

National FFA Convention Team Activity – Dairy - Health/Diseases October 2019

Scenario: This year, you are doing an internship with a local veterinary clinic that has numerous dairy clients. Recently, Fran and Fernando Alexander from FFA Family Dairy requested that both you and the veterinarian visit their dairy to make recommendations to improve the health protocols and address some health issues they have been having with their dairy herd.

FFA Family Dairy is milking 150 cows and raising all needed replacements on the farm. They have a rolling herd average of 28,200 lbs with an average milk fat of 3.9% and milk protein of 3.15%. Their daughter, Faith, recently returned to college to complete her final year in Dairy Science, and she is planning on returning to the farm after graduation. Since Faith left for college, 2 high school students have been hired to help out with the evening milking shifts. The cows are currently milked twice a day in a double-6 herringbone parlor. The farm has freshened a large number of cows over the past 6 weeks. Their goal for cows freshening is for cows to be healthy to help them reach a higher peak in milk production.

Cows are housed in a free stall barn with sand bedding. New sand bedding is added to the stalls 3 times per week. The stalls are groomed at each milking to remove wet sand and fecal material from the stalls.



Figure 1. Herringbone parlor used for milking cows at FFA Family Dairy

One of the challenges for which the Alexanders would like your assistance is a question on the somatic cell count (SCC) of the herd. The SCC of the herd has increased from 130,000 cells/mL to 220,000 cells/mL and the cows have had an increased incidence of mastitis over the past 2 months. They have already had a technician from the milking equipment company come out to evaluate the equipment and vacuum levels and they confirmed that there were no issues with the equipment. In addition, they just had the facilities checked to confirm that there is not any stray voltage.

At milking time, one person remains in the parlor at all times and a second person will assist with the milking when they are not moving cows to and from the parlor. The current milking protocol being used on the farm is:

1. Wash hands with warm water and soap before starting milking
2. Pre-dip 3 cows on one side with a good quality pre-dip
3. Wipe the pre-dip from the 3 cows using a paper towel – one towel per cow
4. Attach the milking unit to each of the 3 cows
5. Repeat steps 2-4 for the remaining 3 cows in the set of 6 cows on a side
6. Wait for the milking units to be removed by the automatic take-offs
7. Post-dip the cows with a good quality iodine-based post-dip before they exit the parlor



Figure 2. Picture showing the condition of the teat ends of many of the cows at FFA Family Dairy

- ✓ What recommendations would you make to FFA Family Dairy to help reduce the incidence of mastitis and lower SCC on the farm?

Another major area of concern for the herd is that they are having transition cow issues and cows are not peaking as high in milk production as they did previously. Due to the size of the farm, all of the dry cows are fed the same ration from dry off until calving. A day or two prior to calving, cows are brought into a small pen where they stay until calving (Figure 4). To determine the calcium status of the cows, blood samples are periodically collected and analyzed for a group of cows prior to parturition and for the first 3 days after calving. Plasma blood calcium concentrations are shown in Figure 3. They have only had to treat one cow for clinical milk fever in the past 3 months. They have had numerous cows that have had a retained placenta. Within the first month after calving, they are seeing cows that are having a cloudy/bloody discharge from their vulva. Some of the cows showing a discharge have also had a mild fever that needed to be treated.

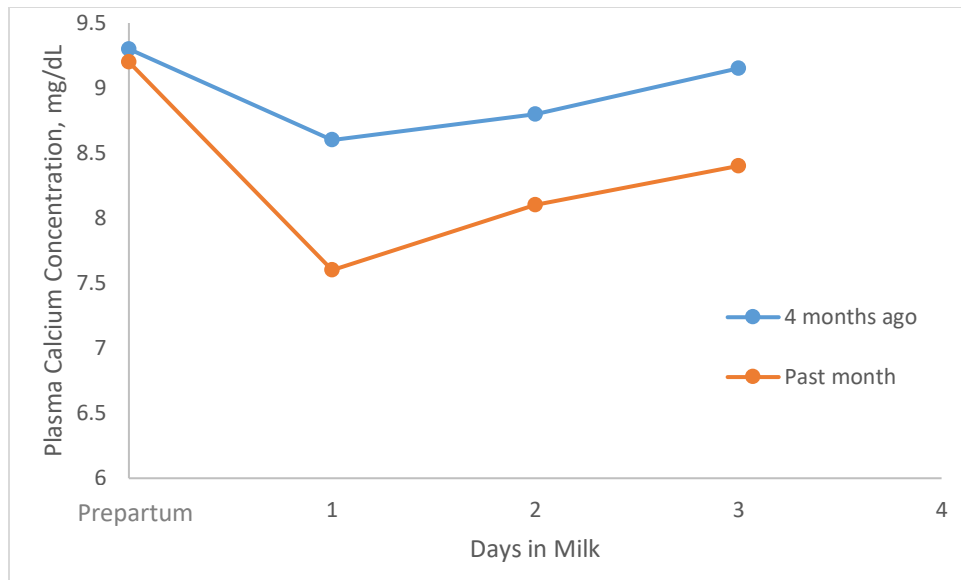


Figure 3. Average plasma calcium concentrations from a group of 12 cows that calved 4 months ago and from a group of 12 cows that calved during the past month.



Figure 4. Calving pen at FFA Family Dairy.

- ✓ Provide suggestions to Fran and Fernando to help them to make changes to reduce the challenges they are seeing with their fresh cows.

Finally, Fernando would like one of the new part-time employees to assist him with giving vaccinations to the dry cows. He is asking you to go over your recommended dry cow vaccination protocol with both him and the new employee to make sure they are using the correct protocols and procedures. In the past, they have been giving cows one shot of the J-5 vaccine (label shown in Figure 6) at the time of dry off and they would like to continue using this vaccine. They also recently purchased a new cattle chute with a head-catch to improve safety for the person/persons giving the vaccinations or doing other health treatments.

- ✓ Outline the complete protocol you would like for Fernando and the new employee to follow when vaccinating the dry cows.

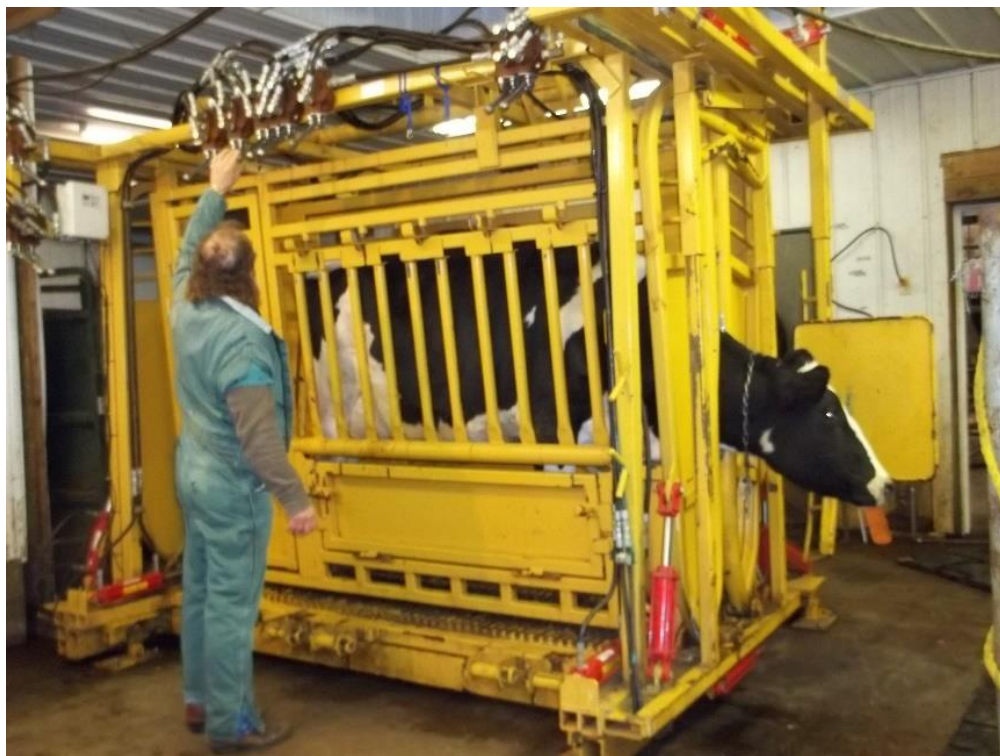


Figure 5. The chute and head catch used for vaccinating and treating cattle. (Photo credit: www.animalclinicofmonett.com)

ENVIRACOR™ J-5

HELP PROTECT YOUR HERD WITH THE TOTAL PACKAGE. DEMONSTRATED SAFETY AND EFFICACY.



Dry off isn't complete without vaccinating against *Escherichia coli* (*E. coli*) mastitis. As the No. 1 *E. coli* mastitis vaccine,¹ ENVIRACOR J-5 provides a safe and effective way to help control clinical signs associated with *E. coli* mastitis. Vaccinating against *E. coli* mastitis helps lessen the severity of cases of *E. coli* mastitis and helps provide an opportunity for successful treatment.

The best way to knock out mastitis during the dry period is to implement a comprehensive milk quality program that focuses on treatment and prevention. Visit www.milkqualityfocus.com/drycow to hear from dairy producers and veterinarians who have seen the benefits from investing in comprehensive dry cow management. It pays dividends through improved milk quality and is the right thing for their herd and their operation.

¹BeaconMR™ Q4 2011 MAT.

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▼ Key Benefits

- The three-dose regimen helps stimulate the immune system for optimum response to help control clinical signs associated with *E. coli* mastitis
- Shortens duration of *E. coli* mastitis by 41 percent (64 hours) when compared with control cows,² allowing you to return to salable milk production more quickly
- Increases antibody titers in milk by 13 times²
- Particularly valuable in recently freshened, low-SCC and high-production cows, which may be more susceptible to *E. coli* mastitis.

²Data on file, Study Report No. 3931-60-08-562, Zoetis Inc.

▼ Dosage/Administration

Directions: Shake well. Three doses are required. Administer each 5-mL dose subcutaneously, one hand-width cranial to the shoulder. Vaccinate cows or heifers at 7 and 8 months of gestation followed by the third dose within two weeks postpartum.

Precautions: Store at 35°-45°F (2°-7°C). Do not freeze. Use entire contents when first opened. Do not vaccinate within 60 days before slaughter. Local swelling occasionally occurs and may persist at the injection site. In case of anaphylactoid reactions, epinephrine should be administered immediately.

Mfd by: Poultry Health Laboratories (A Division of PHL Associates, Inc.), Davis, CA 95616

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Figure 6. Label from the J-5 vaccine currently used for vaccinating dry cows.