**ANNA: another successful case**

Anna calved some time during the night on Friday, November 26th. When barn crew arrived Friday morning they found the calf running around nursing from cows other than its mother. Also, because the calf was quite dry, we believe it had been born very early on Friday (perhaps even before midnight). By the time the morning crew arrived Anna was in the middle stages of milk fever, and had potentially been down for more than six hours! (When a cow has been down close to six hours, IV calcium supplementation may not be successful; and if a cow doesn’t get up soon after calcium therapy, you may need to consider using a sling.)

When considering Anna’s case, the first thing we noted is that she was in a safe place in her stall and did not appear to have damaged herself by trying to get up. She was also able to turn herself, and she demonstrated when she turned to lay on the other leg when we tried to get her up. Other signs of milk fever she demonstrated were bloating from ileus, dry nostrils, and dry a vulva. While Dr. Goodger was on route to the barn, Kerry Hagen ('08) administered 500ml of calcium SQ to Anna. About 30 minutes later, we began to see an effect from the SQ calcium: Anna now could raise her head. Within 40 minutes of the calcium administration, she shook her left leg (the leg she had been laying on for quite a while at that) for about ten minutes.

At this point we drew blood to check her calcium levels, and we gave her two tubes of calcium gluconate/oxide paste. Her vitals at this time were as follows: temperature = 100.4°, pulse = 114 bpm, respiratory rate = 54, and she had 1 weak rumination per minute. Because her calcium level was 8.8 (normal >8.2), we decided not to give her any more calcium. (It is interesting that in over 200 calcium tests we’ve done at calving, we have never had one in the normal range! Based on our data, we usually treat cows having calcium levels below 6.5.) Because of Anna’s diarrhea, her empty rumen since before calving and the ileus present prior to calcium supplementation, we administered electrolyte C in 15 gallons of water via stomach tube. Thinking her elevated heart rate was a response to leg pain, we considered giving Banamine for the inflammation in the muscles of her rear legs, but the next morning her heart rate had decreased to 84 bpm, her milk production was gradually increasing, she was eating more, and her ruminations were up to 2-3 per minute and strong. Observing Anna’s TPR and performing the calcium test allowed us to follow this case and make good medical decisions.

As I have a lot of time on my hooves, I have been watching the number of cow families that have sprung up over the years at Charmany. Of course, in my case, the herd is my family because I have no offspring (that’s why I don’t like to be in the pen; it makes me feel even more alone in this cold, cold world). Heaven knows I would have been a good mother, you know, recognizing my calves even when they were all grown up, giving them room to eat at the bunk and letting them go through the barn door first so they wouldn’t get hurt. Ah, nothing but idle dreams... Well, let’s take the legacy of the Swoosh family. Swoosh had Swish who had Swoozy and Swoosh 2 (a twin born with a bull, but who is intact as per Dr. Harry Momont.) Swoosh then had Presto and Swash, who had Panda. Swoosh’s sister, Sweet Lou, had LuAnn who had LuLu (are you still with me?). Oh, and we mustn’t forget the Griffey family. Griffey had Grace who had Gretchen, Gemini, and Gloria. Griffey also had Greta who had Gina. Then there is the Scarlet family: Scarlet had Sophie who had Sonya and Star, who had Six. Wow! That is a total of 22 cows related to Swoosh, Griffey, and Scarlet who all averaged over 30,000 lbs of milk. Of course, if you multiply 30,000 by 3 you get 90,000 lbs which I am approaching by myself; so maybe I won’t leave a legacy, but I am pulling my WEIGHT!
What do you do when you have a suspect a Johne’s cow based on contradictory test results? This is the question we’re struggling with right now with Celeste, a heifer who tested positive for Johne’s on ELISA, but has two negative results using the more specific “gold standard” AGID test. Let’s go through some of the questions we’ve been asking and the precautions we need to take to avoid infecting our herd in the event Celeste truly is Johne’s positive.

**Awaiting More Test Results…**

Q: Should we retest?

A: A retest is in progress using multiple assays. Results of all repeated assays, assays on other kits, and re-sample/retest assays will all be known soon. Sit tight on actions until then.

Q: How important are the new test results in guiding our decision about this heifer’s future in our herd?

A: If confirmed positive for serum antibody to *Mycobacterium paratuberculosis*, we advise that this cow leave the herd. I would also suggest that her last calf not be brought back into the herd as a dairy replacement.

Q: Any special rules on culling?

A: If there are discrepant or unclear serological test results you might keep the cow but should start tests for *M. paratuberculosis* by organism detection assays (culture and/or PCR). In the interim, risk to cows and calves for *M. paratuberculosis* infection at Charmany is minimal.

Q: Celeste’s mother was sold in January 2003 and was Johne’s negative. We administer colostrum to calves before they leave for our heifer raiser, so could Celeste have gotten Johne’s at our heifer raisers’ who do not have adult animals on their premises? Consequently, do I need to test the 15 heifers received from our calf raiser since we whole herd tested for Johne’s last February (we do this every February)?

A: If Celeste is confirmed infected, the only plausible place she became infected is the heifer raisers’ premises. We advise doing blood tests on the three other heifers that entered the Charmany herd from the source farm.

**Test Results Are In**

The diagnostic lab ran tests on two blood samples drawn from Celeste on November 15 and November 19, 2004. The sample to positive ratio (S/P) was 1.07, which is interpreted as being Johne’s positive (for a discussion on how the S/P ratio is determined see [http://www.vet.orst.edu/extensn/article4-2.htm](http://www.vet.orst.edu/extensn/article4-2.htm)).

The lab ran three antibody assays: two commercial ELISAs and the commercial bovine AGID. Both samples were negative on the AGID. On one ELISA both samples were negative and on the other both were positive. Each ELISA showed good precision. In other words, the results per sample between wells were very close (samples were run in duplicate), and the results between samples were also very similar. This means that the positive test results on one kit were not an operator/protocol “fluke”.

The best explanation for the discrepancy between the two ELISAs is the difference between the antigenic preparations used by the two companies. Of course, the companies won’t disclose how they prepare the mycobacterial antigens for their plates, but there are many ways that the antigens may vary even if both companies use the same strain of M. paratuberculosis (which they may not). *(Continued on next page)*
JOHNE’s con’t...

A cow that is repeatedly strongly positive on one ELISA and a dead negative on the other is a great source for serum that can help us unravel mysteries of antigenic differences between ELISA kits, thus helping to improve diagnostic testing for Johne’s disease.

**Trying to Unravel the Mystery**

Stateline Heifers, where Celeste was raised, currently has no adult cattle at any of their heifer raising sites. Celeste had been moved from the calf nursery to a grower operation which had no adult cattle on site since the year 2000. Celeste then went to Stateline as a heifer in July of 2002. Balou, another current member of the Charmany herd, is our only heifer raised at the same grower operation. A sample of Balou’s blood has been sent to the diagnostic lab.

**What Next**

In addition to Celeste’s blood samples, we also sent a fecal sample to the diagnostic lab for evaluation. The lab suggested that small blood samples (2-10 ml tubes) and a fecal sample from Celeste be sent on a weekly basis. Repeated, regular testing will allow us to determine if Celeste is shedding intermittently and will help clarify what is going on with her. We are now awaiting results of Celeste’s fecal examination and Balou’s blood tests.

ACE: Delivery of a Great Performance

In the right corner we have Ace, weighing in at 1900 lbs. And in the left corner we have her new calf, Allie (DOB 11/22/04), weighing in at 73 lbs. Here is their story. On November 22nd, Jill Kozminski and Megan Swaab palpated Ace rectally to see where her calf was and if it was alive. They reported that they could hardly feel the calf because Ace (a very big girl) was carrying it so far cranially. Five minutes later, while the three of us were in the barn office, Marisa Hickey ran in to tell us that Ace was calving and feet were protruding from her vulva! Hearing this we grabbed a bucket, betadyne, and chains and rushed to Ace’s stall just in time for Jill to (literally) catch the calf falling out of Ace’s vagina—which made this the easiest calving anyone has ever witnessed in the teaching herd! The experience confirms what the infamous Dr. Harry Momont always says about predicting the timing of a calving. If pressed for a guess, the best answer you’ll ever get from him is “probably within the next 48 hours.”

A consummate professional, nine-year-old Ace licked her a bit before digging into the silage, grain, protein, and hay that she had been letting sit. She was milked, had blood drawn for a calcium level check, received two tubes of calcium paste and then proceeded to lay down in the sand—quite satisfied with her grand performance. Allie was given four quarts of Ace’s colostrum, and her navel was dipped in iodine. The next day Allie’s IgG level was 7.0 mg (goal is >5.5 mg), and Ace was doing fine (negative CMT’s and milk ketones), currently milking about 60 lbs per day. Although on day two Allie had some loose manure and scored a “5” on the McGuirk calf physical exam scoring system, she was treated with electrolyte B for a few feedings and now seems to be almost normal with a McGuirk score of “1.”
Employment Opportunities

Interested in gaining experience working with dairy cows? Then boy do we have the opportunity for you! You can join the milking crew at the Charmany Teaching Facility and work the AM or PM milking shifts. Weekday shifts are from 5:00 am to 7:00 am and from 4:30 pm to 8:30 pm. Weekend shifts are from 5:00 am to 12:00 pm and from 4:30 pm to 8:30 pm. Interested students should contact Dr. Bill Goodger at (608) 770-1448.

One further note on employment is that we can save 50% in student salary expenses (about $20,000 per year) if students apply for work study (about 90% of veterinary students are probably eligible). These added funds would not only allow more students access to the herd, but would also provide support for clinics, projects, and clinical upgrades to our facility which would enhance the experience for all students. Below is information about work study from the campus work study office in financial aid.

** The Work-Study Program does not determine where you work. It is up to you to determine where you’d like to work and what type of work you’d be interested in. The Federal Work-Study Program (FWSP) employee’s will be glad to discuss with you what your interests are and what employment options are available to you but you will need to contact the employers directly to inquire about job availabilities.

Having accepted Work-Study will benefit you primarily in two ways: first, since employers only pay 50 cents of every dollar earned by a student, work-study students are highly sought after employees and second, any work-study monies earned are not counted and considered as earned income when you apply for next year’s financial aid. Normally a student’s earnings are considered as earned income and your next year’s financial aid award is reduced by that amount.

If you decide to work on campus, ANY job at the UW automatically qualifies as a work-study position. You should always let a UW-employer know that you have accepted a work-study award, because again, it makes you an even more desirable hire to them. Having said this, some UW employers require that you have work-study. These listing can be found under the “UWWR” section.

If you need to contact someone at the UW-SVM Teaching Herd Barn, call (608) 265-3558.

Please direct correspondence regarding the Charmany Teaching Herd or the newsletter to:

William J. Goodger, DVM, PhD
Cell: (608) 770-1448
Email: wgoodger@facstaff.wisc.edu

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Projects Around the Barn

- We have cows to vaccinate (J-5 and Scourgard). See Ann Zielinski for the schedule. Jason Loner is doing the body condition scoring and could always use some help.
- Rebecca Mentink is doing locomotion scoring and trying to adapt Dr. Rhoda’s herd plan for identifying and managing lame cows.
- Travis Kulka is taking a 699 Directed Study on implementing the OVSYNCH breeding protocol.

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