Topic	Description
CROP	
Crop nutrient application	Simplifying the algorithm for assigning nutrients to each crop type
Agricultural plant categories	Reevaluate the crop plant categories
Legume nitrogen fixation	The amount of nitrogen fixed by leguminous crops has been debated we need to ensure this is accurate.
Timing of crop nutrient applications	Reevaluate current application strategy for CAST
Double cropping	Update major field crops acceptable for double cropping and the acreage areas for double cropping
Climate change and crop types	Incorporate climate change estimates into agricultural forecasting to incorporate changes to crop types. First enumerate potential topics then deal with at a later date. E.g., Irrigation, drainage, etc.
Crop uptake vs removal	Reevaluate the current crop removal values associated with crop types in CAST.
ANIMAL	
Reevaluate animal types	The list of animal types may no longer align with those used by the National Agricultural Statistical Service. This needs to be consistent across time since 1985.
Feeding operations	The acres and locations of production area (afo/cafo) could be determined using the land cover data.
Manure production factors	Evaluate all the factors which influence the production of manure nutrients. Reexamine the nutrient content of manure, ALL animals. Reexamine input of poultry nutrient inputs (lbs./dry litter/lb. animal vs as excreted) primarily turkeys' broilers, etc.
MANURE	
Additional Soil nutrient supplement groups	Evaluating the potential for different items such as compost, food processing waste, and DAF as sources of nutrients in CAST.
Housing and in field volatilization	Re-evaluate ammonia volatilization during manure storage/housing as well as address nutrient species composition over time during manure storage.
Nitrogen mineralization	Re-evaluate based on the relation to land uses and revaluate new data sources.
Transport	Current accounting for manure transport is not comprehensive and requires better data to be accurately represented. Needs to include tons of dry manure. (Update wet weight conversions)
Storage and handling losses	Evaluate calculations for handling and storage losses of manure.
INORGANIC FERTILIZER	
Soil and Water Extractable Phosphorus	Examine potential data sources for soil and water extractable phosphorus and collect improved data.

Fertilizer bucket scale processing	Change the prepared inorganic fertilizer data so that it is an amount for different scales, be it state, county, etc., rather than an amount that is watershed wide. Collect input from Fertilizer experts.
Revisit AAPFCO NH4 to NO3	Compare association of American plant food control officials' fertilizer species to calculate the actual ratio of ammonium to nitrate (Compare to 75/25 split assumed) is this ratio changing? Is it worth it to add in input data speciation?
Biologicals	We will examine the potential use of biological fertilizers, pesticides, stimulants amongst others as agricultural supplements. Inputs needed from fertilizer experts (content of biologicals contains unreported nutrients)
MODELING	
Nutrient Application	Strike a balance between complexity and simplicity of the nutrient application in CAST.
Land Use	Re-evaluate land use categories and potential new sources of data.
Cover factors	Re-evaluate watershed wide scale data source and land uses which impact the cover factor calculation.
Agricultural data sources	This topic refers to all applicable data investigations that can improve upon existing agricultural data or topics.
Model Structure transparency	We would like to ensure that the model processes are transparent, a large part of this relies on a broad audience being able to understand what the model is doing. We will examine the potential for different ways to ensure this is the case.