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Know your carbon footprint – Know your opportunities

Allan Stokes, Director of Environmental Programs
National Pork Board

Introduction

In 2009, the Pork Checkoff commissioned the University of Arkansas to complete a life cycle assessment (LCA) of the greenhouse gas carbon footprint of the pork industry. This included a scan-level LCA to understand the contribution of the live production segment of the pork chain relative to the other chain segments as well as a detailed analysis of the relative contributions within the live production segment. Using this LCA work, a Live Swine Carbon Footprint Calculator was developed for on-farm use by producers to understand the carbon footprint for their specific production operation.

Materials and methods

The life cycle assessment process was based on standardized methods recognized throughout the international environmental community utilizing open source data to the fullest extent practicable and reviewed by an independent 3-person peer review committee consistent with International Standards Organization guidelines. The Live Swine Carbon Footprint Calculator was developed based on these same methodologies and in full collaboration with experts within the pork industry and academia.

Results

The life cycle assessment process developed an industry weighted average carbon footprint for the live production segment of 2.8 kg CO₂e/kg live animal weight at the farm gate with the major contributing factors on-farm being feed (42%) and manure management (40%) of the total carbon footprint of the live swine production phase which accounts for 62% of the total footprint across the entire pork chain.

Discussion

Significant variability can exist from operation to operation depending on location and associated weather differences, and specific attributes of the individual production system. The Live Swine Carbon Footprint Calculator can serve as a useful tool in analyzing the current baseline carbon footprint of a production unit as well as a tool for analyzing options through modeling “what-if” scenarios.

