Major Recommendations

Recommendations to Expand Foundational Knowledge of Microbes for Mitigating Methane

- Expand academic training in anaerobic microbiology and physiology to increase the number of scientists skilled in isolating and characterizing methanogens.

- Prioritize work on determining rumen microbiomes supporting hydrogen budgets for lower methane emissions from ruminants.

- Establish microbiome collection repositories for the community and continue research for a deeper understanding of the relationship among microbes in the microbiomes of the rumen, animal wastes,

- Increase investment in genetic tools and non-model organism development.

Recommendations to Incorporate Microbial Understanding into Methane-reducing, Climate-smart Agriculture Practices

- Expand research on plant-microbe and animal-microbe interactions to inform future agricultural practices.

- Document performance of extant microbial inocula and identify management practices that enhance survival and persistence of inocula in agricultural soils.

- Investigate use of redox-active compounds to add to manure to reduce overall CH_4 emissions.

- Recognize current efforts and work with agricultural producers to identify climate-smart practices.

Recommendations to Increase Transdisciplinary Collaboration Across Sectors

- Demonstrate the value and support

- Foster science communication efforts to encourage microbiologists to highlight the importance of microbes in climate change and demonstrate the need for microbial solutions to reduce CH_4 emissions with diverse stakeholders, including other

- Collaborate with community stakeholders to understand cultural values and local customs to co-develop research priorities and solutions.