

Options for simulating atmospheric deposition change

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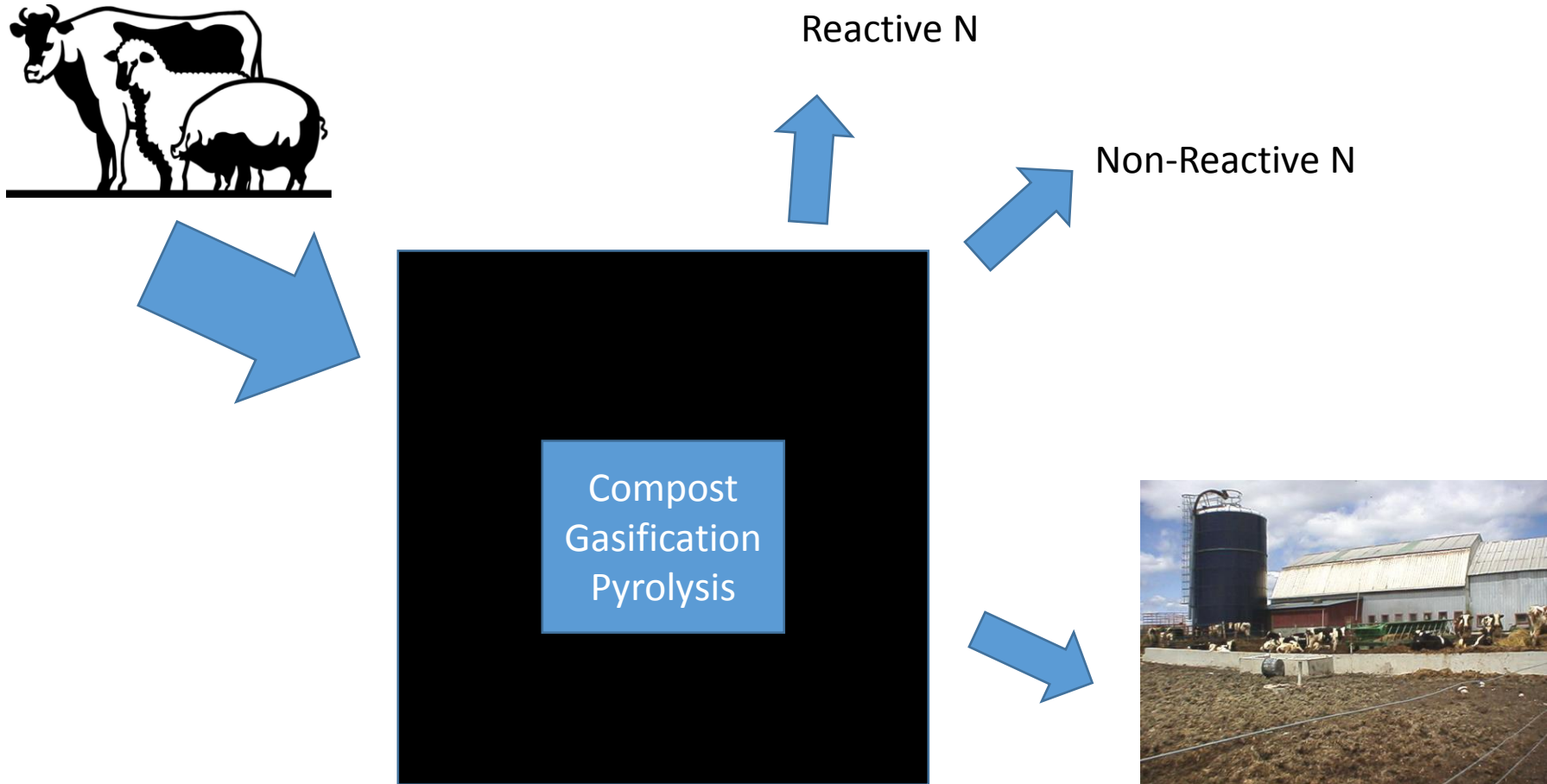
WV DEP

CBP Modeling Co-Chair

Manure Volatilization BMPs

- Lagoon Covers
 - all livestock
 - reduces NH₃ volatilization within the barnyard by 15%.
- Alum
 - all poultry
 - reduces NH₃ volatilization within the barnyard by 50%.
- Total Possible Effect = 36 Million lbs of volatilization reduction
- Average effect for 1 acre barnyard ~ 1500 lbs/year of volatilization

Manure Treatment Technologies

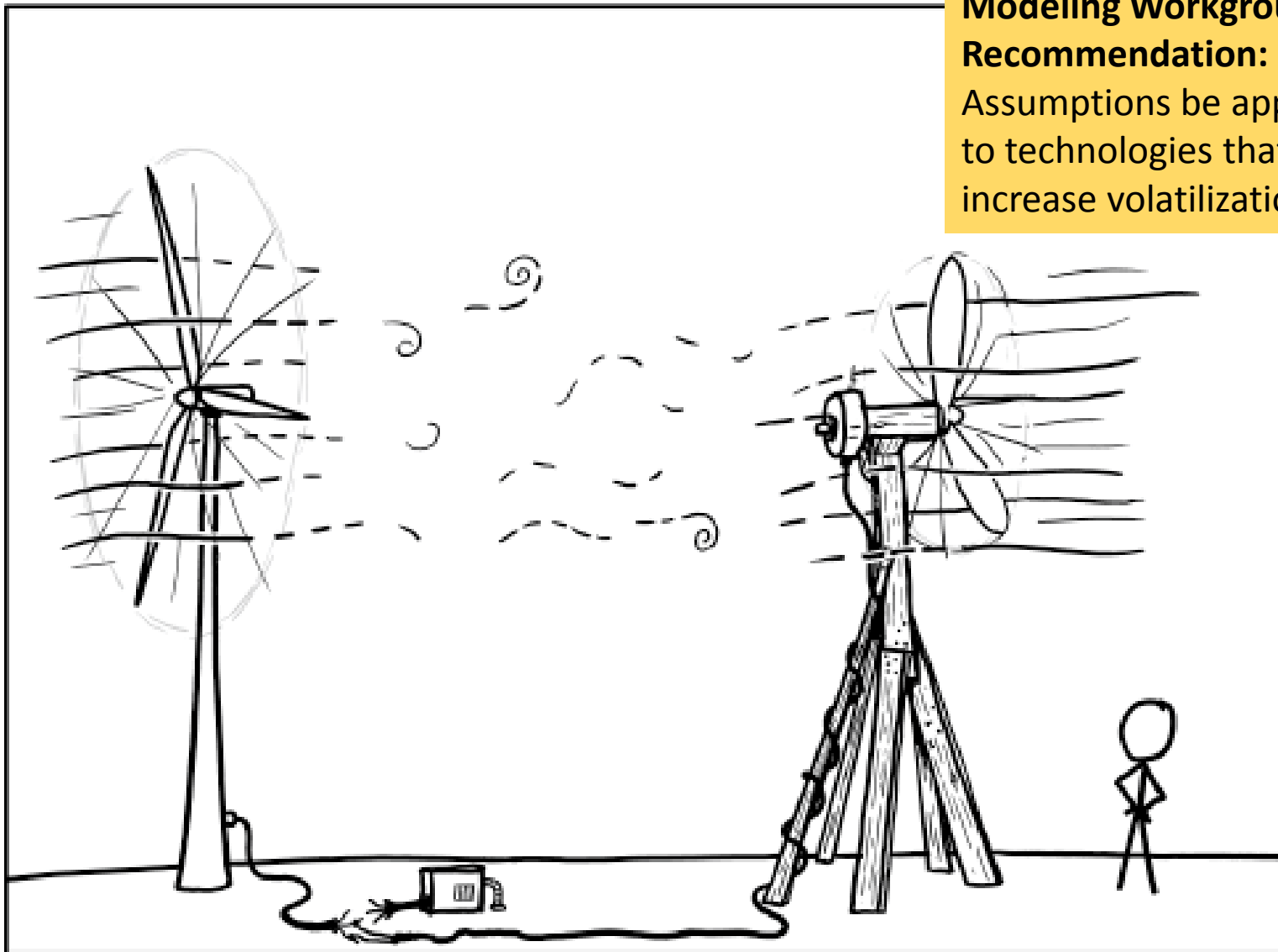


MY HOBBY:

Modeling Workgroup

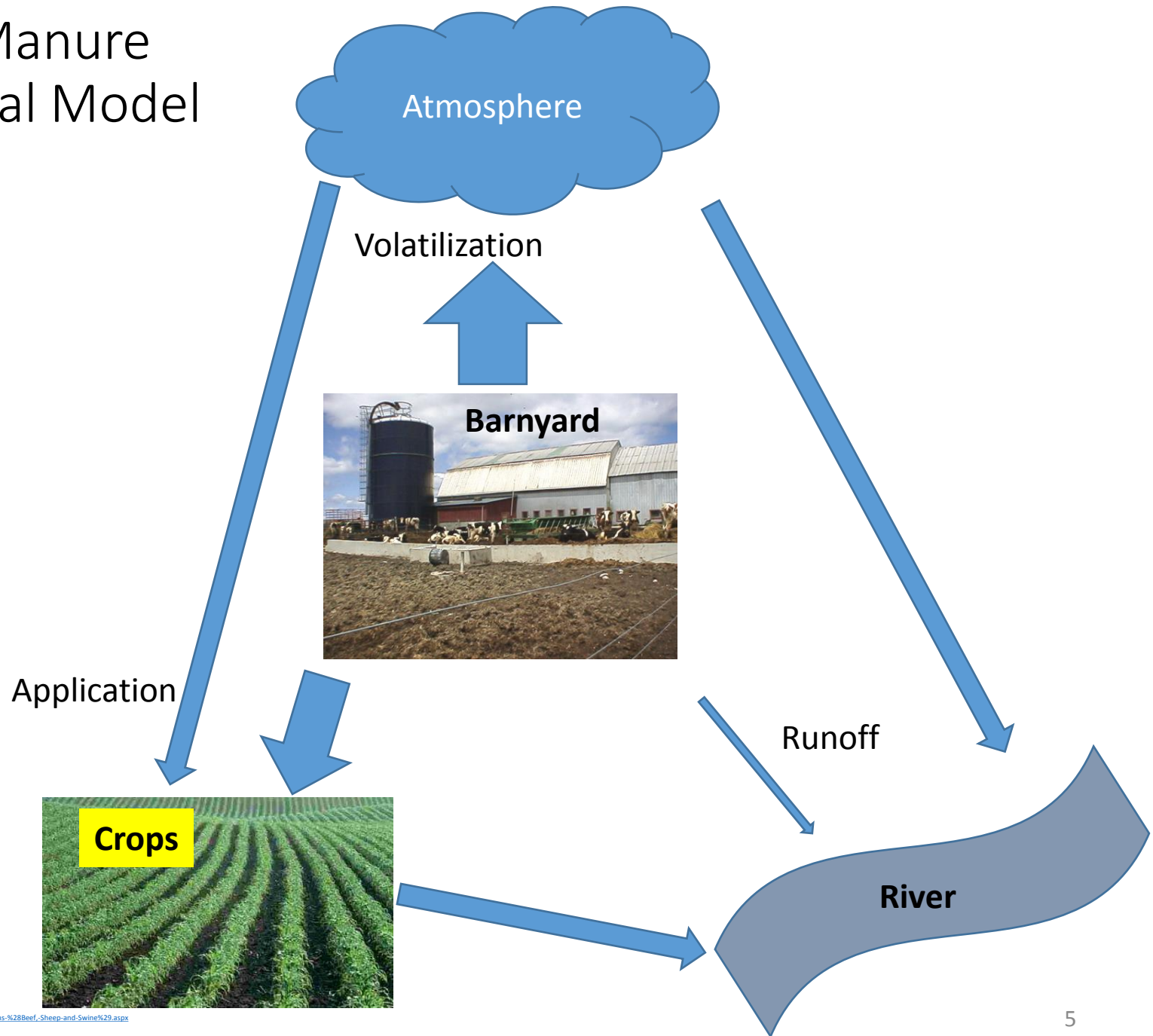
Recommendation:

Assumptions be applied consistently to technologies that reduce and increase volatilization



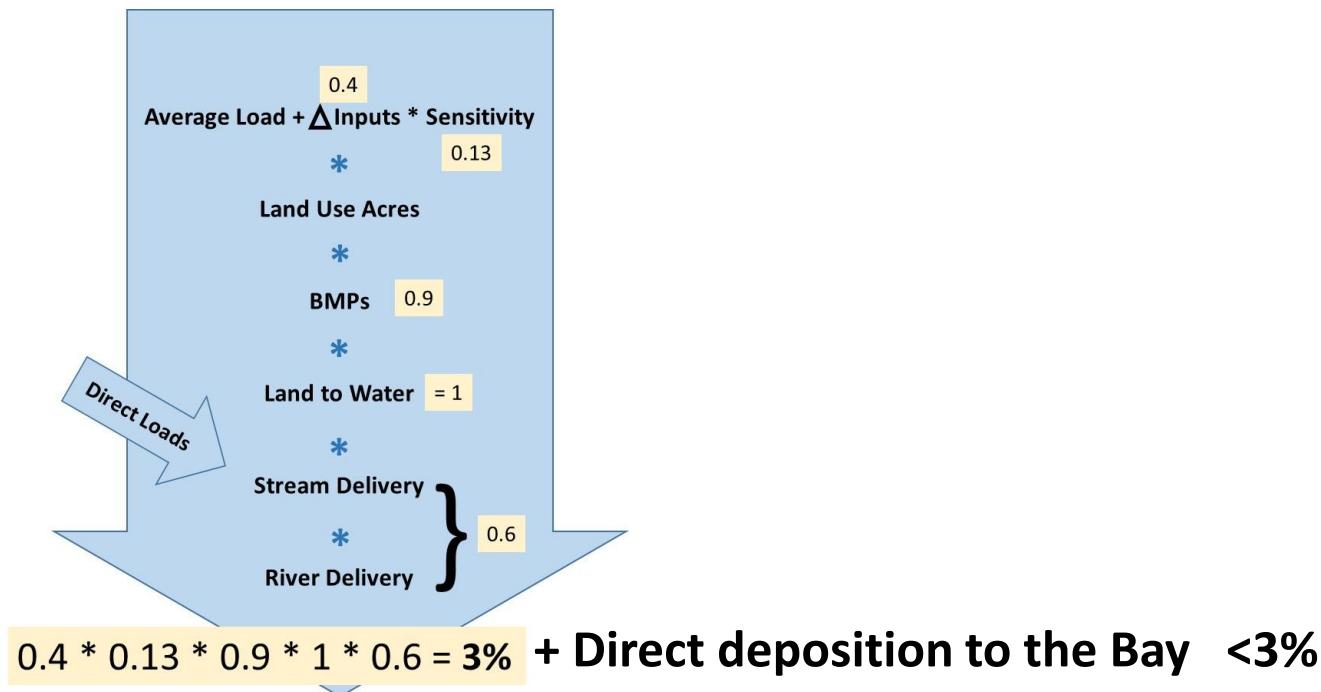
UNDOING

Phase 6 Manure Conceptual Model



Questions addressed at Modeling WG

- How much of what is volatilized in the CB watershed comes down in the watershed?
- How much of deposited makes it to the Bay?



What happens to the other 95-99%?

- Most would have been deposited outside of the watershed
- Most of the deposited would not make it to edge of stream through natural and BMP reductions
- Much of the edge-of-stream would not make it to the Bay

Modeling WG Recommendation

- Rough estimation showed that direct simulation of changes in atmospheric deposition would result in about one millionth of a pound credit applied to each acre in the CB watershed for a typical manure BMP
- Recommendation to apply roughly 1-5% credit at edge-of-stream depending on State location in the watershed.

Next steps

- More refined state-by-state analysis
- Modeling Workgroup to consider for Approval in September