

U.S. Pork Center



of Excellence

Communities of National Cooperation

2009-2010 Annual Report

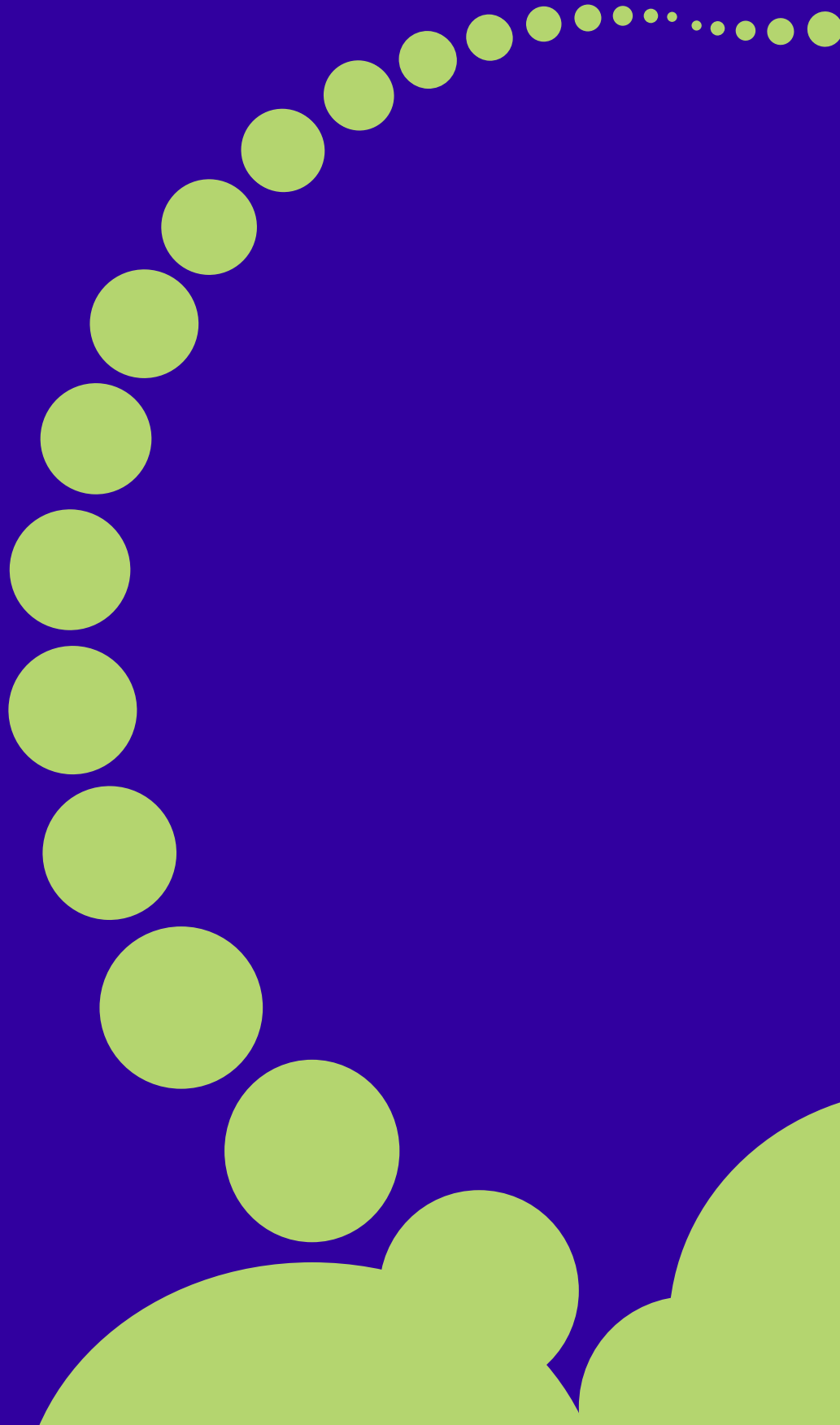


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USPCE Vision

The vision of the USPCE is to advance:

- 1. U.S. pork production as the world-class standard.*
- 2. A new paradigm for how research is conducted and how information is delivered.*
- 3. Society's understanding and valuing of U.S. pork producers' contributions to the economy, environment, community, and to consumer health and well-being.*
- 4. A thriving U.S. pork production industry.*

USPCE Mission

The mission of the U.S. Pork Center of Excellence (USPCE) is to add value to the pork industry by facilitating research and learning for U.S. pork producers through national collaboration.

Representing USDA/ARS Ex-Officio
Dr. Jerry Hatfield, USDA/ARS/NSC

Representing USDA/NIFA Ex-Officio
Adele Turzillo, USDA/NIFA

USPCE Board of Directors

Representing State Extension Directors
Dean Beverly R. Durgan, University of Minnesota

Representing Colleges of Agriculture
Dean Bobby Moser, The Ohio State University

Representing Colleges of Veterinary Medicine
Dean John Thomson, Iowa State University

Representing Departments of Animal Science
Dr. Rodney Geisert, University of Missouri

Representing Iowa State University
Dean Wendy Wintersteen, Iowa State University

Representing National Pork Board
Chris Novak, National Pork Board CEO
Leon Sheets, Ionia Pigs, Inc.
Conley Nelson, Murphy Brown LLC

Representing National Pork Producers Council
Neil Dierks, NPPC CEO
Mike Wehler, Wisconsin Pork Association
William Luckey, Luckey Farm

Representing State Pork Associations
Rich Degner, Iowa Pork Producers Association

Representing Corporate Sponsors
Dr. Paul Matzat, Elanco Animal health

USPCE Staff



David Meisinger
Executive Director

Dr. Meisinger oversees the operations of the USPCE. He is responsible for government and partner relations, public relations, and funding.



Maggie DenBeste
Program Coordinator

Maggie coordinates the Swine Science Online Program by working with swine educators across the country to develop and manage Swine Science Online courses. Her other duties include development of the Professional Swine Manager/Technician Certification Program.



Barbara Kalsem
Administrative Assistant

Barb's time is shared with the Agriculture & Biosystems Engineering Department at Iowa State University. She is responsible for travel arrangements, accounts payable and receivable, and purchasing cards for employees.



Kelly Mescher
Communications Specialist

Kelly is responsible for managing the Pork Information Gateway (PIG), the USPCE Web site, and the other communications projects for the USPCE. Kelly's role also includes planning meetings, working with the Pork Industry Handbook and the U.S. Pork Center of Excellence newsletters.



Connie Cannon
Grants Coordinator

Connie is responsible for preparing grant proposals for submission to the federal government, foundations, and non-government organizations. Connie also oversees the USPCE finances.



Randi Duvall
Intern

As a USPCE intern, Randi has been responsible for updating Pork Information Media Asset Portal (PIG MAP) and PIG Opportunities. She has also helped develop and compile the Swine Faculty Directory, ARS Research Results, and other important projects.

Letter from the Director

As we look back upon our fifth full year of operation, we note a lot of progress and success. But we also can't help but see all the challenges and opportunities ahead. One of these challenges and opportunities is in the area of funding. Certainly, the entire success of the U.S. Pork Center of Excellence is due to financial challenges faced by academic institutions over the past several years. This prompted those institutions to support an entity like USPCE to help bring about collaboration in regional or national approaches to improve efficiencies of operation. We have been blessed with a strong commitment from academia, even in the face of very rough financial circumstances at many institutions. In spite of these conditions, we have been able to maintain partner support from almost one-half of the nation's land-grant institutions.

Funding support from the production side of the industry with generous contributions from both the National Pork Board and the National Pork Producers Council and from so many state pork associations matches the support from academia. This funding from pork producers and academic institutions provide the core foundation that keeps the operations of the USPCE afloat. Couple this with the success we have experienced in obtaining grants which fit our organization vision, and the USPCE has been able to provide partner investors with about \$850,000 in programming. For many this is as much as a 34,000 percent return on their investment. The support provided to USPCE is not only in financial terms but also in time and expertise. One of the biggest successes of this past year came with the publication of the long awaited *National Swine Nutrition Guide*. This set included a 320-page book, a smaller tables booklet and the Diet Formulation and Evaluation Software CD. The biggest success with this project, though, related to the excellent cooperation of all the contributing institutions represented on the steering committee. The academic nutrition experts poured their time and talents into developing a guide that has garnered international praise as our country's thorough and complete compendium on swine nutrition recommendations. Of course, the USPCE flagship is the Pork Information Gateway (PIG). As the first of our products, this national clearinghouse of information just keeps getting better and better. A devoted set of domain leaders continues to make sure that it has the latest known information on any subject.

Our Education Programming has reached a new milestone with the imminent launch of the Swine Science Online program. The grant from USDA that allowed us the means to work on this project is just about to reach the end. Another opportunity came with support from the U.S. Department of Education in a grant to support the Professional Swine Manager Certification and Education effort at community colleges. That program has just begun but looks to be gaining a lot of ground, especially with all the support from the Pork Checkoff program. This program ties in very nicely with the National Pork Board's strategic plan and with their We Care Initiative.

On the research side, the USPCE has developed the "Managing Replacement Gilts" Module of the *Sow Lifetime Productivity Management Guide* with a grant from the National Pork Board. Publication of this guide will coincide with submission of a proposal to the Pork Checkoff for additional support for the other modules in the set. Much effort was expended by a lot of people on the development of a large, multi-institutional Coordinated Agricultural Project proposal entitled "USPCE Integrated, Sustainable Midwest Approaches to Climate Change for the Pork Industry." This five-year, \$20 million proposal involves 44 scientists at 24 institutions around the country. Funding of this project will define the USPCE role in the research arena for the short term.

Much activity and a lot of deliverables have been the outcomes for this past year at the USPCE. However, none of this would have been possible without the awesome support of our partners and without the success we have had obtaining grants. We continue to thank our partner organizations and institutions and pledge a transparent organization dedicated to delivering on the promise of enhanced collaboration, communication and cooperation for all our partner members. We always welcome any comments, questions, or advice from our loyal supporters. We hope you enjoy reading this annual report and catching up on all our activities from this past year.

Dr. David J. Meisinger
Executive Director

Review of the Year

The 2009/2010 fiscal year was another period of growth and momentum for the U.S. Pork Center of Excellence (USPCE). Despite the economic challenges that loomed over our nation in 2009/2010, the U.S. Pork Center of Excellence continues to be optimistic about the future and its ongoing projects.

One of those projects is Swine Science Online. It's the first ever online undergraduate program in swine science. It offers education and training for future pork professionals, thereby benefiting the pork industry. The ultimate goal of the Swine Science Online Program is to have more academically trained students entering the pork industry. After completing the required and elective courses, students will be able to apply for a Swine Science Online Certificate, administered by the U.S. Pork Center of Excellence. The program went through a battery of beta tests in early 2010 to be sure the program ran smoothly and efficiently. The following classes launched in September 2010: Basic Swine Science, Swine Health and Biosecurity, Swine Breeding and Gestation Management, Swine Environment Management, Contemporary Issues in the Swine Industry, Swine Business and Records Analysis and Farrowing Management. Initially, these courses are being at the following six universities: Colorado State University, Iowa State University, North Carolina State University, South Dakota State University, University of Nebraska at Lincoln and the University of Missouri. The classes and universities offering them will expand in the future.

The Professional Swine Manager/Technician Certification Program for community college students and pork production workers is also underway. The U.S. Pork Center of Excellence has been granted nearly \$300,000 from the U.S. Department of Education to implement the program. The grant was provided by the Fund for the Improvement of Postsecondary Education (FIPSE), and will run from Jan. 1, 2010 to Dec. 31, 2011. The Professional Swine Manager/Technician Certification Program is designed to meet the industry need for consistent, research-based instruction on all phases of pork production.

In the 2009/2010 fiscal year, the USPCE Deans' Policy Council Meeting was held, which was extremely positive. This meeting provided the chance for deans at our partner universities to hear about the progress made at the U.S. Pork Center of Excellence, as well as learn about new and ongoing projects.

In 2009/2010, the *National Swine Nutrition Guide* was completed, sold and distributed to users throughout the world. This book was made possible because of a grant from the United Soybean Board. This book was a major accomplishment for the U.S. Pork Center of Excellence, as this is the most current and comprehensive source of information available to producers and researchers. This book will enhance the understanding of practical swine nutrition, feeding principles and related management guidelines. The *National Swine Nutrition Guide* Training Conferences were also held in 2010, where attendees were given an overview of the guide's development and explanations of the contents and recommendations in the guide. They were given the chance to install and use the Diet Formulation and Evaluation software, which was developed and distributed with the *National Swine Nutrition Guide*.

The "Managing Replacement Gilts" unit of the *Sow Lifetime Productivity Management Guide* was completed in 2009/2010. This is the first of five units for the guide, which will provide producers with the most up-to-date scientific information in an educational tool that pork producers can use within their breeding herds. The USPCE looks forward to promoting and distributing this guide in the next fiscal year.

Kelly Mescher
Communications Specialist

U.S. Pork Center of Excellence Web Site

The U.S. Pork Center of Excellence (USPCE) Web site continues to offer news and information to pork producers and industry professionals. Our Web site, www.usporkcenter.org, provides a full description about the U.S. Pork Center of Excellence, the latest USPCE happenings and past annual reports. This Web site provides every visitor: About USPCE, History of USPCE, Objectives, Mission and Vision, Staff and a full Board of Directors listing, including names, titles and contact information, newsletters, news releases and a list of USPCE events and activities.

Our site tells visitors who all of our partners are, including all land grant universities, state pork associations, government sectors and national pork organizations. A list of links for Swine Resources and Publications is also available, providing users a reference list for related resources.

The Resources section provides a wealth of information for pork producers, Extension specialists and students. This includes a link to the Pork Information Gateway (another USPCE Web site), PIG Opportunities job listings, the PIG MAP Image Library for Extension personnel and Conference Materials – which is a library of professional power points. The Tools section provides marketing tools, swine nutrition tools, a manure value spreadsheet and nutrient management planner. The “Addressing Grand Challenges through Science” workshop results are also posted.

New Hires

In January 2010, the USPCE hired Maggie DenBeste as the Program Coordinator. Maggie graduated from Iowa State University with a M.S. in Animal Physiology. While obtaining her Master's, she enjoyed working as a teacher's assistant for a number of undergraduate classes. Prior to obtaining her Master's degree, Maggie worked in the industry for two years with Hamilton College in Urbandale, IA as a Student Advisor and three years as a Web site Support Specialist for Propig, located in Worthington, MN.

In July 2010 Kelly Mescher was hired as the Communications Specialist for the USPCE. Kelly earned her B.A. in Journalism and Mass Communications and minor in Speech and Communication from Iowa State University, and later earned her Master's degree from the University of Iowa. Kelly worked for the Iowa Soybean Association for five years, where she was the main writer for the *Iowa Soybean Review* and *Illinois Soybean Review* magazines, and helped edit and contribute stories to the *Nebraska*, *South Dakota* and *Ohio Soybean Reviews*. She wrote about soybean production and research, livestock consumption, transportation infrastructure, exports and world markets, etc.

USPCE Future Plans

We are very hopeful that we succeed in our bid to receive the funding of the CAP (Coordinated Agricultural Project) on Climate Change in the Pork Industry from USDA/National Institute for Food and Agriculture (NIFA). We have invested a lot of time and effort into this large, coordinated project involving some 44 people at 24 different institutions. If funded, this project will be a major deliverable by the USPCE over the next five years. While we wait for review results, we are looking at ways we can continue to bring about this collaboration. The enthusiasm of the group during development of the proposal was fantastic and can be channeled into some creative overall projects for the benefit of pork producers.

The Pork Information Gateway (PIG) is the flagship of the USPCE, but it requires constant attention not only to keep the content alive, current and growing, but also to keep this valuable resource in front of a lot of producers and influencers. We have just posted PIG on two social networks, Facebook and Twitter. We will also be doing some additional marketing over the next few months. We will look at providing information back to registrants when we load new information so they keep current on the site. In addition, we will be expanding the role of PIG on eXtension as we have just accomplished the launch of this community of practice on the eXtension Web site.

The education programs have been a real plus for the organization. The Swine Science Online program has launched and the grant funding has been depleted. However, we need to stay involved to assure quality of the program. We are developing some creative strategies for the USPCE to continue being involved with the program and continue to fund this involvement. The steering committee, which had guided the development of the program wants to continue on as a policy committee, so we need to find support for this effort. The Professional Swine Manager program has a lot of potential, especially when one considers the certification potential. Working closely with the National Pork Board, we hope to see this new certification visualized with close ties to the industry “We Care” program.

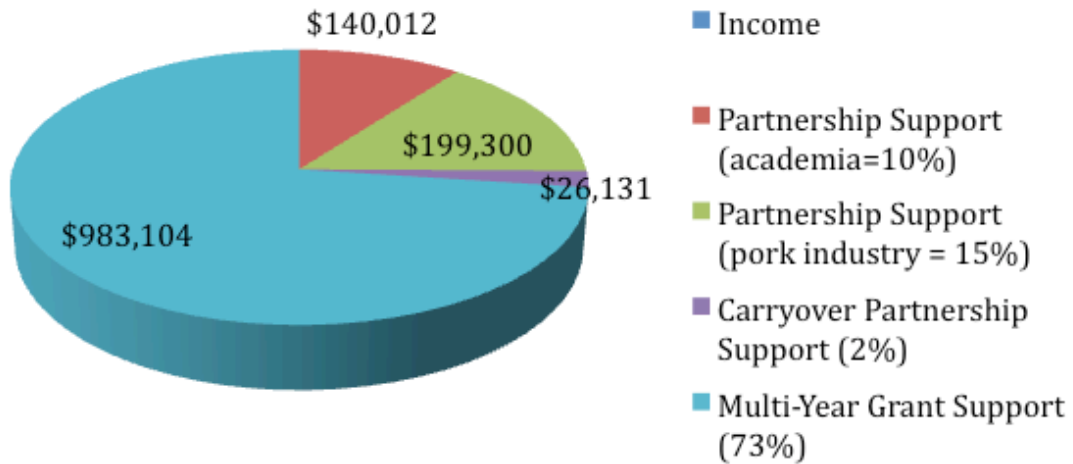
The *National Swine Nutrition Guide* is a real success. We will continue to look at improvements in the guide as well as in the software that accompanies the guide. In fact, we hope to add a new module dealing with nutrient excretion into the software. This guide was such a big hit that we foresee the development of a *Environmental Stewardship Guide* and a new *Pork Quality Guide* following the same format. The *Sow Lifetime Productivity Guide* has the first phase on “Managing Replacement Gilts” completed, but we hope to obtain funding to complete the other four phases of the guide this next year. The USPCE has never requested nor have we received any funding from allied industry over the first five years of our existence. All of our financial support has been derived from pork producer associations academia, and private and public grants. We will be developing a plan to include some of the ways that a company might be involved with us through a giving program with a return on investments. There is a lot of activity and a lot of progress at the U.S. Pork Center of Excellence. Several key deliverables have been launched as we mature as an organization, but we are looking for more ways to provide unique products that the industry needs.

New Partner

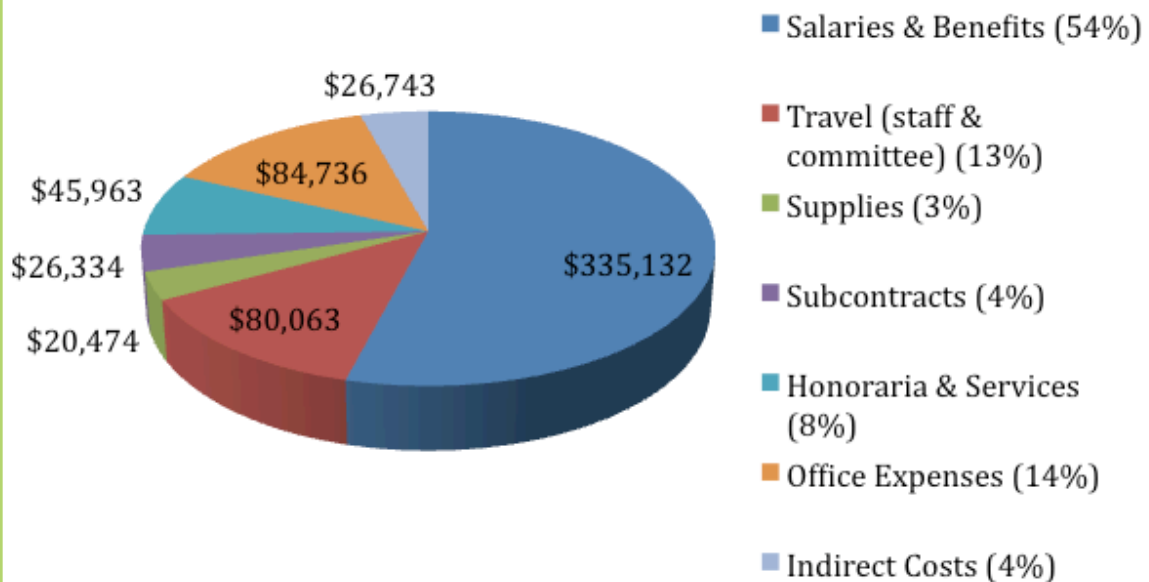
The USPCE welcomes the support of our new partner - Oklahoma State University.

2009/2010 Year-End Financial Report

FY 2010 Revenue \$1,348,547



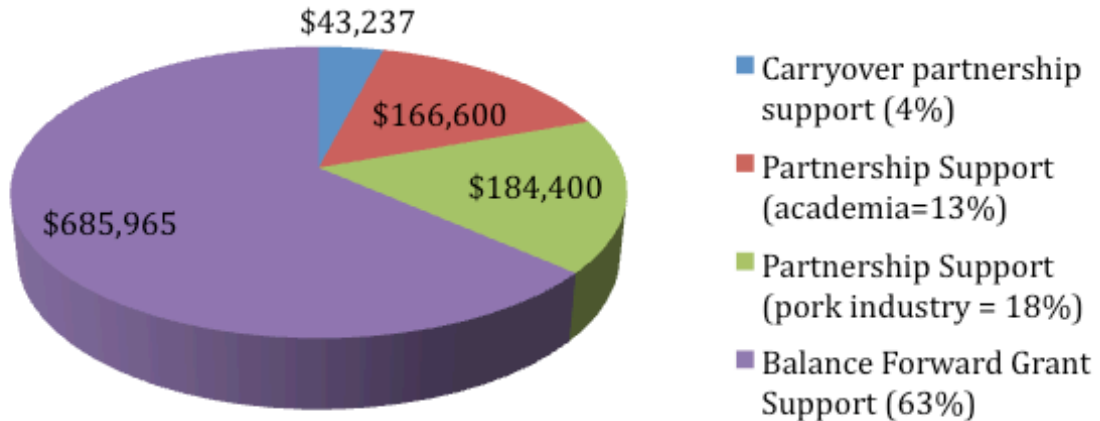
FY 2010 Expenditures \$619,345



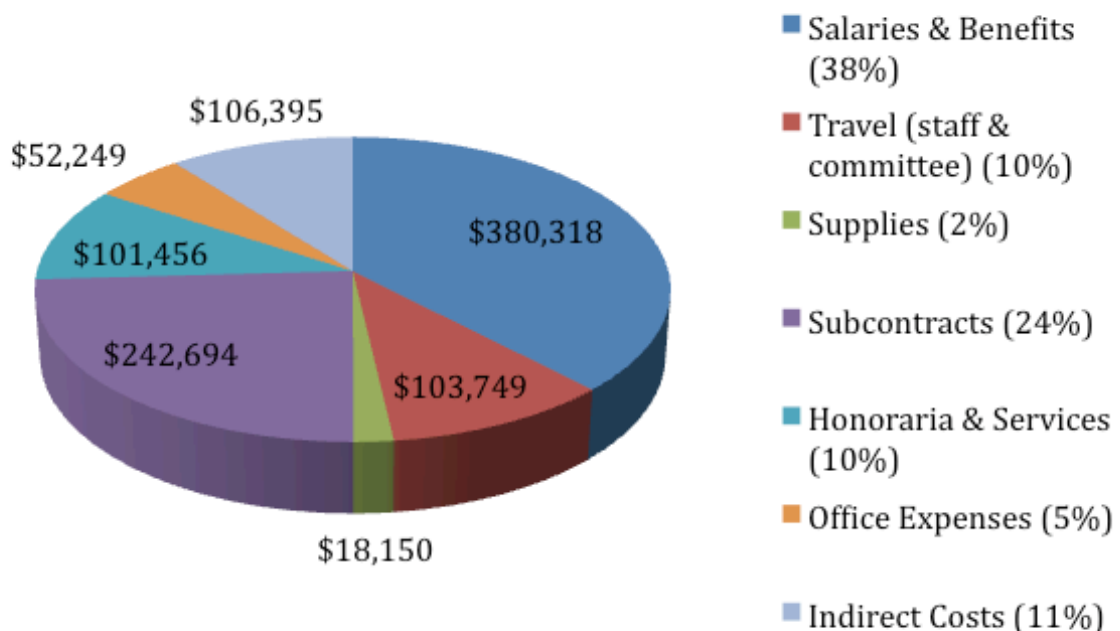


2011 Budgeted Revenue

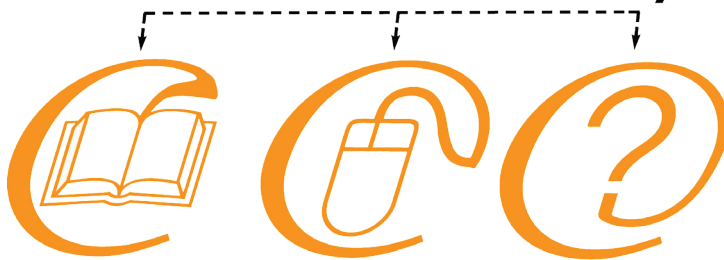
FY 2011 Budgeted Revenue \$1,080,202



FY 2011 Budgeted Expenses \$1,005,011



Pork Information Gateway



Pork Information Gateway

The Pork Information Gateway (PIG) continues to enjoy success as the number of registered users is at an all time high. Statistics for the Pork Information Gateway tell us we have 4,668 people registered, from all 50 states and Washington D.C. When broken down, 1,441 of those users are producers; 722 are educators and Extension personnel; 1,169 are students; 548 are industry representatives; 206 are veterinarians; and the remaining 583 are made up of other members of the pork industry.

The U.S. Pork Center of Excellence (USPCE) has learned that 62.5 percent of the users are engaged in pork production or provide information directly to pork producers, while 25 percent are students. Since the inception of PIG, each of the 1,608 answers have been viewed, on average, 1,141 times. The self-help video that is posted on PIG has also seen an increase in audience members, up to an average of 58 viewings per video.

The U.S. Pork Center of Excellence is working hard to increase the awareness of the Pork Information Gateway (PIG) and educate various sectors of the pork industry about the benefits of PIG. In the 2011 Fiscal Year, some of USPCE's measureable tactics include adding 500 new registrants to the Pork Information Gateway, 25 new or revised fact sheets, 100 new questions and the addition of the consumer domain to the eXtension Web site, www.eXtension.org. USPCE's goal is to upload 100 new images to the new PIG Media Asset Portal.

PIG Domain Editors

Lead Editor

Dr. Todd See, North Carolina State University

Breeding and Genetics

Dr. Tom Baas, Iowa State University

Swine Nutrition

Dr. Brian Richert, Purdue University

Reproduction

Dr. Rob Knox, University of Illinois

PIG Domain Editors

Facilities and Equipment

Dr. Stephen Pohl, South Dakota State University

Environmental Stewardship

Dr. Erin Cortus, South Dakota State University

Marketing

Dr. Erica Rosa, Livestock Marketing Information Center

Pork Quality

Dr. Steve Moeller, The Ohio State University



PIG Domain Editors

Worker Health and Safety

Dr. Kerry Leedom-Larson, National Pork Board

Niche Production

Dr. David Newman, North Dakota State University

Production and Management Systems

Dr. Mark Whitney, University of Minnesota

Youth Projects

Dr. Jodi Sterle, Texas A&M University

Statistics

Dr. Palmer Holden, Iowa State University

PIG Domain Editors

Swine Health

Dr. Morgan Morrow, North Carolina State University

Animal Behavior and Welfare Issues

Dr. Yuzhi Li, University of Minnesota - Morris

Business Management

Mr. Gary Thome, Riverland Community College

Human Resources

Dr. Michael Swan, Washington State University

Pork Safety

Dr. Margaret Hardin, IEH Laboratories and Consulting Group



National Swine Nutrition Guide

National Swine Nutrition Guide

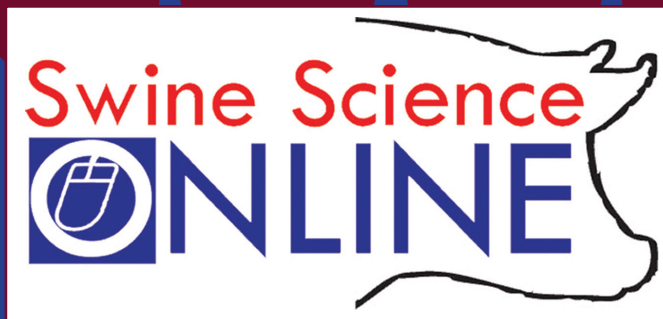
The long awaited *National Swine Nutrition Guide* was finally published in the 2009/2010 Fiscal Year. After two years and countless hours of hard work and dedication, the 320-page book was completed and distributed through a grant from the United Soybean Board. The book contains 35 Factsheets related to all aspects of swine nutrition, including nutrient recommendations, sample diets and the various factors affecting swine nutrition. The book comes with a Diet Formulation and Evaluation Software tool, which was developed and tested by experts to use with the *National Swine Nutrition Guide*. It's a very user friendly program that producers can use to determine a least cost ration formulation to conduct nutrient analysis or cost simulations of planned diets.

The *National Swine Nutrition Guide* Factsheets are available electronically on the Pork Information Gateway (www.porkgateway.com) and in print from the U.S. Pork Center of Excellence, State Extension Services, and in the *Pork Industry Handbook*. The software is also available from the U.S. Pork Center of Excellence. Below is the list of Factsheets which appear in the *National Swine Nutrition Guide*.

- Preface and Survey/Acknowledgements
- Factors Affecting Nutrient Recommendations
- Understanding Nutrient Recommendations
- Energy Sources
- Protein and Amino Acids Sources
- Vitamins and Trace Minerals
- Macro-Minerals
- Water Recommendations and Systems
- Nutrient Recommendation Tables
- Nutrient Recommendations and Feeding Management for:
 - Nursery Swine
 - Grow-Finish Swine
 - Replacement Gilts & Boars
 - Gestating Swine
 - Lactating Swine
 - Breeding Boar
 - Cull Sow
- Example Diets for Swine
- Diet and Health Interactions in Swine
- Feed Additives for Swine:
 - Enzymes and Phytase
 - Conjugated Linoleic Acid
 - Paylean
- Feed and Ingredient Sampling and Analysis
- Utilization of Weather-Stressed Feedstuffs
- Purchasing of High Quality Ingredients
- Composition of Feed Ingredients
- Swine Feed Processing and Manufacturing
- Methods of Supplying Nutrients to Swine
- Feeding Systems for Swine
- Feeding for Niche Swine Production
- Nutritional Effects on Nutrient Excretion
- Nutritional Effects on Air Quality
- Nutritional Effects on Pork Quality
- Conversion Factors
- Index for the *National Swine Nutrition Guide*







Statement of Purpose

The Swine Science Online program is targeted toward students who are earning a four-year degree, with a secondary audience of individuals currently working in the pork industry and looking to further their education. The online-based program makes swine specific courses more available to students by providing them the opportunity to take swine science courses not offered at their own university. The program will target students seeking to work in pork production units, as well as those who will seek employment in allied industry. The courses that make up this university program will focus as much on theory as they do on real world application. The goal of the Swine Science Online program is to teach students the problem solving and analytical skills that will be needed in the pork industry today and in the future.

Over the past year, curriculum leaders have beta tested courses with students from across the country. Beta testing helped determine if the courses are meeting students' needs and desired outcomes. The U.S. Pork Center of Excellence launched the Swine Science Online curriculum in September 2010 at the following six universities: Colorado State University, Iowa State University, North Carolina State University, South Dakota State University, University of Nebraska at Lincoln and the University of Missouri.

In the future, students will be able to earn a certificate/minor from their home university. They will also have the opportunity to earn a Swine Science Online certificate that will be administered by the USPCE. At the annual steering committee meeting, members created objectives for the Swine Science Online certificate.

Upon being awarded a Swine Science Online Certificate, recipients will be able to:

- Integrate disciplines and concepts in order to facilitate problem solving, creating a more efficient production system.
- Combine scientific principles and management skills involved in pork production for an efficient and sustainable operation.
- Recognize available career opportunities within the pork industry.
- Apply personnel, facility, fiscal and livestock resource management involved in swine production.
- Perform basic swine husbandry skills.
- Understand the impact of societal and industry issues on production management systems.
- Explain the pork chain structure and trends including production, packing, and integration.

Steering Committee:

Dr. Tom J. Baas, Iowa State University
 Dr. Don Boggs, Kansas State University
 Dr. David Buchanan, North Dakota State University
 Dr. Kenneth Esbenschade, North Carolina State University
 Dr. Alan Grant, Virginia Tech University
 Dr. Maynard Hogberg, Iowa State University
 Dr. Nancy A. Irlbeck, Colorado State University
 Mary Langhorst, Wakefield Pork
 Dr. David Meisinger, U.S. Pork Center of Excellence
 Dr. Ralph Noble, North Carolina A&T State University
 Dr. Todd See, North Carolina State University
 Dr. Jodi Sterle, Texas A&M University
 Maggie DenBeste, U.S. Pork Center of Excellence, Staff Coordinator

Curriculum Leaders:

Basic Swine Science, Dr. Tom J. Baas, Iowa State University
 Marketing/Risk Management in Pork Industry, Dr. Kelly Zering, North Carolina State University
 Swine Feed Mill Management, Dr. Charles Stark, North Carolina State University
 Pork Product Quality & Safety, Dr. Dana Hanson, North Carolina State University
 Farrowing Management, Dr. Duane Reese, University of Nebraska-Lincoln
 Global Swine Industry, Dr. Sang Oh, North Carolina A&T University
 Swine Nursery and Finishing Management, Dr. Ken Kephart, Penn State University
 Swine Environment Management & Swine Manure and Nutrient Management,
 Dr. Jay Harmon, Iowa State University
 Swine Breeding and Gestation Management, Dr. Billy Flowers, North Carolina State University
 Swine Business Management and Record Analysis, Dr. Jim Kliebenstein, Iowa State University
 Swine Health and Biosecurity, Dr. Locke Karkiker, Iowa State University
 Swine Internship, Dr. Cindy Wood, Virginia Tech University

Required Courses

Classes with an asterisk () are being offered this fall. Required courses include:**

**Basic Swine Science, Dr. Tom Baas, Iowa State University,
Basic Swine Science Lab, Dr. Tom Baas, Iowa State University,
**Swine Health and Biosecurity, Dr. Locke Karriker, Iowa State University
Employment Management for the Swine Industry, TBD
Production Internship in the Swine Industry, Dr. Cynthia Wood,
Virginia Tech University

Production Management Course

(Students choose the following):

**Swine Breeding and Gestation Management
Dr. William Flowers, North Carolina State University,

**Farrowing Management
Dr. Duane Reese, University of Nebraska-Lincoln,

Swine Nursery and Finishing, Management,
Dr. Kenneth Kephart, Penn State University.

Elective Courses

Swine Feed Mill Management,
Dr. Charles Stark,
North Carolina State University,

Marketing and Risk Management
in the Pork Industry,
Dr. Kelly Zering, North Carolina State University,

Pork Product Quality and Safety,
Dr. Dana Hanson,
North Carolina State University,

Pork Export Markets, Dr. Sang Oh,
North Carolina A&T University

**Swine Environment Management,
Dr. Jay Harmon, Iowa State University,

Contemporary Issues in the Swine Industry,
Dr. Jodi Sterle, Texas A&M University,

Swine Manure and Nutrient Management,
Dr. Jay Harmon, Iowa State University

Elective Courses (continued)

Advanced Swine Science Lab, Dr. Tom Baas,
Iowa State University,

**Swine Business and Records Analysis,
Dr. James Kliebenstein,
Iowa State University

Production Management Course (Can take the other two classes not taken as required course.)

**Swine Breeding and Gestation Management;
Dr. William Flowers, North Carolina State University

**Farrowing Management, Dr. Duane Reese,
University of Nebraska-Lincoln

Swine Nursery and Finishing Management,
Dr. Kenneth Kephart
Penn State University.



Professional Swine Manager/Technician Certification Program

Statement of Purpose

The Professional Swine Manager/Technician Certification program is targeted toward current pork production employees, with a secondary audience of current community or technical college students who wish to enter a pork production unit after graduation. This program focuses on technical skills and will be rooted in a hybrid, distance education with hands-on learning provided by on-farm experience. The major objective of this program is to connect practical farm knowledge and hands-on application with the knowledge acquired in the classroom. The goal of the Professional Swine Manager/Technician Certification program is to provide educational opportunities to current and potential farm technicians and managers.

The U.S. Pork Center of Excellence and National Pork Board have received a Fund for the Improvement of Postsecondary Education (FIPSE) grant to develop swine science curriculum at the community college level. With the help of several community college administrators and instructors, as well as input from industry specialists, the development of the “Professional Swine Manager/Technician Certification Program” is well underway. The program will allow for individuals—either community college students or current swine production employees—to take courses through their local community college in order to become a Certified Professional Swine Manager or Technician.

The curriculum committee for the project is currently developing hybrid distance education courses required for certification. On-farm work experience will be included in the curriculum. A certification test is also being developed to go along with the courses. Individuals wanting to become certified through this program can either enroll in the Professional Swine Manager Certification Program courses offered through the community colleges, or they can take the certification test having previous or current employment in the swine industry.

The first of these courses was offered in the Fall of 2010 for beta testing. The USPCE and National Pork Board will continue to work with community colleges to develop this program, and will launch the program in January 2012. The outcomes of the Professional Swine Manager/Technician Certification Program include student access to a comprehensive program delivering quality education in swine production, increased potential for employment opportunities in the pork industry for students, a public address of the shortage of educated, skilled workforce, potential for students to seek a four-year degree in swine science, opportunities/options for community colleges to respond to industry needs, availability of pork education programming across the country and more affordable and accessible swine education.



Steering Committee

Patrick Hosch, Instructor – Ellsworth Community College

Chris Russell, Chief Academic Officer – Ellsworth Community College

Pete Neigebauer, Instructor – South Central Community College

Suzanne Nordblom, Dean of Engineering and Construction –
South Central Community College

Steve Matthis, Instructor – Sampson Community College

William Aiken, College President – Sampson Community College

Margaret Semmer, Dean of Career and Technical Education –
Joliet Junior College

Weldon Slight, Associate District Director / Dean –
Nebraska College of Technical Agriculture

Mike Faga, Producer – Iowa Select Farms

Jodie Harker, Producer – Murphy Brown, LLC

Greg Homan, Instructor – Wright State University

Tom Brotherton, Dean –
Iowa Lakes Community College

Curriculum Committee

Kristin Hammen, Instructor – Iowa Lakes Community College

Jeff Galle, Instructor –
John Wood Community College

Mike Amstutz, Instructor –
Ohio Agriculture Technial Institute

Mike Faga, Producer – Iowa Select Farms

Rich Rourke, Instructor –
Kirkwood Community College

Bill Johnson, Instructor – Joliet Junior College

Dr. Cory Reng, Instructor –
Nebraska College of Technical Agriculture

Curriculum Committee

Patrick Hosch, Instructor –
Ellsworth Community College

Pete Neigebauer, Instructor –
South Central Community College

Steve Matthis, Instructor –
Sampson Community College

Swine Extension/Educators Group

The Swine Extension/Educators Group was formed in about 1995 as an official group of the National Pork Producers Council (NPPC). With the split of the NPPC and the National Pork Board, this group moved to the Education Department of the National Pork Board. With the formation of the USPCE, there was an obvious need to have a high level of interaction with state extension specialists and educators with all the extension and education efforts of the new organization. However, it did not make sense to form an entirely new alliance with this important constituency when one already existed. Therefore, the National Pork Board graciously agreed to allow the USPCE to join with them in planning and hosting all the activities with the extension folks. This has been the case since the USPCE began.

The Swine Extension/Educators Group operates somewhat autonomously in that they annually elect a new Board and a new Chairman. This small group helps the National Pork Board and USPCE with event-planning, which in the past has included a development conference to brainstorm ideas for educational programming and an in-service conference. This was meant to provide information and program aides to the extension/educators.

The meeting held in January of this year was the in-service training meeting and was very well attended, considering the weather conditions. The evaluations of the meeting were generally very good. As part of that program, several of the new and ongoing efforts of the USPCE were reported in detail as case studies.

Because the timing of the development conference was not conducive to providing program ideas to the National Pork Board's strategic plan, a different attempt was made for this next fiscal year. The extension/educators all worked together to come up with proposals to present for Pork Checkoff funding. In addition, conferences will be held later in the fall to provide information to these educators so they have information in time to use it in their state education programming.

Sow Lifetime Productivity Management Guide

The first unit of the *Sow Lifetime Productivity Management Guide*, "Managing Replacement Gilts," is near completion. This portion of the guide provides producers with the most up-to-date scientific information in an educational tool that they can use within their breeding herds. The *Sow Lifetime Productivity Management Guide* is broken into the following five units:

- Managing Replacement Gilts
- Managing Parity 1 – Parity 2 Sows
- Managing the Mature Sow (Parity 3+)
- Housing Options for the Breeding Herd
- Calling of the Breeding Herd

Maintaining the gilt pool represents a large investment for any pork producer; females that stay in the breeding herd longer will allow pork producers to possibly be more profitable. The U.S. Pork Center of Excellence is working hard to secure funding in order to complete, print and distribute the remaining four units of the *Sow Lifetime Productivity Management Guide*.



Grants in Review

Over the past year USPCE has been busy with several grants. In its first year the Secondary-Postsecondary Education Challenge Award (SPECA) has allowed us to begin working on the distance education curriculum, awareness and recruiting materials, assessment tools and training for faculty.

The new U.S. Dept. of Education grant, FIPSE, gives USPCE the ability to build on the SPECA project and simultaneously begin building the certification system as well. This allows for a more flawless integration of all the pieces of this community college level project. National Pork Board holds a sub award on this project. The Swine Science Online project had its original end date on September 14, 2010. However, USPCE has been awarded a no cost extension (NCE) for one year on this grant. While USPCE is still meeting all timelines established in the grant's plan of work, there is still much to be done. To a large degree this additional work pertains to sustainability. Many of these features were not apparent at the time the grant was originally written.

The United Soybean Board grant for the development of the *National Swine Nutrition Guide* (NSNG) is nearing its close on December 31, 2010 as well. Again, USPCE will apply for a NCE to accomplish two tasks. First, there is a need to further develop the Extension involvement in the NSNG. Second, the steering committee believes there is strong need to develop a nutrient excretion module as part of the original Diet Formulation and Evaluation Software. According to Board directives, the USPCE 1) continually pursues grant opportunities that are consistent with the USPCE mission/vision and the industry priorities, 2) consistently implements a communication strategy that targets a broad variety of grant sponsors, and 3) closely manages all grant resources ensuring compliance with sponsor requirements and project goals.

To these ends the USPCE submitted a grant application to the USDA National Institute for Food and Agriculture (NIFA) program in July. While previous grants have focused on education, this grant is a substantial step toward the research and Extension aspects of the USPCE mission. With a budget of \$20K over five years, this grant's focus is climate change mitigation for the Midwest pork industry. This integrated project will manage the collaboration of 44 researchers, educators and Extension specialists from land grant partners and allied industry around the country. It involves 24 sub awards through which research will be conducted and information disseminated to producers, allied industry and policy makers and regulators in a manner most effective for their needs. Another equally important aspect of the grant is the development of standardized Meta analysis and socio-economic analysis tools and the analysis software to assist producers in making informed decisions related to environmental mitigation in their specific operations. The magnitude and specificity of this grant would require hiring an additional staff person at the PhD level with working knowledge of this research area. Dr. Meisinger was assisted in developing this grant by a team of four Agricultural Biosystems engineering researchers, educators and Extension specialists from the Midwest land grant partners whose specialty is swine. USPCE is currently preparing other grant applications also focused on research of and Extension for climate change mitigation tools.

USDA National Institute of Food and Agriculture (NIFA) Grant

With three active grants currently addressing the educational component of its mission/vision, USPCE is ready to address the research component. Since March USPCE staff time has been dedicated to the development of a grant application to the USDA's National Institute of Food and Agriculture (NIFA) program. The result is a major regional, integrated Coordinated Agricultural Project (CAP) grant that seeks to "reduce the atmospheric greenhouse gas (GHG) emissions in swine systems and maximize carbon sequestration potential in agriculture by providing producers and decision makers with new management methods and technologies." A CAP grant is expected to "bring together a multi-state, multi-institutional, and trans-disciplinary team to integrate scientific discoveries and technology with practical application." Proposals were required to include research, education and Extension, and involve multiple investigators, addressing a significant regional issue with respect to GHG mitigation and adaptation.

Using the USPCE "Air and Water Quality Research Priorities" report and the input from the conferences that generated it, Dr. Meisinger pulled together 70 swine specialists from across the country to begin the discussions. A leadership team evolved that included Dr. Meisinger, Dr. Erin Cortus of South Dakota State University, Dr. Larry Jacobson of the University of Minnesota, Dr. Jacek Koziel of Iowa State University, Dr. Allan Stokes of the National Pork Board and Dr. Richard Gates of the University of Illinois/Urbana. This team and the collaborators developed two distinct goals. First, they will develop a sustainable, holistic, multi-disciplinary, system that brings together Engineering, Extension, Animal Science, Economics, Sociology and Agronomic specialists from across the country to collaborate, communicate and coordinate research, education and Extension efforts related to climate change mitigation for the Midwest pork industry. This system will move research from basic research, through pilot scale to full scale. They established an organizational matrix that categorizes research work as pre-excretion, post-excretion or environmental impact and sustainability, and established specific Extension and education efforts at each stage of research.

The second goal is to conduct research and focus Extension and education efforts on specific mitigation strategies aimed at increasing their potential to reduce the use of energy, nitrogen fertilizer and water by at least 10 percent and increase carbon sequestration by at least 15 percent. The research projects designed to meet the goals of this proposal fall into six general categories: air treatment technologies, liquid treatment technologies, building and feed efficiencies, carbon capture, Meta analysis, lifecycle and uncertainty analysis and process-based modeling. They deal with all aspects of the production system. (Figure 1)

An exciting aspect of the USPCE proposal involves a Meta analysis team that will compile a body of current knowledge on mitigation technologies and strategies and then establish standardized measurement and data reporting. The proposal also adds a socio-economic analysis team. This project will utilize the National Pork Board basic discovery research currently under way on process based modeling. These three analysis tools will allow for development of software by which producers can more accurately determine the effectiveness of current mitigation tools in their specific operations and then assess the environmental and financial impact of additional mitigation technologies.

By the time this project was submitted in July it involved 44 researchers, educators and Extension specialists from land grant partners and allied industry, and necessitated establishment of 24 sub awards. Participating in this proposal are Applied Geosystems, Kentucky and North Dakota ARS, Kansas State University, Lincoln University in Missouri, Montana State University, South Dakota State University, Purdue University, University of Illinois/Urbana, North Carolina A&T University, North Dakota State University, Oklahoma State University, Ohio State University, Texas A&M University, University of Kentucky, University of Missouri/Columbia, University of Nebraska/Lincoln, Virginia Tech University, University of Minnesota/St. Paul and Iowa State University. The proposal must pass several levels of scrutiny before it is approved. Final announcement of grantees is expected late in 2010. If awarded, the grant is scheduled to officially begin February 15, 2011.

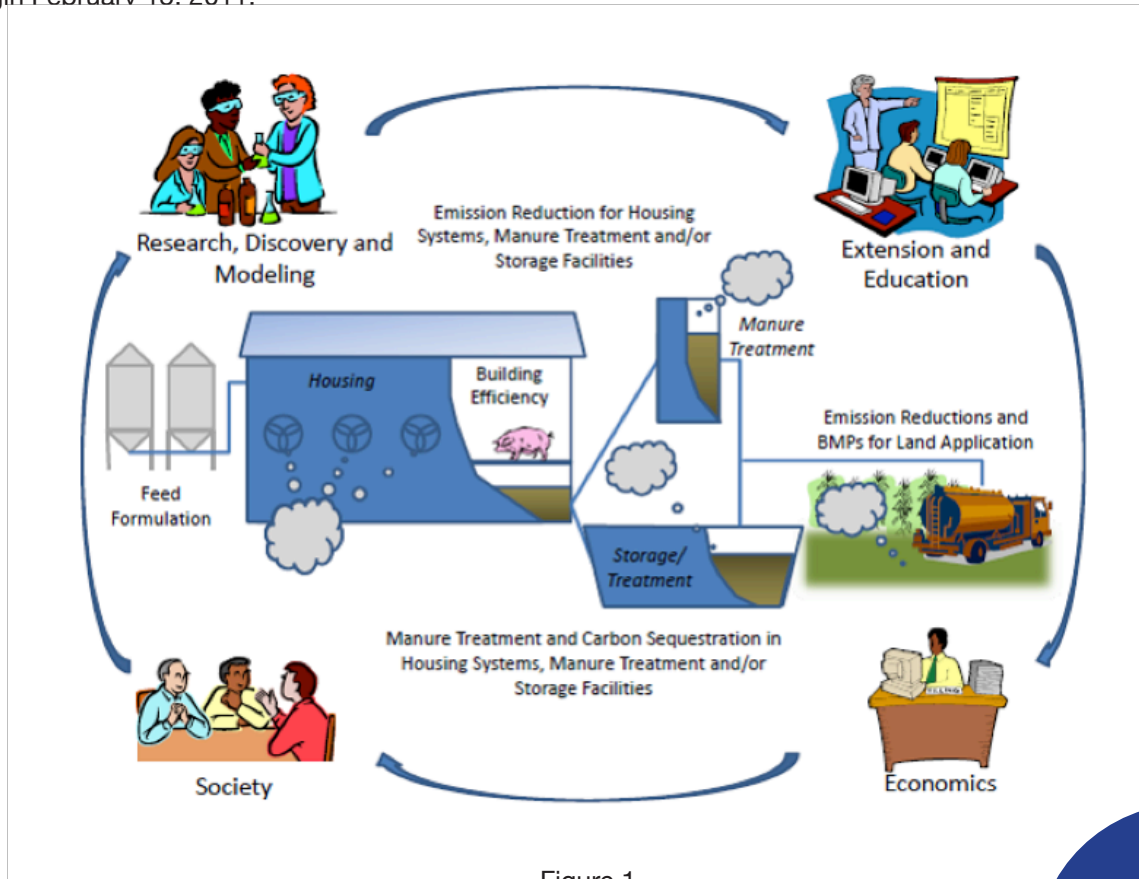


Figure 1

USPCE Partners

Government Sectors



United States Department of Agriculture
National Institute of Food and Agriculture



United States Department of Agriculture
Agricultural Research Service

National Pork Organizations



State Pork Associations



Illinois Pork Producers.
Generations of Commitment.



Land Grant Universities


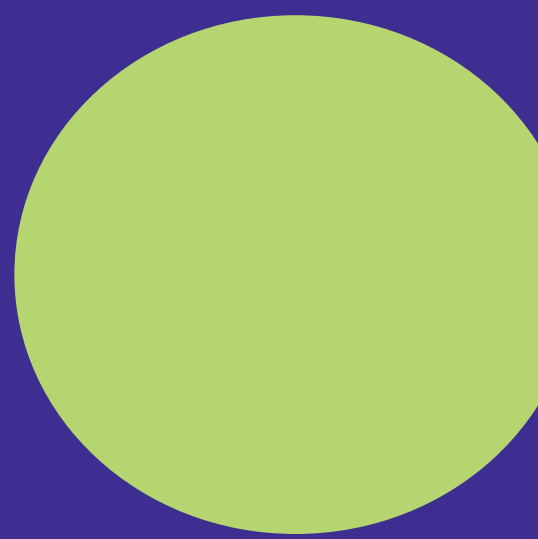


EXTENSION



Virginia Cooperative Extension





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