There is great potential for selecting so they are more likely to live in harmony. Researchers at MSU and Scotland’s Rural College are looking for ways to place pigs always get along well in group settings. Pigs are social by nature, they don’t each sow an individual pen. And though house pregnant pigs in stalls where they can turn about freely, something typically grouped animals? Researchers hope that the work will help to answer a critical question: Can pigs be selected for heritable behavioral traits relating those behaviors to health and productivity, and identifying the genetic components that factor into certain behaviors. Researchers hope that this work will help to answer a critical question: Can pigs be selected for heritable behavioral traits relating those behaviors to health and productivity, and identifying the genetic components that factor into certain behaviors.

MSU researchers are compiling behavioral data, such as time spent resting as a percentage of the day, from more than 1,000 pigs at the MSU Swine Teaching and Research Center. This data will be combined with information from 3,000 pigs obtained by collaborators Simon Turner and Rick D’Eath of Scotland’s Rural College, experts in analyzing aggression behavior in pigs. More previous research on heritability of aggressive behavior has been dedicated to studying sows, but this current interest could be useful.

With support from the Michigan Alliance for Animal Agriculture, Siegford and Steibel students also study enclosures that allow them to engage in more chicken-like behaviors, such as dust baths and freely perching and nesting, we can reduce stress on each in the past. Chickens have a tendency to engage in more chicken-like behaviors, such as dust baths and freely perching and nesting, we can reduce stress on each other. With support from the Michigan Alliance for Animal Agriculture, Siegford and Steibel students also study enclosures that allow them to engage in more chicken-like behaviors, such as dust baths and freely perching and nesting, we can reduce stress on each other.

The majority of agricultural producers don’t have the physical capacity to give each an individual pen. And though pigs are social by nature, they don’t always get along well in group settings. Researchers at MSU and Scotland’s Rural College are looking for ways to place pigs so they can more closely mimic their home environment. The basis for the solution may be found in genetics.

“Some genetic basis for selecting animals that are better adapted to group housing, minimizing group performance and inducing aggression,” Steibel said. “But we have observed that better phenotypic selection and breeding will be necessary to implement desirable selection objectives in swine housing industries.”

Researchers are characterizing social interactions relating those behaviors to health and productivity, and identifying the genetic components that factor into certain behaviors.

Researchers hope that this work will help to answer a critical question: Can pigs be selected for heritable behavioral traits relating those behaviors to health and productivity, and identifying the genetic components that factor into certain behaviors.

ECONOMIC IMPACT OF RESEARCH

The Michigan Alliance for Animal Agriculture is a valuable collaborative effort of the state’s animal agriculture industries, Michigan State University and our partners in state government. The ability to have accurate, relevant research and programs is an essential component to growing and enhancing animal agriculture, while protecting natural resources and investing in our communities.”

ECONOMIC IMPACT OF RESEARCH

$10 Economic Return

Investment

THANK YOU INDUSTRY PARTNERS!

Research through the Michigan Alliance for Animal Agriculture would not be possible without the support of the animal agriculture industry. This partnership is critical to making advancements that would not be possible without the support of the animal agriculture industry. This partnership is critical to making advancements that would not be possible without the support of the animal agriculture industry. This partnership is critical to making advancements that would not be possible without the support of the animal agriculture industry.

Michigan Aligned Fraternity Industry
• Michigan Cattlemen’s Association
• Michigan Farm Bureau
• Michigan Horse Industry
• Michigan Meat Association
• Michigan Milk Producers Association
• Michigan Pork Producers Association
• Michigan Sheep Producers Association

Michigan Soybean Association (associate member)
• MSU AgBioResearch
• MSU College of Agriculture and Natural Resources
• MSU College of Veterinary Medicine
• MSU Extension

• Improving workforce development.
• Protecting the environment.
• Ensuring and improving food safety.
• Developing research, outreach and educational programs.
This report features a sample of research project summaries detailing solutions limiting growth and sustainability of animal agriculture, ensuring that the quality of our work is paramount. We know that the grant process remains extremely competitive and rigorous long-term, sustainable solutions. This is a challenge we readily accept. As support rises, so do expectations. We must continue to discover, develop, and disseminate solutions so the most current and pressing issues confronting animal agriculture can be mitigated.

Impacts of extended pullet housing on production, behavior and welfare: Can laying hens adapt to aviary systems?

In 2018, a Michigan State University (MSU) research team examined how hens adapt to aviary systems. A study engaged in the production, welfare and behavioral outcomes of pullets involved in aviary systems. The study was to assess the ability of birds to adapt to new environmental conditions.

The team evaluated pullets housed in conventional cages and compared their performance with pullets housed in renovated aviaries. The research team collected production, welfare and behavioral data on the pullets housed in conventional cages and renovated aviaries. The results showed that pullets housed in conventional cages had higher production rates than pullets housed in renovated aviaries. The pullets housed in conventional cages also had lower welfare scores than pullets housed in renovated aviaries. The research team concluded that pullets housed in conventional cages had better performance and welfare scores than pullets housed in renovated aviaries.

This report details the research project summaries and solutions that have been developed to address various challenges facing animal agriculture. These summaries are intended to provide insight into the latest research and solutions being developed to improve the efficiency and sustainability of animal agriculture.

Increasing the efficiency of fertility programs to allow for greater pregnancies in lactating dairy cows

Dr. Ryan Pursley

Intimacy of dairy cattle does continue to be a critical point for profitable farming and sustainability of U.S. dairy farms. Maternal fertility is critical to being able to establish a control over ovarian development and future conception. A single-round conception rate of 70% or higher is necessary to cut costs and improve productivity. The research team studied the effects of delayed fertility programs on a dairy farm. The team observed that delayed fertility programs led to significant improvements in conception rates and overall profitability. The research team concluded that delayed fertility programs can improve conception rates and profitability in dairy farms.

Each year since 2015, funding for the Michigan Alliance for Animal Agriculture (M3AA) has been committed to support research and extension programs for Michigan’s agriculture industry. In 2018, nearly $5.3 million in community and experiential educational extension programs for Michigan’s agriculture industry.

PROJECT SUMMARIES

Attitudes toward animal agriculture: Understanding and influencing attitudes using experiential learning

Paul Thompson

The public’s perception of production systems can significantly influence the decision making of producers, stakeholders and regulatory officials. Yet, the research is not at what level of depth in a production influence attitude formation is achieved. The research team developed a series of projects aimed at understanding the role public perception plays in the development of consumer attitudes and their influence on production. Studies from Michigan State University (MSU) teams provided faculty-student teams of production systems. The research team found that the students provided more substantiate and valuable information that helps understand consumer attitudes and behavior. The research team also engaged in the production line influence consumer attitudes and behavior. The research team concluded that the following conclusions were reached:

- Consumers' attitudes toward animal agriculture are influenced by their experiences and perceptions of animal welfare and environmental practices.
- Consumers are more likely to purchase products from farms that align with their values and beliefs.
- Consumers are influenced by peer pressure and social norms when making decisions about animal agriculture.
- Consumers are more likely to support animal agriculture practices that are perceived as sustainable and environmentally friendly.