Cesar, Aswan, Curtis, Carolyn, Olivier, Quirine, Larry Chase, Peter Vadas, Richard Gaillard, Al Rotz,

Congratulations to Karin on submitting the manuscript!

**BMP update:**

Larry suggested we study the feed management for the NY farm. He followed up by sending out two white papers. The biggest change that could be made is on the rotations of the forages, including using heavier silage. There would be a change with the supplement.

Next step is for the modelers to say if they change rotations, can they produce the quantity of feed. Al thinks it would be feasible. The farmer could change the rotation to grow less corn and add more alfalfa, but there may be a point where they would not be growing enough corn on site. The acreage in the rotation would just be changed in the models. Richard says we would need to change the rotations to simulate future production. Al thinks corn after alfalfa produces a better yield than continuous corn. Simulate more acres of C-A-W rotation; we may then have to buy corn grain. But if we buy it, it would be outside of the farm and then it will complicate the scenario. Maybe we could convert grassland into corn, but that’s not likely. We may have to add the cost of rental if they have to rend more land.

Larry thinks the farmer would like to know if he can grow all the feed himself if the change in ration is recommended. Quirine suggests reducing alfalfa in order to reduce the nitrogen, as well. So, the modelers can do that. This farm is exceeding the benchmarks for P and K but it is below the benchmark for N. P and K were lower in 2009 than they were in 2013.

Peter remarked that there are always tradeoffs that come with these different scenarios. We need to better articulate the end goal. If it is to reduce the greenhouse gas emissions, then it might lead to increased runoff if alfalfa is taken out of the rotation. We need to look at reductions from each component, like manure management and not just look at the cows. Then we would make a decision about which trade-off we are willing to accept.

Larry asked how we measure the GHG from the cow—either in the pounds of milk produced or grams per cow per day. Olivier says it is the first. Al says Dirk (farmer)is pushing as much forage as he can right now. Larry thinks it could go a little higher.

In the manure application, Richard says he could adjust the timing of the manure application in his modeling, using the first week of June data.

We will run the scenarios after the meeting on March 1-2.

**Climate Change Scenarios – Cesar**

There are new climate scenarios that we can select from, not just the IPCC ones of A1B etc. Cesar also sent around a few documents, including the impacts on crop productivity and animal science. The Mader paper is more comprehensive than just wheat. It discusses how to incorporate some other factors like wind speed on confined livestock. He is recommending others on the team take a look to see if this is helpful. Al and Larry will look at the paper on heat stress. Humidity cannot be predicted and that contributes to heat stress on animals. Night temperatures are increasing, also increasing dew points. Relative humidity vs. increases in temperature stress animals. Cows are less stressed under drier and hotter conditions, compared to more humid and hotter conditions, so being unable to predict the humidity is too bad. We need to bring in the climate scientists; Rob Nicholas is definitely coming to the meeting in Madison in March. The farmers can add cooling systems for evaporative cooling which increases the humidity. Let’s have a discussion on that at the annual meeting. Carolyn will send Chris and Rob the questions about humidity forecasting.

Curtis is using current cropping calendars to model corn globally. They are plotting annual crop growing degree days against corn growing degree days.

**Experimental Data**

Richard discussed validation vs. calibration, mostly with Curtis and Cesar. They also need to discuss this with Bill Salas. They are still looking for an agreement point for the calibration. Olivier wants to see everything validated across the board. Richard says DNDC is still working on their data. What data set are we going to use for validation/calibration-which year? Maybe break the data apart? Richard and Peter will discuss this and send something out to the team. Curtis says if we do a subset, we should take care as that they are representative, not blindly selected. We would like to have something out next week on the process that will be used, and comment period end around Feb. 1. Can everyone run the models again by mid-Feb.? They will try. We need to improve the pace of these activities because not all of the modelers will continue to get funding on the grant in Year 4.

Richard will contact Bill Salas to follow-up on the calibration/validation discussion for DNDC. We will conduct a Doodle poll for mid-Feb.