

Answer Key:

FFA Dairy, LLC has several positive strengths. The cows are comfortable and the barn is designed to help cool the cows. Up until recently, they have had good milk components. They are not overcrowding the early lactation cows, which should help those cows get off to a good start.

Feed not distributed full length of feedbunk:

One of the easiest problems to fix in this scenario is to place feed along the entire length of the feed bunk. By not feeding the entire length of the feed bunk, there is not enough recommended space for the cows in the pen (24 inches of feed bunk space per cow). From the feed access standpoint, it is good that FFA Dairy, LLC is not overcrowding, but an overcrowding situation is being created by not feeding along the entire feed bunk as shown in picture 1. The overcrowding can reduce feed access for the cows.

TMR mixed too long:

The feeds in the TMR are being mixed much too long. The time stated, 30 minutes, is definitely excessive. The long mixing time is further evidenced by the Penn State Particle Separator results. The amount of the TMR remaining on the top screen is much too low and there is too much in the bottom pan. The amount on the top screen should be between 5 to 10% (note that recommendations will vary between 2 to 10%, but are typically in the 5 to 10% range). There should be 30 to 50% remaining on the middle screen and less than 40% in bottom pan. The over-mixing of the TMR is one of the factors that could be contributing to the reduction in milk fat % from 3.8 to 3.4%.

Change in nutrient analysis of corn silage:

The rations need to be rebalanced for the new bunker of corn silage as the nutrient value of the corn silage has changed. The changes in nutrient value of the corn silage are likely one of the main reasons for the recent drop in milk production.

- The new corn silage (10/11/13) has greater levels of fiber (neutral detergent fiber [NDF] and acid detergent fiber [ADF]), indicating that the corn silage will contain less energy for the cows.
 - Also, the NDF in the corn silage is much less digestible (41.5% as compared to 56.4% for 30 hr NDF). The decreased digestibility of the fiber will reduce the amount of energy the cows are able to utilize from the corn silage they are consuming.
- The moisture level of the new corn silage has increased dramatically (34.5 to 28.2% dry matter), but the amount of the various feeds being included in the ration has not changed on an as fed basis. This has resulted in the cows receiving less forage in their ration, another possible cause of the reduced milk fat percentage.
- The VFA profile of the new corn silage shows a low level of lactic acid and a high level of acetic acid. This indicates that the silage did not ferment properly and could be leading to palatability issues as well.

Bunker Management:

The new corn silage appears to have some mold along the edge and the face of the silage is not being managed very well. The face of the bunker is very uneven, providing additional surface area and exposure of the silage to oxygen. The additional oxygen exposure can increase spoilage and increase the potential for molding.

Transition Cow Problem:

The dry cows are too fat and are not transitioning well. Because of transition cow problems, the cows are losing too much weight early during their lactation. Ideally, the dry cows should have a BCS of 3.5 and the early lactation cows would be averaging 2.5 to 2.75.

New Feeder- Labor Management:

There is a new feeder at FFA Dairy, LLC. The feeder needs to be properly trained to understand dry matter and inclusion of feeds in the TMR, mixing times and strategies for the TMR, and properly placing feed along the entire feed bunk and close enough that the cows are able to reach the feed.

Other Considerations- Multiple rations:

Right now, FFA Dairy, LLC is feeding the same TMR to all of the cows. They could consider grouping cows and feeding multiple rations to more closely meet the needs of the cows in the various groups. However, multiple rations do increase the chances of errors and labor management becomes an important factor.