Agricultural resource management survey and national animal health monitoring system data analysis: cow-calf case study
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The USDA-National Animal Health Monitoring System (NAHMS) collects farm-level animal health and production information through national studies. The USDA-Economic Research Service (ERS) collects farm-level financial and economic information through the Agricultural Resource Management Survey (ARMS). This research will evaluate if appropriate data and methodologies are available to add value to both data sets. The first phase of this research compares demographic estimates from ARMS and NAHMS to the 2007 Census of Agriculture values to determine if ARMS and NAHMS samples represent the national population. The second phase of this research compares estimates for similar topics from ARMS and NAHMS to determine response similarity. For Phases 1 and 2, statistical tests were conducted to determine if operations in five size categories and four regions from NAHMS and ARMS were different from each other. The third phase of this research seeks to complement estimates from NAHMS related to animal health with estimates from ARMS related to economics. This phase attempts to identify segments of the U.S. cow-calf industry that are more likely to use certain production practices that promote animal health and then evaluate economic measures of profitability for those segments. Initial results from Phase 1 show that most sample proportions and the national population proportions for segments of the cow-calf industry are the same. Even though some sample and national population proportions are statistically different from each other, the numerical difference is small. Initial results from Phase 2 demonstrate that responses to questions about specific topics asked on both surveys are similar, thus producers responded in a consistent manner. Phase 3 does not reveal statistical empirical evidence to determine causal relationships; it reveals trends, patterns, and associations between producer’s production practice decisions and the associated economic benefits.