**Objectives 2 and 3**

**Conference call – November 12, 2015**

**Present:** Greg Thoma; Horacio Aguirre-Villegas; Becky Larson; Joyce Cooper; Matt Ruark; Carolyn Betz; Matt Ruark

Ying was not on the call, but we had a short discussion of Farm Smart needs. In terms of what Farm Smart is built on, the farmer inputs the feed data. That allows for the GHG number to be generated, based on data from 2004-2008. Greg would like to see these numbers updated. Some updated information might be available that Ying will be able to have access to, through the NAL. Data is on how crops are produced, rather than what the cows have eaten. Joyce thinks a group in Colorado may have that new data. They also track animal management practices – animal housing and manure management, including energy production.

How are the crops produced, what is eaten, and how is milk produced? Becky asked if it is national data. Joyce said it falls under animal husbandry. Joyce would like to have a conversation about what data would be needed. Becky said it’s hard to understand what Ying wants without her being on the call. Greg said she is interested in how crops are produced. Ying’s IT group says Farm Smart can only be modified through a contract with a “model center.”

Larry Chase is still interested in being involved in using CNCPS model to help move this portion of the project forward. Results are also incorporated into IFSM.

Objective 2 – What about Objective 2c? We already have the New York farm runs plus the modelers are starting to use data from the experiments from Objective 1. Once the model is set up, they can change certain parameters: Pete thinks it’s better if Joyce tells the modelers what she wants to change. Greg says we should define in as much detail as we can the BMPs. Then the LCA and modelers can agree on what needs to be changed. Then the BMPs can be used. If they can’t be used, then maybe they will have to be dropped from the list. The benchmark will be for example using silt loam soils at Arlington, and then they can make changes from there.

Other things might be harder to change. Becky and Horacio still need to have some discussions about the BMPs. Everyone needs to look at the BMP list and then give it to the modelers to respond. Becky and Horacio will send this out. Next Friday, Nov. 20, the modelers have a call and Pete will be able to put this concept in front of people to let them know this is coming. Pete thinks we have the labor right now to get this done. Pete can coordinate on the modeler’s side. Joyce, Horacio and Greg should be added to the call list. She and Greg volunteered to co-lead this coordination effort between the LCA/LCI team and the modelers.

Pete suggested that the first benchmarking (Wisconsin field data) be used to show what is being simulated and what model changes need to be made. They can do this for every benchmark data set. E.g. start with the New York farm, then move onto the Wisconsin data set and then move onto what is next. Richard will send a message that identifies what scenarios are being benchmarked to everyone on this call. Then we can get direction on what needs to be changed in the models from the LCA/LCI.

Pete will articulate how this is going to work on the modelers call on 11/20.

Horacio will send out some documents on what is needed for IFSM. Joyce thinks of this as a big puzzle. Once you can see how they all lay out, you can gain a whole systems view.

Objective 3: 3a is complete; 3b is on-going with Joyce in the lead. Objective 3c is LCI impact for the project. We have agreed that the work that was proposed is not needed. Greg has proposed an alternative method be used. 3d has been expanded to specifically use IFSM and DNDC.

Greg summed up a discussion that took place at the ADSA meeting that took place in Chicago last week.

1. Black box models – use the models as they are
2. Longevity of IFSM – instead of IFSM resetting itself on an annual basis, we need to deconstruct and reconstruct the model to make it more continuous.

Where will we have a team located around IFSM? Greg has proposed post-docs at Arkansas. Pete will be using IFSM across ARS labs across multiple states into the future because they do a lot of things at a process-based level. This is going to require a major rewrite the model.

Richard can do the benchmarking while on his existing PhD position. Greg likes the idea of having at least one person on IFSM for the long term. Can that be justified to USDA if we can’t get it done in the next two years? This might take longer than the project term. Maybe we could compartmentalize what the products are so that we can justify hiring a person who could accomplish something valuable for the project itself.

Pete’s new post-doc can work on some issues, but a half-time person in Arkansas would also be helpful.

Becky is using Smart Sheet as a place to store files.