

German Approaches To A Sustainable And Profitable Dairy Industry



By Dan Leiterman

This past April I took a trip to Germany to tour dairy farms in southeastern Germany (Bavaria) and to visit with German Dairy Nutritionists to learn more about how they approach dairy nutrition. It was an excellent learning experience and I came home with some new ideas and an even stronger

conviction that the Crystal Creek Dairy Nutrition Model is a smart, sustainable and profitable way for dairy producers to feed dairy cows. I would like to share with you some of the key take home messages I learned from these German farmers and agricultural experts that may have applications for our own dairy industry.

I went with three other gentlemen; Dr. John Popp, Owner and Manager of Big Bear Genetics, Inc., a genetics company that is bringing high performance Bavarian Fleckvieh genetics to North America from the Bayern Genetik Company. Dr. Popp, a Crystal Creek Nutritionist in Canada, was our tour guide, interpreter and contact with the Bayern Genetik Company who helped with the touring to dairy farms.

Marc Boulanger, Vice President, Marketing & Sales of Big Bear Genetics. He supports the sales of Bavarian Fleckvieh semen in the United States.

Cornel Primrose, a progressive dairy farmer from Alberta, Canada. Cornel has an impressive 100 cow dairy herd that he is cross-breeding aggressively to Bavarian Fleckvieh and milks with a Lely robotic milking system. Cornel is on the Crystal Creek Dairy Nutrition Program and Dr. Popp is his nutritionist.

We had a small, yet diverse group, which enabled us to interact closely with the 12 dairy herds we visited.

General Observations

The German countryside looks much like Wisconsin, rolling hills, agricultural fields and wooded lots, except for the beautiful mountainous area (Alps) in southern Germany.

The people were very friendly and many people spoke English. The German cuisine was excellent. Being from Wisconsin I appreciated the excellent bread, sausage and potato salad.

I came away from this trip with the impression that many Germans are strongly focused on efficiency. With fewer



natural resources relative to the United States, it appeared to me that the German culture tries very hard to reduce wastefulness and makes the most of what they have. This was demonstrated in many ways both in their society and in their agriculture. For example, when trees are harvested, they are cut to the ground (no stump wasted) and the whole tree is used, even the small branches are removed from the woods for use. A significant number of rural homes burned wood but with no outdoor boilers, all were indoor wood heaters to maximize heat retention. Many buildings have solar panels on the roof. The motel rooms have a real key, not a plastic card and there is no electricity to the room until the door key is inserted into a wall ignition port allowing power to the room. A person could not leave the room with the lights being left on. Vehicles are predominantly diesel powered and no pick-up trucks were seen. We went to a cattle auction and there was not a single pick-up in the lot. All of the stock trailers were pulled by SUV's and cars (Mercedes, BMW, VW).

The theme of efficiency carried over into the agricultural models in a significant way as well. Here are some observations that I found to be quiet notable. Even though the herd tours were sponsored by the Genetik Company, there were some stark contrasts between strategies and concepts of the German dairy industry and those of the USA dairy industry.



Observations Of The German Dairy Herds Toured:

Herd Size Range: 35 to 200 lactating cows

Breed: 100% Bavarian Fleckvieh (Bavarian Fleckvieh dairy cows are the second most numerous milk cow in the world, closely trailing Holsteins).

Production Range: 18,000 to 26,000 lbs. rolling herd average

Component Range: 4.2 to 4.4 BFT
3.6 to 3.8 Actual Protein

Somatic Cell Count: 60,000 to 120,000
(With one farm at 35,000)

Average Cow Age: 6.5 years for typical average lactating herd age.

Average Lifetime

Production: Typical ranges are from 100,000 lbs. to 150,000 lbs. per cow lifetime production. There were some exceptional cows that had 180,000 lbs. or more lifetime production records.

It is interesting to note here that the ultimate goal for the German dairy producers was their focus on lifetime production rather than high rolling herd average. It was very revealing to see cow longevity being a significant part of the formula for a profitable and sustainable dairy herd.

Dry Matter Intake: DMI information was not available at all farms, but where available the DMI was typically higher, in the range of 55 to 60 lbs. per head per day.

Forage Base:

Grass. The grass was fed as haylage, dry hay and/or pasture. There was no alfalfa grown in large part due to soil and weather conditions so they do a great job with grasses.

The primary focus of all these farmers was to have the highest sugar level grass they could harvest. Some even used a refractometer to measure plant sugar levels so they could determine when to harvest the grass for optimum sugar content. Sugar levels in the grass was typically 12 to 16% with the highest being 20%.

Corn Silage.

Corn silage was fed along with the grass at a typical feeding rate was 20 to 25 lbs as fed.

Grains: Grain selection included corn, barley, wheat, oats, fresh wet brewer grains (fresh daily - they smelled great). Most of the herds were higher forage intake herds, with starch levels from 20 to 24% (one herd's ration was 28% starch). Protein sources were typically soybean meal.

Robotic Milkers: Several of the farms used a robotic milker, either DeLaval or Lely. The typical feeding strategy was to only use enough grain as is needed to get the cows into the milker. I saw grain levels being fed in the robotic milker as low as 1 lb. per head per day. The rest of the grain was in the TMR. In herds without a robotic milker, some had transponder feeders for early lactation cows, most did not.

Farming Principles Shared By Most Of the Toured German Herds:

1. Feed more forages, and don't be afraid to feed lots of grass if it is managed well. Focus on feeding proper

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sugar levels in the ration. This encouraged higher dry matter intake of forage and reduced total ration cost.

2. Forage quality is paramount. Use a good forage inoculant. Every producer we met used inoculants on their feedstuffs. (Interestingly, much of the research on Crystal Creek's Inoc-U-Lock™ was done in Europe.)

3. "If a Fleckvieh's milk production is too high as a first lactation heifer - sell her because she might be too much like a Holstein." Several of the producers offered this unsolicited advice and their reasoning was that they want cows that hold up well for a long and excellent lifetime performance. Holsteins on the other hand come into production too aggressively, in their view, and do not hold up as well. Several of the producers once had Holsteins and switched to purebred Bavarian Fleckvieh. Bavarian Fleckvieh are known to start slower in their lactation curve but have outstanding persistence. This helps the breed to avoid transition problems and metabolic diseases like ketosis, milk fever, off-feed or poor reproduction. Target production for a first lactation Bavarian Fleckvieh heifer is generally 55 lbs./hd./day at the start and being 65 lbs. at the end of the first lactation. In subsequent lactations, cows like this should have production averages of 70 to 90 lbs./hd./day and hold that production well throughout the lactation. It was not unusual for a producer to point to outstanding cows in their barns that had 7, 8, 9 or even 10 lactations and still looked great. Many of these same cows had excellent reproductive performance as well (low services per conception).

4. Keep the ration starch at a reasonable level of 20 to 24%. For the most part, these herds had a higher forage ration. The one herd we saw that fed higher grain levels had a 28% starch level. Interestingly, it was abundantly obvious that the cows in that herd seemed to handle the higher grain ration a lot better than Holsteins typically do; maybe in part it was because of the fewer metabolic issues during transition experienced with the Bavarian Fleckvieh cows.

5. Cow comfort and proper feeding space are essential to having a profitable herd. I saw some of the cleanest waterers and most comfortable cows I have ever seen during my 39 years in the industry.

6. Dry cow management and nutrition is the core of any dairy herd's profitability. It was common for the producer to feed grass in both the far-off and close-up dry cow rations. There was no straw and no alfalfa fed to dry cows. Even in the smaller herds they typically had two groups of dry cows, a far-off group and a close-up group.

7. Milk a dual purpose cow that has value in both the dairy and the beef market. Much of the German agricultural industry recognizes that it does not have the luxury of resources to afford both a dairy industry and a separate beef industry. They value dairy cows that will do a great job of both producing milk and meat. At the time I was there, an eight week old weaned Bavarian Fleckvieh calf sold for \$700, compared to an eight week old weaned Holstein calf that sold for \$100. Much of the disparity in the value of the calves is due to the higher beef value of the Bavarian Fleckvieh breed. Even the cull cows sold for more money as compared to Holstein cows.

8. Always keep feed in front of the cows pushed up.

9. None of the herds used an ionophor (Rumensin) . When I asked why Rumensin was not fed they were a bit puzzled by my question and quizzed back, why feed Rumensin when you want the cows to eat lots of good forage?

10. Feeding a buffer in these rations was rare or non-existent. Buffers were not needed when the fiber digestibility is so high and total ration fiber levels were higher. Milk components were excellent without the need for a buffer.

Seeing first hand how other cultures approach agriculture can be very enlightening. These dairy (and beef) producers reinforced the principle of how keeping it simple, paying attention to the basics of good cow husbandry, applying rumen friendly nutrition and providing excellent cow comfort are the foundation of a sustainable and profitable dairy operation.

Many of the nutritional principles used by these German dairy producers are reflected in the Crystal Creek Dairy Nutrition Model and have been from its inception. These German dairy producers feed dairy cows a lot like how Crystal Creek recommends feeding a dairy cow - independent of the breed of cow. It is reassuring to see that others have come to the same conclusions for sound dairy nutrition principles. Many of our Crystal Creek clients have had outstanding success utilizing some of the same German dairy nutrition principles found in the Crystal Creek Dairy Nutrition Model, which results in healthier cows, reduced feed bills and significantly higher profit for the dairy producer.

If you would like to discuss how the Crystal Creek Dairy Nutrition Model can work for your herd, no matter what breed you have - just give us a call!