I support the concerns presented by Noel Gurwick, Meredith Niles, and Christina Tonitto as printed in their "Nitrogen Protocol Technical Comments" received on May 18th 2012.

- Models must not be taken too far out of their original creation parameters without exhaustive iteration of sensitivity analyses encompassing both future and historic scenarios.
- Research has flourished since the IPPC, 2006 Report and updated data should be the basis of current calculations.
- A paradox does exist if manure transportation CO2 is counted, but reductions in switching from synthetic N to organic N are not.
    - However, I do believe a complete LCA should be completed rather than presenting no LCA at all. If calculations reflect no LCA then this report is merely reflective of reports of past, and serves little purpose to update carbon credit negotiations.
- Another paradox occurs as highlighted by the above authors when reduced N inputs (a preferred practice) is subject to reduced credits because of the resulting estimated increase in manure storage emissions.
    - I agree that reducing inputs will lead to higher storage.
    - I disagree with the cropping farmer being penalized for using best NUE practices and reducing total N inputs.
    - I disagree with the above authors' recommendation to avoid accounting for CAFO manure management because it is outside the cropping system farm gate.
        - Page 32: Equation 5.13
            - $Frac_{GASM}$ will depend on how manure or the organic fertilizer source was managed/handled prior to application. If organic material was composted prior to application, the majority of reactive Nitrogen would have been lost during that process, and the Nitrogen present in the organic fertilizer material would be more stable and less likely to volatize as a result. Similarly, this single emission factor does not account for the application method. If this is slurry being applied in a 'big gun' spray method or a splatter plate design, NH3 emissions will be much larger than if the slurry is directly injected into the soil.
        - Therefore, if volatilization of NH3 and NOx from fertilization application are to be used as a portion of N2O in accounting for credits, manure management practices must be included in the discussion.
        - Manure management will similarly impact the reactive nitrogen available as leachate.

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