

U.S. Pork Center of Excellence

IMPACT REPORT

JULY 1, 2022 - JUNE 30, 2023



U.S. Pork Center
of Excellence
Communities of National Cooperation

CHAIRMAN'S MESSAGE

We call this an Impact Report because the U.S. Pork Center of Excellence's mission revolves around making a positive impact for the U.S. pork industry. USPCE develops talent, people with the skills and interest to advance the industry, by resourcing their growth in every sector of the pork production business.

In 2023, USPCE continued with our key programs and saw a change in leadership. We want to thank Chelsey Van Genderen for her contributions to our mission. We wish her well as she continues in the industry in a new position with the National Pork Board.

USPCE's new Executive Director is Bill Winkelman, a highly accomplished pork industry veteran. We are beyond fortunate to have Bill's insight and experience to guide us as we continue to assess and expand our efforts on behalf of the U.S. pork industry. The leadership transition was seamless and progress continues.

In this Impact Report, we have included several program highlights.

Destination Pork high school agriculture curriculum introduces students to the pork industry and invites them to explore career opportunities they might not have previously been aware of.

Swine Science Online, our comprehensive distance learning program, allows university students and industry professionals to complete virtual courses offered by renowned instructors in swine science.

The **Pork Information Gateway**, resourced by student editors, develops up-to-date resources used by educators, Extension, small- to mid-size farms, alternative producers, and youth. At the same time, the PIG provides skills editors take with them in their careers.

The **Swine Research and Education Experience** enables students to complete industry-focused research topics early in their college careers to expand their knowledge base and strengthen their network in—and connection to—the industry.

USPCE's success depends on volunteers who participate in committees and working groups, instruct courses, collaborate with us and otherwise support our efforts. We are grateful to all who assist us in accomplishing our mission.

The USPCE Board appreciates our Founding Members' investment in our programs. Your contributions enable USPCE, as a nonprofit organization, to develop the next generation of swine industry leaders and those who rely on USPCE-produced resources in their work.



DAN GROOMS

CHAIR U.S. Pork Center of Excellence Board of Directors

DEAN Iowa State University College of Veterinary Medicine





SCAN HERE TO
LEARN MORE!



ABOUT THE U.S. PORK CENTER OF EXCELLENCE

AT A GLANCE

For the past 18 years, U.S. Pork Center of Excellence has aided the industry with means to collaborate and address complex problems. The financial support from the organization's key stakeholders fuels the 501(c)(3) nonprofit to expose future talent and professionals to industry assets. USPCE is honored to coordinate with dedicated individuals who believe in our programs.

VISION

USPCE facilitates stakeholder collaboration to address complex problems facing the pork industry and society through integrated education and research.

MISSION

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.



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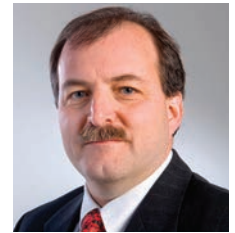
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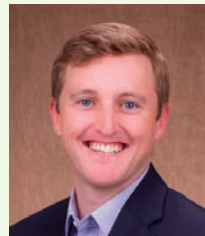


Bill Luckey
Bill Luckey's Farm



Randy Brown
Maken Bacon Farm

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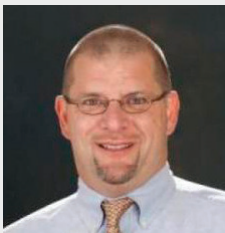


Jim Compart
Compart's Boar
Store, Inc.



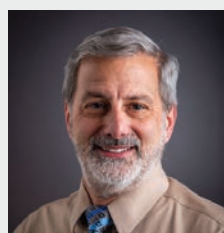
Duane Stateler
Stateler Family Farm

EX-OFFICIO



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USDA ARS National Program Leader,
Food Animal Production



REPRESENTING UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

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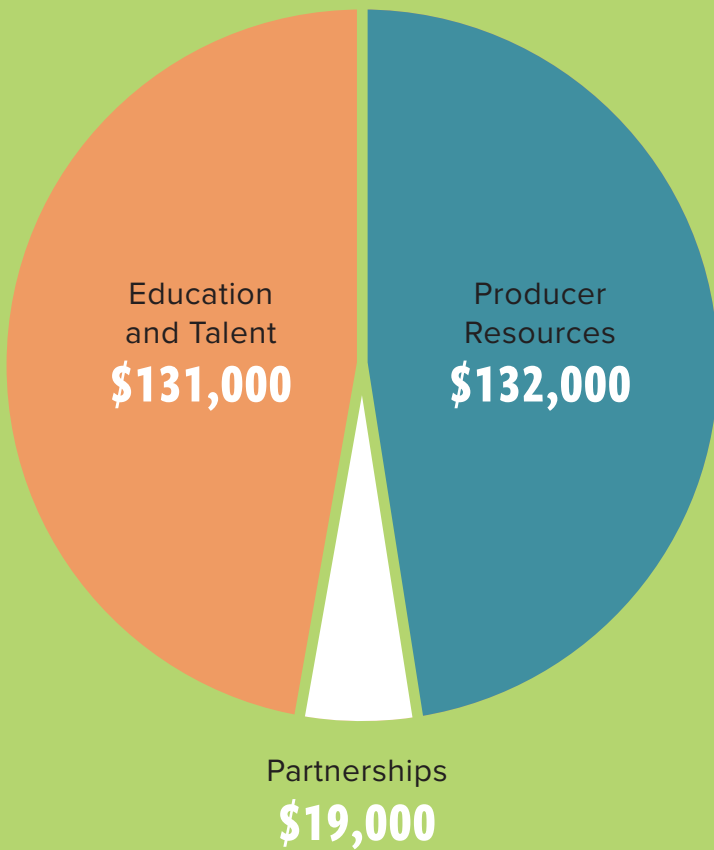


NATIONAL PORK ORGANIZATIONS



PLAN OF WORK

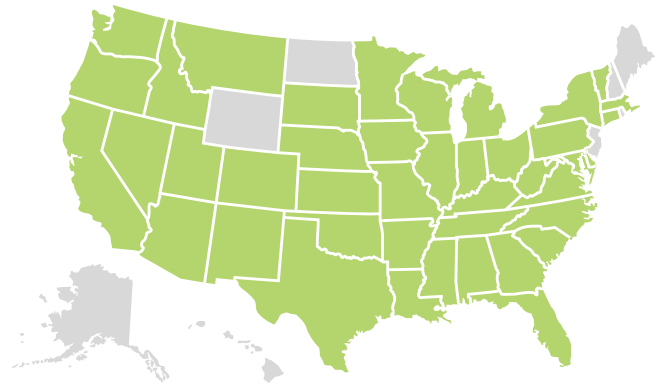
2023-2024 PROGRAM BUDGET



2022-2023 PROGRAM EXPENSES

Education and Talent	\$87,720
Producer Resources.....	\$58,000
Partnerships.....	\$24,000

DESTINATION PORK



561 CURRICULUM DOWNLOADS
across 41 states

91% of users are directly involved in education or extension*

8% of users are directly involved in the pork industry*

** data accumulated to date*





DESTINATION PORK

A teacher opens the door for students to welcome potential, and students embrace education. USPCE's two-part Destination Pork curriculum introduces high school students to the basics of pork production and potential careers.

Led by agriculture teachers, the first unit, **Pathway to the Industry**, uncovers basic industry components, including:

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

The second unit, **Pathway to Your Future**, is a series of online independent study modules introducing students 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 by visiting usporkcenter.org/destination-pork.

DESTINATION PORK PROVIDES RESOURCES FOR AG EDUCATORS AND EQUIPS STUDENTS

Curriculum acquaints high school students with pork industry insight, jobs, and career opportunities

Offered by the U.S. Pork Center of Excellence, Destination Pork high school curriculum acquaints students with pork industry information, jobs, and career opportunities. Available free of charge to ag educators, the curriculum has two pathways – Pathway to the Industry and Pathway to Your Future.



Streator Township High School ag educator Riley Hintzsche (photo provided by Riley Hintzsche)

Currently, the U.S. Pork Center of Excellence is focused on talent development for the industry. Education programs like Destination Pork identify and train new and existing talent to fill the pipeline at all levels, including production, research, and education, including Extension.

Riley Hintzsche, ag educator and award-winning FFA Chapter advisor at Streator (IL) Township High School uses Destination Pork with his students. “It provides an opportunity for kids to see what they do and don’t know about the pork industry and take a look at their future, really looking at the industry and what is possible,” he remarked. And he appreciates the two pathways Destination Pork offers.

From a practical point of view, Hintzsche also appreciates the curriculum format, including PowerPoint presentations, that are not too long which allows students to get involved and engaged in the lessons. The interactive elements also address student learning styles, providing further value.

“The career aspects and highlights in Destination Pork are important to me,” Hintzsche stated. “There’s a huge gap in understanding with students wanting to be involved in pork production. Anytime there’s opportunity to show what life is really like outside our school, those highlights make a difference for our students, illustrating what they can do and sink their teeth into.”

Acknowledging a sometimes-negative public connotation with farrowing houses and pork production in general, Hintzsche says students often come into ag ed classes with their own negative perception. Streator FFA farrows two sows each year in their greenhouse, giving students irreplaceable experience with the process. “After four years watching a pig farrow, understanding almost every piglet survived the birthing and weaning process, and gaining a better understanding of modern agriculture including farrowing crates, medication, and antibiotics, perceptions change,” he explained.

Hintzsche believes the hands-on experience with farrowing along with Destination Pork’s curriculum are a great combination for students and for him as their ag educator. “When I take a look at Destination Pork, I see the opportunity it provides for students as a really great access point to understanding pork production without me putting in an overwhelming amount of effort. I can work with students to understand each corner and aspect of the industry.” The life of an ag teacher is constantly busy so for Hintzsche, Destination Pork is something quick, accessible, and the curriculum allows students to excel in the classroom.

DESTINATION PORK PATHWAYS

Pathway to the Industry curriculum is an instructor-led experience designed for an Introduction to Agriculture course. Content and objectives are aligned with AFNR (Agriculture, Food, and Natural Resources) standards and focus on pork production. Pathway to the Industry features a seven-lesson unit broken into 10 45-minute sessions. Topics include an overview of the pork industry, pig anatomy, the pork production cycle, pig caretaking and well-being, pig behavior, pork reproduction (breeding and genetics), and environmental stewardship of the pork industry.

Pathway to the Future curriculum, a student-led experience designed for independent study, uses an online module. Students identify and initiate paths to a career in the pork industry. Content focuses on career exploration and individual competencies and includes a series of independent courses consisting of four 30-minute sessions. Topics covered in the independent courses are value of the pork industry, challenging misconceptions of the pork industry, the people who work in the pork industry, and personal destination mapping within the pork industry. Additional experiential activities, which are optional elements of the Pathway to the Future module, revolve around four 60-to-90-minute sessions.

Ag educators are welcome to download the Destination Pork curriculum from the U.S. Pork Center of Excellence website for review and implementation in their classrooms.

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*Streator Township High School ag students farrow two sows each year in the school's greenhouse
(photo provided by Riley Hintzsche)*



SWINE RESEARCH AND EDUCATION EXPERIENCE

Developing a talent pipeline is a priority for USPCE, including introducing students to careers in the pork industry and cultivating their interest in research. Undergraduate and veterinary students may apply for funding for research projects in applicable areas through the Swine Research and Education Experience (SREE) program. Beyond research outcomes, the program's value lies in building students' connection to, and careers within, the industry.

The value of SREE is exposure to new aspects of the industry. University professors and researchers can apply and recommend students for future programming.

NEW SREE PROJECTS

On-Farm Rapid Test to Assess Immunological Health of Young Pigs

Principal Instructor: [Dr. Crystal Levesque](#), associate professor, [South Dakota State University](#)

Many animal science students do not come from a rural or livestock background thus training includes aspects of research methodologies, as well as experience with commercially-relevant daily pig care, exposure to individuals actively involved in the swine industry and potential job opportunities; training in technology transfer methods for dissemination of research in a manner suitable for diverse audiences.

The Impact of a Multi-Enzyme Supplement on Dietary Energy in Pigs

Principal Instructor: [Dr. Eric Weaver](#), assistant professor, [South Dakota State University](#)

Students will gain the ability to conduct a nutrition research trial, better understanding of nutritional principles as well as practice critical thinking skills and analysis while also developing relationships with swine industry along with communication skills.

Adapting Secure Pork Supply Biosecurity Plans for the Show Pig Industry to Best Prepare for Foreign Animal Diseases

Principal Instructor: [Dr. Andreia Goncalves Arruda](#), assistant professor, [The Ohio State University](#)

Students will learn and summarize the minimum requirements of a biosecurity plan, focusing on biosecurity priorities/requirements for the show pig industry (which is mainly composed of small producers) through organization of meetings with animal health officials (Department of Agriculture/state veterinarians/USDA) from Ohio and neighboring states. The process will educate individuals who are part of the show pig industry about the importance of biosecurity plans as well as create materials and deliver hands-on sessions to guide members of the show pig industry through the creation of biosecurity plans including site maps.

Educating English- and Spanish-Speaking Swine Farm Workers on How to Collect, Handle and Package Diagnostic Samples

Principal Instructor: [Dr. Andreia Goncalves Arruda](#), assistant professor, [The Ohio State University](#)

Project will develop educational materials to guide swine farm employees on sample collection, handling and packaging. Learning will enable education swine farm employees offering sessions seminars in both Spanish and English to better facilitate knowledge transfer in swine farms and provide ability to assess the impact of the outreach seminar and educational materials through participant surveys and diagnostic laboratory feedback.

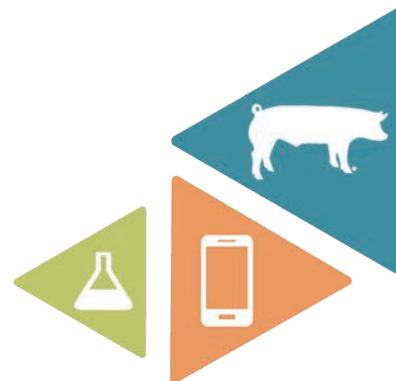
Developing Ventilation Teaching Tools for Swine Producers

Principal Instructor: [Dr. Suzanna M. Leonard](#), assistant professor and Extension specialist, [North Carolina State University](#)

The overall goal of this project is to create a mechanically ventilated pig barn model for education and Extension programs. Specific objectives are to build two bench-top scale pig barn models, one with natural ventilation and one with mechanical ventilation as well as testing performance to ensure the model's ventilation system operates as expected. Students will present research and models at a stakeholder workshop and an academic poster symposium.

Visit usporkcenter.org for more information

PORK INFORMATION GATEWAY OPENS DOOR FOR INFORMATION AND ACHIEVEMENT



At this virtual library, you won't find librarians but instead editors whose roles include editing, of course, as well as coordination and content creation in eight pork-production categories. The Pork Information Gateway, known by the acronym PIG, is a free, web-based library for the U.S. pork industry founded and managed by the U.S. Pork Center of Excellence. The library provides fact sheets, how-to guides, videos, and other resources for pork producers.

Maintaining those resources are graduate or post-doctoral student editors who serve for one year with a faculty mentor/supervisor, assigned to a specific library category, receiving a \$20,000 award for their work. Dr. Gabi Doughan, a Post-Doctoral Research Associate with the Swine Medicine Education Center at Iowa State University, and Dr. Jorge Perez Palencia, a Research Associate (Monogastric Nutrition) in the Department of Animal Science at South Dakota State University, recently completed their PIG editor roles. Dr. Doughan was assigned to the swine health section and Dr. Palencia worked in the business management/human resources/worker health and safety arena. Interestingly, neither editor



SWINE HEALTH: DR. GABI DOUGHAN

(Iowa State University Swine Medicine Education Center)

Gabi Doughan has a unique background in the swine industry. Growing up in the suburbs, Gabi had zero interest in pigs until she interned with the Swine Medicine Center, and the trajectory of her career goals pivoted and her passion grew. Gabi found a position as a work study student, which led her to hear about the Pork Information Gateway (PIG) program. Through downloading and compiling the resources through PIG, Gabi has developed and grown her project management skills by working through the review process, positioning new exposure to information in the swine industry.

“I have really enjoyed getting to network with all the authors. This has allowed me to work with experts and translate information into something that is student and producer friendly.”

This program will continue to give Gabi first-hand experience with her newly found passion for the swine industry not only now in her career, but for many years ahead.

“The networking, reviewing, working through expert information and digesting that to make it sound appealing are all part of the skillsets I will apply in my career path.”

was assigned a section correlating with their focus areas as post-graduate students.

Dr. Doughan focused her post-doctoral research on population sciences and animal health, specifically on water, which is not part of PIG's swine health section. Yet, due to being part of the Swine Medicine Education Center which does include swine health expertise, it all worked well and her exposure to swine health-related topics grew. Dr. Doughan's faculty advisor, Dr. Locke Karriker, is the director of the Swine Medicine Education Center. "We're both veterinarians and the PIG editor responsibilities fit within Center's area of focus and education is a big part of what we do, so it fit in nicely with our mission," Dr. Doughan explained.

"This is an opportunity to take fairly complex information and prepare it for a different target audience than we typically work with," Dr. Karriker observed. "We want to support the Pork Information Gateway and play a role in helping improve and expand something valuable."

Dr. Palencia's post-graduate study focus on swine nutrition differed from the PIG editor responsibilities he was given in business management/human resources/worker health and safety arena but he appreciated the exposure he gained in these topic areas. "I could see it was a good opportunity to learn and expand my knowledge about the swine

industry," he remarked. In addition, as a native of Colombia, Dr. Palencia offered something new for the Gateway, the ability to translate some resources for those Spanish speakers working in the pork industry who don't understand English.

"Dr. Palencia is a native Spanish speaker and I am aware that one of the challenges experienced in commercial pig farms is language communication. Many of the barn workers are similarly native Spanish speakers and while they have some understanding of English, the possibility of reading educational material in their native language has considerable value for the workers and the production systems that employ these workers, but also increases the potential for improved production of pork," shared Dr. Crystal Levesque, Associate Professor, Department of Animal Sciences, South Dakota State University. Dr. Levesque served as Dr. Palencia's faculty advisor for his PIG editor role.

Translation of a different kind also occupied Dr. Palencia's time as PIG editor. "I am doing research in swine nutrition and always talk about scientific terms, that language learned in the environment of research," he stated. "But it's a different language we need to use with producers. That ability to translate science into a form those people on the farm can understand was part of my challenge and something I learned here. I was well-related with



BUSINESS MANAGEMENT, HUMAN RESOURCES, WORKER HEALTH & SAFETY: DR. JORGE PEREZ-PELENCIA

(South Dakota State University)

Born and raised in Colombia, Dr. Jorge Perez-Pelencia received his bachelor's degree in animal science, and then moved to Brazil where he received his Ph.D. Although Jorge did not have a strong swine background, he found his passion during a summer internship in swine nutrition. He traveled north to South Dakota where he is currently becoming a postdoctoral researcher at South Dakota State University in

Brookings, South Dakota. Jorge has already spent a year in the PIG program, and this year is helping bring a new communication aspect.

"Through my time in the United States, I have noticed there is a strong communication barrier in the swine industry which creates a challenge for non-English speaking or English as a second language employees and producers," he explains.

Through his experience as an editor, he created a proposal for several articles to be bilingual, since he can speak Spanish, English and Portuguese. He is currently working on translating these research articles to Spanish.

scientific terms to communicate my designs, but I know producers don't care much about that. One focus of our PIG editor training was how we can better communicate things to producers who work on farms. Now I have that skill."

Dr. Levesque reflected, "This program is another opportunity for these upcoming leaders to learn to communicate science and education material across of range of topics as well as to a different target audience than they do within a typical graduate program."

Updating documents in the PIG library, soliciting new content as well as updates, and coordinating peer reviews all fueled an additional benefit of serving as an editor in both project management and networking. "I didn't really think of this as a networking opportunity, but it definitely was," said Dr. Doughan. "It was reaching out to subject matter experts, reading about their areas of expertise, then getting to meet those people both via email and in person at conferences was beneficial to me." She also counts work with U.S. Pork Center of Excellence staff Bill Winkelman and Chelsey VanGenderen as advantageous.

As she anticipates next steps in her career, Dr. Doughan appreciates the project management aspect of her PIG editor experience. "There are a lot of moving parts, keeping track of where different fact sheets and other resources are, tracking and maintaining deadlines. This is a useful process to learn early on; graduate students or post docs will find it helpful," she commented.

The eight PIG editor categories are:


- ▶ Production and Management Systems along with Animal Behavior and Welfare
- ▶ Business Management along with Human Resources and Worker Health and Safety
- ▶ Swine Health
- ▶ Facilities and Equipment along with Environmental Stewardship
- ▶ Breeding and Genetics along with Nutrition and Reproduction
- ▶ Marketing as well as Statistics

- ▶ Pork Quality and Pork Safety
- ▶ Youth Projects and Small/Beginning Producers (alternative/niche production)

The U.S. Pork Center of Excellence works with up to four graduate/post-doctoral students. The expectation is that the faculty mentor/supervisor will oversee student work before final submission to the Pork Information Gateway. Each \$20,000 award is to be used by a faculty mentor/supervisor to help support a graduate student or post-doctoral student. The funds are renewable for an additional year upon satisfactory progress.

Both Drs. Doughan and Palencia recommend the opportunity to other graduate/post-doc students. "This is a really good opportunity for students to really get to network and meet people," Dr. Doughan said. "We presented at a Swine Educators and Outreach conference which was an opportunity to network with other educators. And it was also good to attend and show case what the Pork Information Gateway is capable of and resources it provides."

Dr. Palencia is equally as encouraging. "Doing research with nutrition and doing things with the Pork Information Gateway reflect my passion to help support the swine industry to get better and improve," he commented. As he works with students at South Dakota State University, Dr. Palencia hopes to apply to the U.S. Pork Center of Excellence to be a faculty advisor for one of his students who might serve as an editor themselves.

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PIG LIBRARY ONLINE USERS
Average 27,400 per Month

SWINE SCIENCE ONLINE

Swine Science Online (SSO) is a comprehensive university distance learning program teaching the scientific principles and management skills involved in efficient and sustainable pork production operations.

The goal of SSO is to use academic exercise and application to inspire students' career interest. It's an affordable continuing education undertaking for them, while ultimately benefiting producers by enhancing the knowledge base of the talent pool. Students—both traditional and non-traditional—can participate by enrolling in one of the five universities as a non-degree seeking student and taking the distance-learning courses.



PARTICIPATING UNIVERSITIES

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY



UNIVERSITY OF
Nebraska
Lincoln

NC STATE UNIVERSITY



COURSES OFFERED

BASIC SWINE SCIENCE

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Iowa State University

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Iowa State University

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Dr. Cindy Wood,
Virginia Tech

FARROWING MANAGEMENT

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University of Missouri and

FEED MILL MANAGEMENT

Dr. Charles Stark,
Kansas State University

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Virginia Tech

NURSERY AND FINISHING MANAGEMENT

Dr. Laura Greiner,
Iowa 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

SWINE SCIENCE ONLINE BY THE NUMBERS

23 MONTHS

average amount of time for students
to complete the certificate

**203 CREDIT HOURS
EARNED**

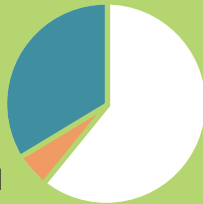
in fiscal 2023

STUDENT DEMOGRAPHICS

34.4% Female

62.4% Male

3.2% Not Reported



CREDIT HOURS EARNED PER HOST INSTITUTION

78 South Dakota State University

30 Iowa State University

31 University of Nebraska-Lincoln

59 University of Missouri

5 North Carolina State University

**ACTIVE STUDENTS'
MEAN AGE 27**

