



Dairy Briefs

The Latest Information on Dairy Cattle Nutrition



Feeding Cows in Scandinavia

Laura Martin, M.Sc

The Progressive Dairy Operators had the opportunity to go on a study tour of Sweden and Denmark in August this year. A group of 60 people travelled these countries and learned a lot of information about producing milk in Scandinavia. Being a nutritionist I was most interested in how they feed their cows. With climate differences, commodity costs in the EU, and strict regulations, the Swedes and Danes have to get creative when it comes to feeding dairy cows.

While much of Scandinavia is in the Arctic Circle, unsuitable for intensive farming, Denmark and the southern regions of Sweden enjoy quite mild summers due to the Gulf Stream. Forecasters have predicted that the



disappearance of quota in the EU next April will drive milk production to north Europe, creating a new "milk belt" that includes Denmark and Southern Sweden. While the weather is temperate enough for farming, the summers are often wet with average temperatures around 20°C. This makes it difficult to grow heat loving feeds like corn.

For the first few days touring around Sweden corn fields were few and far between. Most fields were small grains (wheat, barley, and oats), fava beans and rapeseed. As the tour went further south corn fields were more prevalent, and by Denmark it started to look more like South Western Ontario, with field after field of corn or beans. The corn there was quite different from corn in Ontario though. It could be climate related or it may be that GMO corn cannot be grown in Sweden or Denmark, but the corn was much shorter with a very thin stalk, and looked to yield much less silage per acre than what Ontario farmers can expect.

When on farms it was my mission to discover how they fed their cows. With

Cont. >>

Inside this Issue...

Feeding Cows in Scandinavia

By: Laura Martin, M. Sc, Nutritionist

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very little corn in the fields I was curious as to what they feed their milk cows for energy. Whole crop silage is the answer. A field is planted with small grains and under-seeded with grass. The first year the whole crop is harvested and ensiled creating a higher energy, high yielding feed. For the next two years the grass crop is harvested off the field and after the second year it is plowed down, so the whole process can repeat again. Staggering the planting of the fields ensures a steady harvest of whole crop silage. In Denmark, where corn is more widely grown, corn silage is harvested and used as a high energy forage, similar to Ontario.



Figure 2 - Milk cow TMR with no corn or corn silage

Most farms do not feed corn to the milk cows (Figure 2). Small grains, mostly wheat or barley, were used as concentrated sources of energy. Corn grain is very expensive and was only fed to calves until they were old enough to eat a mixed ration. In Denmark, wheat was the most prevalent grain fed to the milking cows. To make the nutrients in wheat more available to the cow some farms treated the wheat with caustic soda (Figure 1), as a form of chemical processing. This is not something that is practiced much in Ontario as there is a ready supply of corn, which the Danish farmers admitted they would prefer if they had access to it. Fat was also added to the ration to get energy levels up.



Figure 1 - Wheat treated with caustic soda

Most diets were heavy on forage – running between 60% and 70% forage. Forages are something that can be grown and harvested on the farm and helped to reduce off-farm costs. Most farms managed to grow most of their own feed, from forages to small grains and rapeseed or beans. Commodity grain prices and protein prices, driven by the European market, are high and prohibitive to buying a lot of feed in to the farm. Grass crop silages, as they referred to them, were alfalfa mixes with the goal to get about 18% protein and harvest at 30-35% DM. Three cuts per season seemed to be common on most farms. Most producers counted on the forage to supply the majority of the dietary protein and used rapeseed or fava beans as a concentrated protein source. When asked about feeding soybean meal most producers looked a little shocked and replied that soybeans are too expensive to feed to dairy cows in Europe.



Figure 3 - A very wet TMR

With high forage levels, and high moisture levels in the forages most of the rations were quite wet. Wet enough that squeezing a fistful of TMR produced drops of water and the TMR stayed balled up long after opening your hand (Figure 3). These especially wet rations were popular as the producers said they reduced sorting and kept the rumen more stable.

With all the small grains being harvested straw was used on every farm. Dry cow diets at almost every farm were heavily based on straw with some farms feeding up to 6 kg of straw. Even with that level of straw the diets were still nice and moist due to the wet forages that were also in the ration.

Sweden has another challenge to deal with when it comes to getting proper nutrition into their cows. All Swedish dairy farmers, not just organic farms, are required by law to put all female cattle older than 6 months out on pasture for 2 – 4 months in the summer for 8 hours a day. Northern regions, that have shorter periods of warm weather, fall into the 2 month category while the southern most regions are expected to have cows on pasture for 4 months. Most of the intensive dairy farms are not a fan of this legislation and noted that production goes down in the summer while somatic cell count and health problems go up. Unlike Canadian organic regulations, where a portion of the diet is expected to come from pasture, the Swedish law only

requires that cows go out on pasture. There is no incentive for producers to provide good quality fields for the cows without the regulation that cows need to actually consume pasture. This pasture requirement has also impacted age at first calving, bringing it up to 28 months, as the heifers on pasture are not being intensively raised for growth.

Heavily regulated, with quota gone in the next 6 months the Scandinavian dairy farmers have a challenging time ahead. By making use of feeds that grow well in their climate they produce as much as they can from their own land base, helping reduce off-farm costs and making dairy farming more profitable. Feeding small grain silage or treating wheat to make it more available, these Scandinavian farmers have worked out an effective feeding system using the feeds on hand.

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