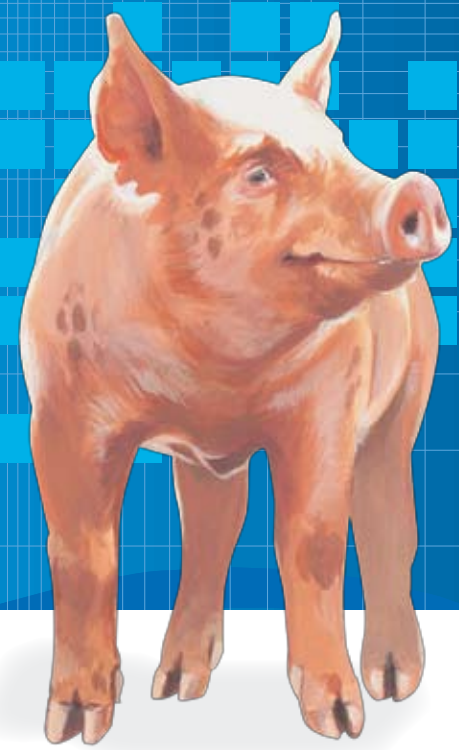
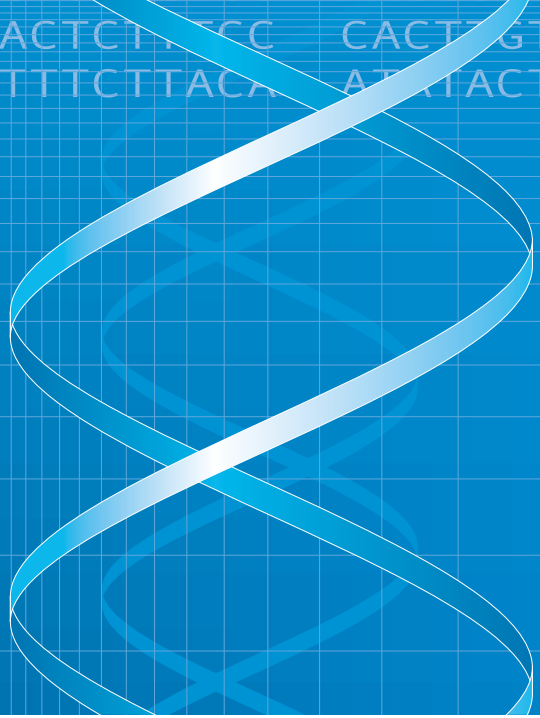


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pork[⚡]
checkoff® **Science and Technology Department**



Pork Checkoff

The National Pork Checkoff Board harnesses the resources of all producers to capture opportunity, address challenges and satisfy customers.

More information about the National Pork Checkoff Board can be found online at pork.org or by calling the Pork Checkoff Service Center at (800) 456-PORK.

Science and Technology department

The Pork Checkoff's science and technology department's mission is to provide the scientific support for identifying and addressing issues affecting the health, safety, performance, environment and quality of the pork industry's animals, products and people.

The department receives direction for its activities and programs from committees formed of producers with different sizes and types of operations. Under the oversight of these producer committees the department identifies industry issues and research priorities; manages the administration of grants; and develops informational materials and communications for producers and other audiences.

The science and technology department's five main areas and committees are animal science, animal welfare, environment, pork safety and swine health. Activities in the areas of public health and producer safety have started, reporting to a subcommittee under pork safety. Numerous other subcommittees, taskforces and workgroups addressing specific industry issues report to the five main committees.

Information on activities of the science and technology department can be found online at <http://www.pork.org/PorkScience/default.aspx>.



Animal Science



The animal science committee addresses issues related to sow longevity, pork quality, genetics and genomic research, alternative production systems, alternatives to antibiotics and nutrition.

Accomplishments since 2006:

Non-Antimicrobial Production Enhancers (NAPES) literature reviews and management guide

The committee completed a series of critical reviews of literature for alternatives to antimicrobials as production enhancers for pork producers.

These reviews will be used to develop a management guide to assist producers in programs aimed at decreasing or eliminating the use of antimicrobials in swine rations.

Nutritional Efficiency Consortium

The Pork Checkoff and several private, public and non-profit organizations are funding research that will address producer

concerns about cost of feed and determine the value of alternative ingredients in pig rations. In its founding year, the consortium received over 40 proposals dealing with the use and evaluation of alternative ingredients such as DDGS and other biofuel byproducts in pig rations.

Eleven proposals were approved for funding in 2007. Due to contributions from the participating organizations, producers invested only a fraction of the funds used to sponsor the research.

This project's success will not only be measured in the knowledge gained from the studies, but in the valuable relationships formed between commodities and

private and public industries in the process of funding and in the image the pork industry will gain from leading this effort. Activities of the consortium can be followed online at: <http://www.pork.org/PorkScience/NutritionalEfficiency.aspx>.

Consumer preference study for fresh pork

This study will be completed in 2007 with results available early in 2008.

Leveraging the expertise of demand enhancement, the Ohio State University, Texas A&M and Iowa State University, results from this study will allow the industry to identify pork characteristics that consumers prefer such as presentation,



color and marbling. The study will identify opportunities for adding value to pork products through improved targeting of pork products through consumer marketing. Finally, the study will reveal areas of opportunity for consumer education such as safe cooking temperatures, the appearance of cooked pork and more.

The bottom line for producers will translate into increased demand for the product through improving the consumer's experience while eating pork.

Net energy research project

This two-year project will conclude and results will be available in the fall of 2007

and is being funded, in part, by the United Soybean Board and Quali-Soy.

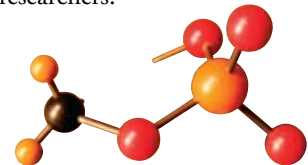
The main goal of this study is to reduce feed costs by maximizing nutrient utilization of rations produced. Results from the project will determine whether current techniques used to balance grow-finish rations for energy requirements are adequate for the United States and recommend options for the pork industry to ensure that rations are developed with maximum accuracy and efficiency.

This study is another example of how collaboration between checkoff organizations results in better alternatives to producers and a more efficient use of Pork Checkoff dollars.

Initiation of an industry scholarship program

A total of twenty five scholarships were awarded to students interested in pursuing education in animal agriculture and with specific interest in the pork industry, across the United States.

This program was initiated in response to the growing need for industry management and academic expertise to serve and support the next generation of pork producers and industry researchers.



Animal Welfare

The animal welfare committee addresses issues related to swine care and well-being in production and transportation.

Accomplishments since 2006:

Fact sheet on the use of captive bolt for euthanasia of swine

The fact sheet was published in conjunction with the U.S. Pork Center of Excellence's Pork Information Gateway (PIG) to assist producers in the safe and humane way to use captive bolts for the euthanasia of pigs.

The fact sheet is available online at: <http://www.pork.org/PorkScience/Documents/CaptiveBolt.pdf>.

Sharing information and research results with the PIG facilitates producer

access to the valuable resources generated with their Checkoff dollars.

Content material for PQA Plus™

Educational content for Good Production Practice #10 (Provide proper swine care to improve swine well-being) of PQA Plus™ was provided. The foundation for the PQA Plus site assessment process also was laid out.

PQA Plus was officially introduced to the industry in June 2007. Since then, PQA Plus trainers have received instruction on the new program and have conducted

advisor training sessions in their states. Several thousand producers have been certified in PQA Plus by advisors since its launch.

PQA Plus information and materials are available at <http://www.pork.org/Producers/PQAP.aspx>.

Monitoring of international issues

The animal welfare committee provided the World Organization for Animal Health (OIE) input for the development of land transport of livestock and killing for disease control codes. Pork Checkoff staff was part





of the U.S. delegation to the OIE General Assembly where these topics were discussed.

These international codes will serve as the future international guidelines for animal welfare and the American producer's input should be considered.

Producer study trip to understand impacts of sow housing regulations in the EU

Members of the animal welfare committee met with producers and veterinarians in Europe to understand the implications of sow housing legislation on production.

From the trip, the animal welfare gained better understanding of what future research priorities should include. Some of these priorities include: alternative housing systems, identifying international welfare standards of other countries and identifying issues associated with housing conversions.

Producer representation in animal agriculture forums

Staff and members participate in groups and conferences sharing producer experiences and communication industry needs

to different audiences. Examples of these are producer representation in the Pork Industry Welfare Coalition, the group working to develop an animal welfare solution satisfying all segments of the pork chain, and representation on the Animal Agriculture Alliance, a united voice for animal agriculture and food industry to communicate science-based information to a diverse audiences of consumers and media.

Environment



The environment committee addresses issues relating to pork production and the environment including nutrient management, air and water quality.

Accomplishments since 2006:

Co-development of the Air Management Practices Assessment Tool

Odor is one of the major image concerns for pork producers in their communities and for the pork industry as a whole. In 2006, producers identified odor as one of the top five critical issues to address that year. One of the efforts was to complete this tool which helps producers identify practices that can help address odor and air quality issues on livestock operations.

Through this tool, producers can prioritize their efforts to reduce air quality and odor issues.

The Air Management Practices Assessment Web-based tool is available

online at: <http://www.extension.iastate.edu/airquality/practices/homepage.html>.

Producer survey on environmental information needs

A producer survey to determine environmental management information needs and preferred delivery methods was completed.

The survey included approximately 400 producers of different sizes and types of operations. Some of the conclusions from the survey are detailed below:

Seventy percent of producers look for environmental information with some frequency. Producers use “print/publications/trade magazines” (48 percent) as their source

of information for environmental management information, followed by the Internet (31 percent) and the National Pork Board (14 percent).

Over 4 in 10 pork producers think there is a need for better sources of information about environmental management practices.

The top five topics pork producers overall are most interested in having specific information on are good neighbor policies, water quality management, nutrient or manure management, environmental public relations and odor control.

Newsletters are the most appealing method for obtaining information about environmental management.



Future direction for environmental outreach and research will reflect the results obtained from this study.

Analysis of pork producer participation in EQIP

An analysis of pork producer participation in the U.S. Department of Agriculture's Environmental Quality Incentive Program (EQIP) in the 20 top pork producing states was completed.

Findings from this analysis will be used to help pork producers improve their opportunities to receive EQIP funds to implement environmental management improvements on their farms.

Electronic database of environmental research

An electronic and searchable database of environmental research relevant to pork production has been developed and will be made available through the pork.org and Pork Information Gateway Web sites.

The site database will allow users to search by subject matter for abstracts and lay interpretations of research conducted in United States and Canadian research institutions since 1960 in the area of environment and swine production.

A lot of environmental information is available to producers. This tool facilitates producers' access to it by putting it all in

one place and attempting to interpret it to its practical on-farm application. Citations and other source information will accompany each entry for those interested in reviewing the full research study.

Among other uses, the database is helping the committee target investments in environment research by drawing attention to areas of research previously unstudied. This information also will prevent the use of checkoff funds for duplicating research.

Pork Safety

The pork safety committee addresses issues affecting food safety including physical, biological and chemical hazards in pork that may affect production or consumer confidence.

Accomplishments since 2006:

Cooking temperature risk assessment study

Preliminary risk assessment study results favor a reduction in cooking temperature of pork from 160 degrees Fahrenheit without risk to consumers and with favorable results in taste panels. Results will be used to recommend lowering suggested end point cooking temperatures for pork.

Taste panel results suggest lower cooking temperatures may increase the consumer eating experience and ultimately, generate an increase in the demand for pork products.

The exercise included a study on the prevalence of *Salmonella* in pork at retail. The low levels of pathogens found as a result of the study will be used to support the results

obtained from the cooking temperature risk assessment study.

With the data gathered in this study, consumers can have even greater confidence in the safety of the industry's product.

Content material for PQA Plus™

Content material for the Pork Quality Assurance Plus™ (PQA Plus™) program was developed. Working in a cross-functional team, the pork safety committee, program manager and advisors revised PQA material and developed new material for the industry's flagship program.

PQA Plus information and materials are available at <http://www.pork.org/Producers/PQAP.aspx>.

Development of responsible antibiotic use material

As a follow-up to the September 2005 launch of the Take Care – Use Antibiotics Responsibly™ program launch, three brochures dealing with the issue of antibiotic use were developed. The brochures are available online at: <http://www.pork.org/PorkScience/SciencePage.aspx?c=28>.

These informative brochures address frequently asked questions about antibiotic use in the industry, the Take Care program and about the Danish government's decision to ban the use of subtherapeutic antibiotics in pigs. Producers and veterinarians can use these brochures to answer questions and address misconceptions about these topics.



More than 50 percent of the hogs marketed in the United States are raised by producers who have endorsed the Take Care program, allowing our industry to promote our product as judicious and socially responsible.

Important working relationships with the CDC and USDA ARS

A proactive working relationship with the Centers for Disease Control and Prevention and the USDA's Agricultural Research Service was formed through common research interest. This relationship allowed the Checkoff to capitalize on the CDC's research fund availability to gain pork-specific avian influenza research knowledge.



Relationships help the producers leverage their checkoff funds and leverage the expertise and knowledge used to tackle the industry's issues.

Japanese maximum residue limit information clearinghouse

Japanese maximum residue limit (MRL) information was made available to producers and other audiences in partnership with the American Association of Swine Veterinarians, participating animal health companies and other industry stakeholders.

A delegation of U.S. industry stakeholders, including Pork Checkoff staff, met with Japanese government officials in Japan



to obtain the accurate information reflected in all Checkoff published information.

The Japanese market is the largest export market for U.S. pork. With other export markets, this one adds up to \$23 dollars per head to the price of hogs. Fulfilling MRL requirements will allow U.S. producers to maintain this important market open to this industry's product.

Producers and other members of the pork chain can find updated information on Japanese market requirements, and preserve one of the United States' most important pork customers, by accessing the information available online at: <http://www.pork.org/Producers/JapanMRL.aspx>.

Swine Health



The swine health committee oversees programs including the national initiative on Porcine Reproductive and Respiratory Syndrome (PRRS) virus, the development of a national swine identification system and the prevention of and preparation for foreign animal and emerging diseases.

Accomplishments since 2006:

Producer input in the development on a swine disease surveillance plan

The Pork Checkoff worked with USDA APHIS' National Surveillance Unit to develop an effective and efficient swine disease surveillance business plan. The document will coordinate all swine-related health surveillance activities. Through these efforts, the pork industry became the first commodity to formally prioritize its animal health surveillance objectives.

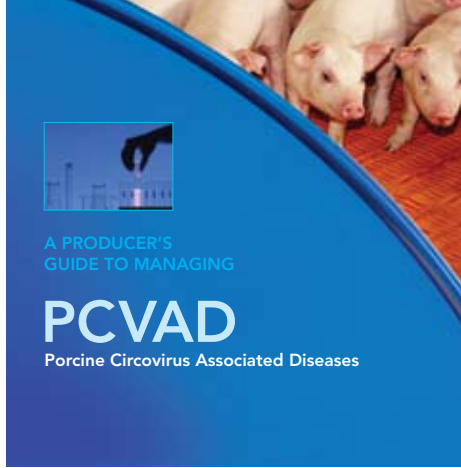
Development of porcine circovirus associated diseases-related material

The 16-page brochure, A Producer's Guide to Managing PCVAD, was developed with the American Association of Swine Veterinarians (AASV) and distributed to producer and veterinarian audiences. Over 10,000 copies of the brochure were distributed in 2006.

The brochure lists production and health practices, per production area, that can be

put in place on a farm to prevent or control PCVAD. These areas include breeding and gestation, farrowing, nursery, grow-finish and replacement gilts. Also included are the Madec Principles, a set of twenty practices proven to have reduced the effect of PCVAD in France.

The pamphlet answers producers' questions on managing PCVAD and is available online at: <http://www.pork.org/PorkScience/Documents/PCVADBrochure.pdf>.



Continued implementation of the PRRS Initiative

The Pork Checkoff continues to partner and implement the national porcine reproductive and respiratory syndrome initiative. By 2006, 49 research projects focused on vaccination, persistent infection and virus elimination were funded. In 2007, the PRRS initiative funded 12 projects. Areas of research included PRRS virus immunology, epidemiology and ecology and PRRS virus diagnostics

This partnership includes providing research results to producers and other audiences through the PRRS Initiative Web site www.prrs.org.

Producers' checkoff funds and research efforts are leveraged as the Pork Checkoff works with organizations to manage this and other costly diseases. In this way, checkoff funds are not wasted on duplicating research.

A study of the expected net realized benefit by the American pork industry from two Checkoff-funded PRRS research projects

showed a value of over \$24 million per year after the cost of implementing the procedures described in the studies.

Partnering with USDA for research, education and promoting premises registration

Checkoff funds were leveraged with an additional investment of \$200,000 from the USDA for a total of over \$500,000 in PCVAD research in 2006. Some of the studies include identifying the agent or agents

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Swine Health

Swine Health *continued*

causing the disease, evaluating the use of vaccines, determining the value of production and biosecurity practices to reduce the effect of the syndrome on swine herds and evaluating the effect of coinfections on swine herds.

The USDA awarded the Pork Checkoff \$400,000 in cooperative agreement to further promote premises registration among pork producers. This cooperation has resulted in materials being developed for producer

education and promotion of the species-specific swine identification plan. Combined efforts have allowed the industry to achieve almost 65 percent premises registration.

With the understanding that observation is a more powerful learning tool than a classroom or book, the USDA, the Pork Checkoff, the American Association of Swine Veterinarians and other partners developed a 3-D video designed to aid producers and veterinarians recognize classical swine fever.

The video will serve as a model for other learning tools requiring a complete understanding of a scenario that is difficult – and risky- to replicate in the field.

Producers and veterinarians can now see and hear what a disease that has not been present in this country for 40 years looks and sounds like without visiting another country and putting their livelihood at stake.





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