

2019-20

U.S. Pork Center of Excellence

Impact Report



U.S. Pork Center
of Excellence

Communities of National Cooperation



EDITOR'S MESSAGE

Progress.

It's been a while! You may remember that the last time the U.S. Pork Center of Excellence (USPCE) published an annual report was 2011-12. We're excited to revive our annual Impact Report and to share a glimpse of the many great things that are taking place within the Pork Center!

Just a few of the highlights you'll read more about include:

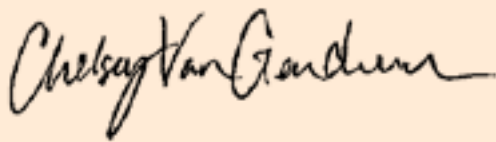
- The development of Destination Pork, a comprehensive high school pork industry curriculum;
- Updates to the Pork Information Gateway made by a group of graduate students and their faculty advisors and funded by USPCE;
- The growth of our flagship program, Swine Science Online, which reaches an ever-wider range of students; and
- The launch of the Professional Swine Manager pilot program with Frank Phillips College in Texas.

While it's important to highlight USPCE's progress, we must also keep looking forward. Over the next year, our goal is to become a recognizable brand across numerous channels and platforms. We encourage all USPCE stakeholders to use our resources and educational information to their full potential. We'll plan to keep sharing successes that illustrate the value of these offerings.

To our contributing funding partners, we can't thank you enough for your support of our mission. Your investment helps us accomplish many important things: online swine education, developing tools for producers, and serving as a valued resource to students, educators, extension and producers. As a non-profit organization, we wouldn't be able to make substantial investments in education and programs without your contributions. These initiatives are vital in developing the next generation of the swine industry, as well as those who continue to use resources produced and supported by USPCE.

To those who collaborate, serve on committees and task forces, instruct courses and help propel our efforts, thank you. Your time, expertise and passion for the swine industry are not just appreciated, but essential to the fulfillment of our mission.

Although 2020 has brought significant change and challenge in many ways, the U.S. Pork Center of Excellence is looking ahead with great optimism and remains eager to continue to provide educational and research opportunities, as well as resources that support our industry.



Chelsey Van Genderen
Program Manager, U.S. Pork Center of Excellence

A large indoor pig farm with many pigs in a pen. The structure has a high, arched metal roof. In the background, there are two large cylindrical water tanks and some greenery outside. The pigs are of various colors, including black, white, and pink.

VISION:

The U.S. Pork Center of Excellence (USPCE) facilitates stakeholder collaboration to address complex problems facing the pork industry and society through integrated education and research.

MISSION:

The USPCE works with the pork industry, post-secondary educators, government and allied industries to develop education and research programs that are delivered by our partner organizations to pork producers.

About the U.S. Pork Center of Excellence

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Chelsey Van Genderen
*Program Manager,
U.S. Pork Center of Excellence*



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*Vice President, Producer
and State Engagement,
National Pork Board*



In Memoriam *Paul Matzat*

Paul Matzat, a luminary and leader of the pork community and former USPCE board member, passed away on August 18, 2020. Respected for his deep knowledge about all aspects of pig farming—from breeding and genetics to nutrition, economics and profitability—Paul brought a wide range of expertise to his role on the USPCE board representing allied industries from 2006 to 2019. He also served as the organization’s treasurer from 2017 until his retirement in late 2019, prompted by his diagnosis of Amyotrophic Lateral Sclerosis (ALS).



2019–20 Funding Partners

Land Grant Universities



National Pork Organizations



Plan of Work

2020-21 Program Budget

Swine Science Online	\$15,000
Professional Swine Manager	\$5,000
Pork Information Gateway	\$65,000
Board, Deans & Partnerships	\$28,000
<i>National Swine Reproduction Guide and National Swine Nutrition Guide</i>	\$2,500
Research Initiatives	\$30,000
Destination Pork	\$60,000

2019-20 Program Expenses

Swine Science Online	\$2,384
Professional Swine Manager	\$500
Pork Information Gateway	\$93,284
Board, Deans & Partnerships	\$968
<i>National Swine Reproduction Guide and National Swine Nutrition Guide</i>	\$998
Research Initiatives	\$10,000
<i>New: High School Curriculum</i>	\$22,736

State Associations



Education

New: Destination Pork

While animal agriculture remains essential, fewer and fewer young people are raised on farms. As a result, many students — even those in rural communities — don't have first-hand exposure to the job and career opportunities the swine industry has to offer. USPCE's new Destination Pork program, launched in September 2020, is a two-part curriculum for high school students that teaches them the basics of pork production and introduces them to potential careers.

PART 1

Pathway to the Industry

The first unit, Pathway to the Industry, is led by high school agriculture teachers and focuses on educating students about pork production. Its lessons include:

- Overview of the Pork Industry
- Pig Anatomy
- The Pork Production Cycle
- Pig Caretaking and Wellbeing
- Pig Behavior
- Pork Reproduction – Breeding and Genetics
- Environmental Stewardship of the Pork Industry

PART 2

Pathway to Your Future

The second part, Pathway to Your Future, is a series of online independent study modules that introduce participants to the wide variety of careers available. Topics include:

- Value of the Pork Industry
- Challenging Misconceptions of the Pork Industry
- The People Who Work in the Pork Industry
- Personal Destination Mapping within the Pork Industry

Learn more about the program at:
usporkcenter.org/destination-pork

Here's what high school ag instructor's have to say about Destination Pork:

“The program offers great content and activities that are ‘age-appropriate and sound educationally.’”

“The modules are adaptable for small class sizes, engaging for students and purposeful.”

“What we need more of in ag ed! It is so hard to find short, industry relevant video clips and these are great!”



Professional Swine Manager

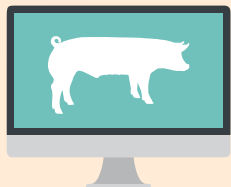
USPCE's Professional Swine Manager (PSM) program, developed in 2013 in partnership with the National Pork Board, continues to offer hands-on technical education materials via a community college curriculum. In 2019, NPB granted USPCE exclusive rights to this program.

This year, a pilot program was introduced at Frank Phillips College in Borger, Texas, where instructors from the college worked to connect their students, high school students, and pork production companies. The program, designed as a model to be replicated in other areas across the country, culminates with a short internship at one of those companies — a hands-on, real-world learning opportunity for the students. It also serves as a recruitment tool for barn employees.

With a blend of online classes and hands-on learning, students can gain the skills needed to excel as farm managers and can ultimately become a Certified Swine Manager. The focus on science and knowledge is designed to help farm managers make better decisions.

Courses, which qualify as credit towards an associate degree, cover all aspects of pork production and management responsibilities, including employer/employee issues, facility maintenance, swine record systems, breeding stock management and nursery and finishing management.

Pork production companies can work with USPCE to explore partnering with area community colleges to add PSM courses to their curriculum. Farms can host students for a one-week on-farm learning opportunity, offer longer internships, take part in job fairs on campus or have farm managers serve as guest speakers for the program. Farms can utilize PSM to recruit high school or community college students that have taken the courses. Current employees may also participate in the PSM program to enhance their skills.



**PROFESSIONAL
SWINE
MANAGER**



Education

Swine Science Online

Any student across the country can benefit from the “best of the best” swine education when enrolling in Swine Science Online. This educational training program, geared to future pork professionals, uses distance learning through AG*IDEA, a national consortium of universities that offer programs and courses in agriculture disciplines. Swine Science Online teaches the scientific principles and management skills involved in efficient and sustainable pork production operations.

The comprehensive swine-focused suite of predominantly one-credit courses ranges from reproduction to environment management, nutrition to feed mill management, pork quality to communications, and many more topics. Iowa State University, North Carolina State University, South Dakota State University, the University of Missouri, and the University of Nebraska-Lincoln offer the courses. Students, both traditional and non-traditional, can take the courses no matter where they are enrolled.

The goal is to inspire the students’ career interest through academic exercise and application. Not only is it a valuable continuing education opportunity for students, but also ultimately benefits producers by increasing the knowledge level of the employee candidate pool.

On average, it takes students 19 months to complete the 12-credit program.



In the past 5 years, there have been

495 students

enrolled in the program.

Of those students,

40.8% are male **50.1%** are female **9.3%** did not report gender

Age of enrolled students,

18 youngest **23** mean age **68** oldest

Courses offered include:

- ✓ **Advanced Swine Science**, Dr. Bob Goodband, Kansas State University
- ✓ **Basic Swine Science**, Dr. Laura Greiner, Iowa State University and Dr. Steve Moeller, Ohio State University
- ✓ **Contemporary Issues in the Swine Industry**, Dr. Jodi Sterle, Iowa State University
- ✓ **Employee Management**, Dr. Cindy Wood, Virginia Tech
- ✓ **Farrowing Management**, Dr. Tim Safranski, University of Missouri and Dr. Kara Stewart, Purdue University
- ✓ **Feed Mill Management**, Dr. Charles Stark, Kansas State University
- ✓ **Internship in the Swine Industry**, Dr. Cindy Wood, Virginia Tech
- ✓ **Marketing & Risk in the Swine Industry**, Dr. Kelly Zering, North Carolina State University
- ✓ **Nursery and Finishing Management**, Dr. Laura Greiner, Iowa State University
- ✓ **Pork Product Quality and Safety**, Dr. Dana Hanson, North Carolina State University
- ✓ **Swine Breeding and Gestation Management**, Dr. Billy Flowers, North Carolina State University
- ✓ **Swine Environment Management**, Dr. Jay Harmon, Iowa State University
- ✓ **Swine Health and Biosecurity**, Dr. Locke Karriker and Kristin Skoland, Iowa State University
- ✓ **Swine Manure and Nutrient Management**, Dr. Dan Andersen, Iowa State University
- ✓ **Swine Nutrition**, Dr. Bob Thaler, South Dakota State University





A comprehensive program that accelerates careers

For Kristin Leipold, the Swine Science Online program not only accelerated her training, but gave her broader and deeper perspective when she accepted her position in communications at Seaboard Foods. Building on her degree in communications, her swine-specific education through Swine Science Online and an internship with Christiansen Farms offered her a unique skill set.

“Swine Science Online courses allowed me to better understand what barn workers do on a daily basis, in addition to learning about employee management, paperwork and common industry practices.”

– Kristin Leipold, Seaboard Foods

With Leipold’s role in both internal and external communications, Seaboard didn’t have to go through an extra phase of teaching her about production because of her learning through Swine Science Online.

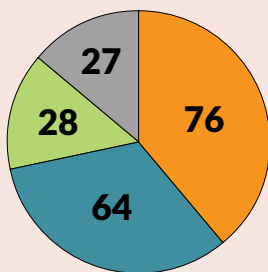
As for the program itself, Allie Haynie, who also holds a Swine Science Online certificate, said it was not only informative, but enjoyable. “Everyone was able to ask questions, which allowed it to be a comfortable learning experience,” she said. The beauty of this program, according to Leipold, is that “it combines very credible professors from universities that are known for swine science programs—all while giving you a different perspective. “This is by far the most comprehensive experience I have gained so far in the swine industry,” she said.



Kristin Leipold,
Seaboard Foods

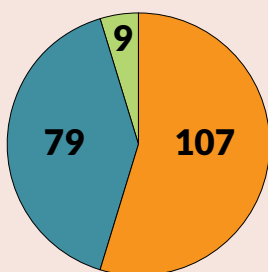
Fiscal 2020 credit hours generated by host institutions:

- Iowa State University
- South Dakota State University
- University of Missouri
- University of Nebraska-Lincoln



Fiscal 2020 credit hours generated by term:

- Spring term
- Fall term
- Summer term



Swine Science Online Industry Certificate

Once students complete 12 hours of required and elective courses, they’re eligible to apply for a Swine Science Online industry certificate. Those who become certified have the knowledge and credibility to succeed in numerous roles throughout the swine industry.

To earn the certificate, students must complete a series of required courses for 7 credits:

- Basic Swine Science,
- Employee Management for the Swine Industry,
- Farrowing Management,
- Swine Breeding and Gestation Management,
- Swine Health and Biosecurity, and
- Swine Nursery and Finishing Management.

In addition, they must complete 5 credits of elective courses, including:

- Advanced Swine Science to Pork Export Markets,
- Marketing and Risk Management in the Pork Industry,
- Swine Feed Mill Management,
- and many more.

Also required is a competency report, where students explain their production experiences — either in lab courses or on-farm experiences — that demonstrate their skills and proficiencies.

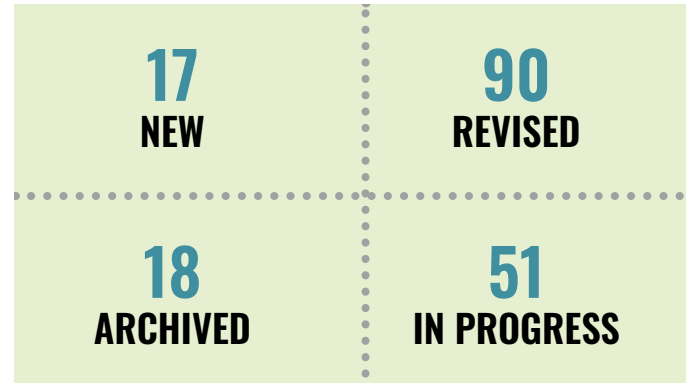
Resources

Pork Information Gateway

The Pork Information Gateway (PIG) is a free online resource library for educators, extension, small- to mid-size farms, alternative production and youth. From July 1, 2019 – June 30, 2020, more than a quarter million users visited 474,179 of PIG's pages. An ever-expanding collection of easy-to-access resources at PorkGateway.org includes fact sheets, videos, how-to guides, and more. Topics encompass eight key areas and are written and reviewed by academia and industry experts. Resources cover all types of production, including commercial, alternative and showpig/youth.

One of USPCE's biggest annual investments is funding four graduate/post-doctoral students and their faculty mentors to serve as editors for the PIG. Each editor received a \$20,000 stipend to update the platform. Beyond investing in these students and nurturing their connections within the industry, they develop skills for their future careers and the pork industry more broadly. Early next spring, a Request for Proposals will be available to select the next group of student editors and mentors.

PIG 2019-20 FACT SHEET UPDATES



Spotlight on Alternative Pork Production

Alternative pork production is highlighted in a new series of videos developed in conjunction with university experts that are housed on PIG. They include:

- How diseases can be transferred to the farm
 - Authors: Dave Stender and Kristin Olsen, Iowa State University
- Keeping disease off the farm
 - Authors: Dave Stender and Kristin Olsen, Iowa State University
- Sourcing feed
 - Author: Jon Holt, North Carolina State University



Clip: How diseases can be transferred to the farm



2019-20 PIG Student Editors

Iowa State University – Swine Medicine Education Center

Pork Information Gateway Area of Focus:
Swine Health (Year 1), Production Management & Behavior/Welfare (Year 2)



Student:
Megan Nickel,
Post-Doctoral Research
Associate



Faculty Mentor:
Locke Karriker,
DVM, MS, DACVPM

California Polytechnic State University

Pork Information Gateway Area of Focus:
Youth and Niche, Pork Quality and Safety



Student:
Morgan Wonderly, Masters of
Science student



Faculty Mentor:
Dr. Siroj Pokharel, PhD,
Assistant Professor, Meat Food Safety,
Animal Science Department

North Carolina State University

Pork Information Gateway Area of Focus:
Production Management and Behavior/Welfare,
Breeding, Genetics, Reproduction and Nutrition



Student:
Victoria Abner,
Masters of Science student



Faculty Mentor:
Jonathan Holt, PhD,
Assistant Professor and
Extension Swine Specialist

Iowa State University

Pork Information Gateway Area of Focus: Facilities,
Equipment and Environmental Stewardship



Student:
Benjamin Smith,
Doctoral Student, Graduate
Research Assistant, Agricultural
and Biosystems Engineering



Faculty Mentor:
Brett Ramirez, PhD, Assistant
Professor, Agricultural and
Biosystems Engineering

Resources

Swine Research and Education Experience

Encouraging students early in their college experience to consider swine related research or educational careers is the goal of the Swine Research and Education Experience (SREE). Under the program, undergraduates and veterinary students in applicable discipline areas are eligible to apply for a mentored project that will allow them to gain exposure to the pork industry and pork science, develop problem-solving skills and garner personal experience.

In 2019-20, a total of six projects were funded by USPCE and the National Pork Board, with two of those projects funded directly by the Pork Center at \$5,000 each.

- “Evaluation of changes in heat production of lactating sows with use of sow cooling pads”
 - Principal instructor:
Allan Schinckel, Purdue University
- “Effect of light on farrowing performance and behavior in sows”
 - Principal instructor:
Drew Lugar, Illinois State University
- “Effect of corn particle size on gestating sow fecal microbiome and volatile fatty acid production”
 - Principal instructor:
Chad Paulk, Kansas State University

- “Training undergraduates in swine research through the evaluation of diet acidifiers in nursery pig diets”
 - Principal instructor:
Cassandra Jones, Kansas State University
- “Effect of adding coconut oil to sow diets during late gestation on piglet survival”
 - Principal instructor:
Mark Knauer, North Carolina State University
- “Late suckling supplemental iron dose to improve post wean performance in pigs”
 - Principal instructor:
Crystal Levesque, South Dakota State University

Going forward, SREE funding will fall entirely under the USPCE umbrella. The board of directors has authorized funding up to six \$5,000 awards annually. SREE grants will be awarded to universities that are funding partners of the Pork Center.

Learn more at: usporkcenter.org/sree



National Swine Reproduction Guide

Developed by swine reproduction physiologists and veterinarians, the National Swine Reproduction guide is an online troubleshooting and management tool designed for all producers to use, regardless of the size of their operation. Built as a decision tree, a sequence of steps and a robust search function guide users to solutions for the problem at hand, from replacement gilts or sows to boars and semen quality. More than 1,000 fact sheets and reference materials are included in the comprehensive tool that is used both on the farm and as a resource for consulting vets.

NATIONAL SWINE REPRODUCTION GUIDE

A TROUBLESHOOTING AND MANAGEMENT GUIDE

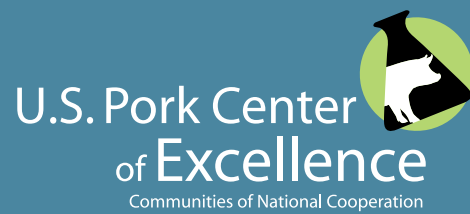
National Swine Nutrition Guide

Producers, particularly those who may not have their own nutritionist on hand, find help in the USPCE's National Swine Nutrition Guide. Its goal is to allow producers to formulate diets on a least-cost basis and evaluate the nutritional adequacy of existing diets. Several components are available: a textbook that includes a total of 35 nutrition fact sheets with nutrient recommendations and feeding guidelines, the Recommended Formulation Booklet containing nutrient recommendation tables, and a Diet Formulation and Evaluation CD.



National Swine
Nutrition Guide





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