BSC Animal Nutrition Inc.
Professional Nutrition & Management Services

DAIRY-UPDATE

VOLUME 3
Issue 1
May, 2007

Why does my Neighbour get more Milk? Aren't our forages the same?

By: Natalie Gentesse Ruminant Nutritionist
Belisle Nutrition Solution Inc.

Many producers today are very conscious of the feeds that make up their rations for their dairy herds. Whether we harvest forages in the form of dry hay or haylage, we know that we must harvest the best quality we can because of the benefits we receive keeping the rumen happy and healthy. The rumen has this very unique gift, and the gift is transforming a product of low value such as grass and making it a high priced product such as milk.

Recently I was called in by a producer where his herd dropped 3 liters per head per day after switching silos. When we looked at the two analyses of the haylages we saw that the protein and NDF were very similar. What could be the problem? After eliminating a couple of management issues we decided to push deeper into the dry analysis of the haylage sample and we figured out that the samples were really quite different. Look at the graph below.

	Haylage #1	Haylage #2
Dry Matter	**39.4 %**	**57.1%**
Volatile Fatty Acids	**8.06**	**5.06**
Digestible NDF	**59%**	**51%**

It is important to have the DM of our haylage between 35 – 45% for proper fermentation in the silo. The haylage with a DM of 57% is harder to compact in the silo. Compaction is very important in the silo so the air is pressed out of the haylage allowing anaerobic fermentation to happen. When we have air trapped in the haylage we see things start to happen. Mildew and anaerobic bacteria will start to develop which causes the degradation of the protein into ammonia. It also causes hydrolysis in the cells which will lead to more loss by leaking and the possible production of mycotoxins.

When we store our haylage too dry we will slow down the development of lactic acid bacteria. These bacteria are responsible for the quick fall in pH as the silage ferments. The quicker we have silage ferment the less chance we have of growing salmonella and Ecoli as well as ensure proper ensiling for better feed quality to feed to our herds.

In the above chart, we see that the VFA of 5 compared to 8 would indicate that the fermentation of haylage # 2 needed to be improved. The interpretation of this analysis would indicate that there was too much production of acetic acid and not enough production of lactic acid in the early stages of fermentation. What this tells us is that the silage took too much time to ferment because it was too dry. If the silo was left uncapped or not covered after filling, these results could also be expected. The use of good silage inoculants would help lower the pH and decrease our quality loss as well. After talking with the producer, he told me that this is precisely what happened. With the delayed fermentation the protein level of the forage was hurt and this lead to lower milk production.

Finally, when we look at the digestibility of the Fiber (NDF) we saw difference of 8% between the 2 haylages. Research has shown that for every percentage difference in digestible NDF we can expect a production increase in milk of.2 to .6 kg per day. In the 2 haylages we are looking at here, this would equal a 1.6 to 4.8 kg of milk/hd/day difference.

It is well known that as the forages mature in the field the lower the digestibility diminishes. As the plants start to develop a flower the plant will start producing lignin making the plant less easy for the rumen bacteria to digest. The lower quality of haylage # 2 cost the producer a lot of money and has prompted him to make plans for next year's harvest. He has promised himself to get to the field early, cut when the forage starts to bud and very importantly, watch the dry matter content of the crop going into the silo to ensure the quickest fermentation at harvest time. Paying attention to these details will ensure you, the producer healthier, happier and more profitable cows.

Make or Break Time for your Cows
Success during Transition
By: Colin Pool

I recently attended the joint spring meeting of the Ontario Association of Bovine Practitioners in Guelph and after hearing many good presentations on feed efficiency, DDGS, mycotoxins and bunk management, a presentation by Dr. Ewen Ferguson seemed to hit home with me. Many of you have had discussions with me on the crucial period of the transition cow and how this time will make or break her (and you) for the next lactation. Dr. Ferguson reaffirmed many things that I believe we need to do during this important period. I have said it before and I will continue to say it – I believe that the next lactation begins the day we dry her off! If we can adopt this way of thinking we won't be looking at our dry cows as the welfare recipients of the herd. I will pull out a few tidbits of information that I learned that may make things go smoother at your farms.

When the cow is coming into transition we want these 4 things to happen: healthy cow, live calf, lots of milk, and we want her to breed back. Everybody reading this will agree with this. The issue is how we ensure that we make it happen. Here is the answer. We need to focus mainly on nutrition. DMI is very crucial. As she begins to transition her DMI will decrease and this is where the problems can start. We need to have a good transition ration in place and she needs to eat it. What else can we do? I think many producers today have a pretty good transition program in place but the problem may be in a few other areas in the barn. Let's have a look at some other things you might look at to help these cows out.

We need to focus on housing issues such as cattle movement, feed delivery, cow comfort and our ability to group cattle. We want to avoid moving cattle too often. The socials structure of the dairy herd doesn't like to be disturbed very often. Cows when left alone will mind their own business and let the pecking order operate as it needs to. Every time we introduce a new animal we create friction and everyone needs to sort themselves out. Does this happen with your dry cows? We want our transition cows to be calm and relaxed when getting ready for calving but instead they're racing around and getting all worked up. We may want to avoid too many changes or do bigger group changes so that the interaction ratio is lower. We want to make sure that we don't overstock our pens. Here are some numbers that Dr. Ferguson gave us:

80-85% stocking density at feed bunk – this ensures the timid cow can eat as well
Free stall – one per cow – preferably 54"wide
Far off cows – 50 sq ft bedding pack plus feed alley and bunk
Close up cows – 120 sq ft bedding pack plus feed alley and bunk
Maternity pen – 140 sq ft bedding pack plus feed alley and bunk
Pastures and open lots are ideal if managed properly

Note: The higher the stocking density the less time cows can lie down because of pressure from the other pen mates. Research from University of BC showed that cows would lie down for 2 hours longer in well bedded free stalls.

One thing I found very interesting was the information he shared on moving transition cows. In 2 – 3 month she has many moves, she goes to the dry pen, she then goes to close up pen, she then goes to the maternity pen and then back to the free stall or tie stall and if things go bad she is in the sick pen. Dr Ferguson mentioned that keeping the moves simple and as a group will help lower the stress. Cows always need to find out who's the boss when they get moved and this can cause a lot of stress for the more timid cows in the herd. One thing that I learned was that moving a cow to the maternity pen 24 hours before calving is ideal. Moving them in too early has proven to cause less milk, more risk of ketosis and twisted stomachs. We can get into the science behind these results but the reality is how we can incorporate it in our own barns and make it work.

There are always improvements we can make at home that will impact our transition cows and the success we have getting them rolling after calving. In summary Dr. Ferguson said this; minimize feed changes, minimize group changes and pen changes, watch stocking densities and avoid long times in the maternity area. Every producer can measure his or her success in this area by the results they see. Success is having the ability to group while making sure transitions are smooth. Smoother group transitions, smoother diet transitions, practicing under crowding and practicing cow comfort will result in your cows transitioning better. Your herd will be healthier and you will be happier.

DAIRY UPDATE is published in the interest of helping dairy producers become more profitable. We welcome your comments.

BSC Animal Nutrition Inc.
R.R. # 4, St. Marys, Ont. N4X 1C7
Toll Free: 1-800-268-7769
Telephone: 519-349-2190
Fax: 519-349-2191
E-mail: bsc@cyg.net

BSC Representatives

Peter Vingerhoeds 519-229-8810
Ben Dekker 519-899-4769

Ruminant
Colin Pool 519-674-2159
Fax 519-674-2553

Visit our new website at:
www.bscanimalnutrition.com
