

## CLIMATE CHANGE

A variable and changing climate affects global food security. Just as animal agriculture can affect climate change through emissions of greenhouse gases such as methane and nitrous oxide, climate change affects animal agriculture. As global temperatures increase, consequences for animal production include: increased heat stress in summer months; an extended growing season at northern latitudes; a northerly shift in cropping patterns; an increase in natural disasters such as hurricanes and flooding; and increased parasites and pathogens. Less apparent challenges also exist, such as the potential for reduced protein concentrations in feed ingredients and decreased water availability (1).

- Increasing the efficiency of feed use by animals can be especially powerful in reducing life-cycle greenhouse gas emissions per unit of animal product. Similarly, animal system adaptation to climate variation can be achieved through genetic, nutritional, and management strategies.
- A targeted, well-funded research, extension, and education effort is required to quantify and mitigate greenhouse gas emissions and adapt animal production systems to climatic changes, while balancing other environmental, economic, and societal concerns and building resilience of animal production systems (2).
- Developing and integrating new technologies and management strategies into animal production systems will serve to both mitigate greenhouse gas emissions and enable adaptation to a changing climate [3].

## **Policy Statement:**

***ASAS supports use of multifaceted approaches to create sustainable climate change solutions (environmental, societal and economic) for animal production systems. To accomplish this objective, ASAS supports increased public funding for research, extension, and education related to quantification and mitigation of greenhouse gas emissions, and adapting animal production to a changing climate to ensure a safe and abundant food supply.***

## **Policy Objectives:**

- Incorporate science into the global standards, methods and guidelines for quantifying the impact of animal production on climate change.
- Research, develop and implement potential mitigation and adaptation strategies to optimize animal production systems including: improved feed conversion; use of feeds that increase soil carbon sequestration vs. carbon emissions; use of animal manure instead of synthetic fertilizer for crops; and use of animal manure as a source of renewable energy.
- Identify methods to use breeding and genetics to select of animals that are matched with natural resources and feedstuff availability to optimize animal agriculture in a changing climate.
- Identify and evaluate strategies that allow farmers and ranchers to decrease animal greenhouse emissions and carbon and water footprints per unit of food output.

## **References:**

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2. Helsey, P., Wang, S.L., & Fugile, K. (2011). Public Agricultural Research Spending and Future Agriculture Productivity Growth: Scenarios for 2010-2050. Retrieved January 23, 2012, from the United States Department of Agriculture Economic Research Service: <http://www.ers.usda.gov/Publications/EB17/EB17.pdf>
3. FAO. (2011). *World Livestock 2011 – Livestock in food security*. Rome: Food and Agriculture Organization of the United Nations.

*Adopted by the ASAS Board of Directors on **September 1, 2015**.*