows was



11,900 pounds or about 40 pounds of milk per day. Today's dairy herd is averaging 22,000 pounds of milk, with top herds averaging near 34,000 pounds, that is a daily herd average of 80 to 105 pounds of milk per cow per day. With that increase in milk production we now ask our cows to go through the parlor faster and give that increased milk production to us in less time. However, as milk production has



increased through the years due to advances in genetics, housing, and nutrition, the majority of dairies have not yet updated the milking system to compensate for the increased milk production. The question is, how do we get more milk through our system faster?

Does having restrictions in the milk path really even matter?

What happens when the milk path has restrictions? First of all, restrictions cause unstable claw vacuum. Claw vacuum is essential to making a milking system work optimally. In order to properly set up a milking system, a technician will need to establish what liner the dairy will be using, and then the technician will set the system up to what the average claw vacuum will need to be. The issue is when you have slugs or restrictions in your milking system the

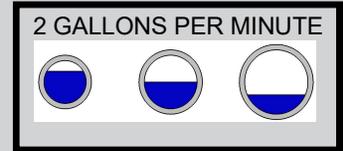


average claw vacuum fluctuates tremendously, sometimes as much as 5 inches of vacuum. With the fluctuations in vacuum, it will lower the average claw vacuum.

Therefore, in order to compensate for the lower average claw vacuum, due to the fluctuation, the technician will raise the entire system vacuum up. This is not the best solution for the situation, but with restrictions in the milking system, this is the only option. The higher vacuum will be an issue at the start and the end of milking when the flow rates of the cow are not at peak levels. At this time the teat ends will be exposed to higher than necessary vacuum. Another issue is that as claw vacuum fluctuates, the cow will not be able to get the full and proper vacuum level to milk her out quickly, this slows down flow rates and possibly hurts her overall production. The liner may also not function properly with fluctuating claw vacuum, as it takes a delicate balance between vacuum at the teat end and atmospheric air in order to have proper liner function. An improper functioning liner will lead to slower milk outs and lower flow rates.

What can you do to solve the issues?

First and foremost, the dairy needs to eliminate all restrictions in the milk path. This can be done with larger diameter equipment. The larger diameter allows milk and vacuum to pass simultaneously without restricting each other. Think of it as a water drain pipe, what happens if you have too small of a drainage tube? The water gets backed up causing flooding, now take that same amount of water and put it through a drain pipe twice as big. The water will run smoothly and quickly through the pipe



without causing any issues. The larger diameter milk path will allow the cow to give milk at her full flow

rates, without the need of raising the system vacuum to compensate for the small diameter milk path. This will increase flow rates, should improve teat health, and liners will be able to function as they were intended. All this will allow the dairy to milk cows more efficiently, with less overall issues.