## IOWA STATE UNIVERSITY

Department of Animal Science

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We at lowa State University are pleased to bring you this annual report of research activities that impact animal agriculture industries in lowa. This report combines research reports from faculty associated with various departments on campus. We have attempted to bring you all of the research as it relates to the Beef, Dairy, Equine, Poultry, Sheep, Swine and small animal industries in the state of lowa. This research is conducted to support the viability and sustainability of each of these industries in lowa. Keeping our animal industries competitive and contributing to the economy of the state is an important focus of our research program. The research reported here is supported by the lowa Agriculture and Home Economics Experiment Station.

Special thanks to the various funding agencies that support the research enterprise at lowa State University. Without their support, we would not be able to conduct the amount and quality of research as reported. The research support comes from several sources, from federal research funds, commodity funds and industry research support.

As you read through the research reports you will find a variety of research as it relates to the animal agriculture industries in lowa. Some research relates to improving production efficiencies while other research relates to improving environmental quality, animal health, animal product food safety and animal behavior and well-being. These all are important aspects of keeping animal agriculture strong and viable and contributing to the economy and quality of life in lowa. Feel free to contact the authors of any report if you need further information.

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