

National Pork Board Research and Committee Update
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Introduction

This Update describes the National Pork Board 2007 Strategic Operating Plan and Budget for Science and Technology. All programming issues are organized by industry Critical Issue (CI) and Desired Outcome as put forward by the National Pork Board membership, with input from the working committees at the National Pork Board. Each tactic is assigned to a CI across programming disciplines. This approach encourages cooperation and collaboration across committees and departments at the NPB with a focus on proactive programming and problem solving for the pork industry. Science and Technology tactics for 2007 are described for each of committees in the 2007 Critical Issue framework.

The 2007 Critical Issues for the National Pork Board are:

Critical Issue # 1 - Positively impacting customer's and consumer's purchases of pork.

Critical Issue # 2 - The trust and image of the industry and its products.

Critical Issue # 3 - The development of human capital.

Critical Issue # 4 - The profitability and competitive advantage for US pork.

Critical Issue # 5 - The safeguard and expansion of international markets.

The Science and Technology Committees at the national Pork Board include:

Animal Science Committee – Mark Boggess, Ph.D.

Environment Committee – Allan Stokes

Pork Safety Committee – Steve Larsen, Ph.D., Liz Wagstrom, DVM.

Swine Welfare – Sherrie Niekamp

Swine Health Committee – Pamela Zaabel, DVM., Patrick Webb, DVM.

Vice President of Science and Technology – Paul Sundberg, Ph.D., DVM.

Listed below are the 2007 CI and the Desired Outcomes for each Critical Issues. Specific tactics relating directly to programming initiatives for Science and Technology are also listed. The complete Plan of Work for 2007, with all tactics and budget amounts for each CI, DO, and tactic is available through the National Pork Board (NPB).

CI # 1 - Positively impacting customer's and consumer's purchases of pork.

Desired Outcome # 1 - A plan aligning product attributes with specific customer and consumer expectations is in place.

Competitive research will be conducted on priorities established by the Pork Safety Committee. Pork Safety Committee

Science-based information on pork safety throughout the chain will be provided through competitive research based on the Pork Safety Committee's Priorities. This will include research on the epidemiology of Salmonella throughout the chain, research on potential emerging food safety concerns, development of diagnostic tests and others.

Targeted research will be conducted on priorities established by the Pork Safety Committee. Pork Safety Committee

Science-based information on pork safety throughout the chain will be provided through targeted research in areas identified as emerging issues and based on the Pork Safety Committee's oversight. This will include research on new interventions throughout the chain, research on emerging food safety concerns, production system changes effects on pork safety and others.

Pork Safety and Quality research will be disseminated to stakeholders to support industry practices. Pork Safety Committee

Research increases in value as it is disseminated and used. Producers, packers, regulators and others will be provided results of the funded research. A Pork Quality and Safety Summit will be held. We will collaborate with other meat industry groups in research and programming leading to additional opportunities to be heard as one voice during regulatory and stakeholder discussions. One task will be to create a method for a unified response to misinformation and activist challenges.

Consumer Preference Study. Animal Science Committee

Positively impact consumer demand and repeat customer purchases through completion of year 2 of the Pork Consumer Taste & Preference Study to determine the effects of pork attributes and end point temperature on consumer preference for fresh pork in the marketplace. This study is being conducted in cooperation with Ohio State University, Texas A&M University and Iowa State University.

Desired Outcome # 2 - A positive shift in consumers' and customers' attitudes toward pork transpired.

Information on Take Care – Use Antibiotics Responsibly will be delivered to customers. Pork Safety Committee

The Take Care program will be communicated to a variety of audiences including customers, healthcare providers, consumer groups and government agencies to position the industry as proactively addressing consumer concerns and consumer advocacy misinformation about antibiotic use. This information will provide customers a credible position on antibiotic use in the pork industry.

Address Customer Environmental Issues. Environment Committee

A strategy for addressing customer concerns relative to the pork industries environmental performance that might impact on their decisions for marketing and showcasing pork

products is developed and put into action. Will utilize PPIC as an information gathering tool.

Desired Outcome # 3 - Pork producers understand the quality factors that drive pork purchases.

Increase awareness of broken needles and producer responsibilities for appropriate interventions. Pork Safety Committee

Needles and other physical hazards in pigs and pork products are a continuing concern and impact consumer confidence in pork. Messages and communication strategies will be developed and delivered to deal with producer's responsibilities to prevent physical hazards.

Desired Outcome # 4 - A profile of the moral and ethical concerns of consumer's regarding meat consumption and modern agriculture is in place as is a process for responding to emerging opportunities and challenges.

Societal concerns about food safety, antibiotic use or public health effects of pork production. Pork Safety Committee

Societal concerns in pork safety, antibiotic use, or public health effects of pork production will be identified and managed through technical working group meetings, Committee meetings, staff travel, and interactions with stakeholders throughout the chain. Science-based tactics to address these concerns will be identified and implemented, and the impact of tactics to meet identified concerns assessed.

Critical Issue # 2 - The trust and image of the industry and its products.

Desired Outcome # 1 - A definition of socially responsible pork production is in place, a process for repositioning the image of the industry underway, and the tools and information to help the industry meet the definition are successful.

Competitive research will be conducted on antibiotic use and other public health topics. Pork Safety Committee

Science based information on the public health impacts of pork production (such as antibiotic use, community health effects of pork production, endocrine disruptors, and others) will be generated through competitive calls for research, including exploration of potential interventions and collaborations with other research entities.

Address the potential/perceived public health issues with pork production. Pork Safety Committee

Interactions with regulatory, environmental and health agencies addressing potential/perceived public health issues with pork production will cause them to view the Pork Checkoff as a source of technical expertise and the pork industry as stakeholders. Information will be developed, delivered to a variety of audiences, and made available to

producers, including topics such as respiratory health, endocrine disruptors, zoonotic disease such as influenza, etc. Research priorities will be identified.

Research projects targeting specific public health or antibiotic use issues. Pork Safety Committee

Targeted research priorities will be identified by forums such as emerging issues focus groups. Science based information on the issue of antibiotic resistance, health effects of pork production, zoonotic disease or other public health topics will be developed through funding of these targeted proposals. This information will assess risk and/or develop practical interventions if needed. It is important to be able to react to emerging issues through research to address these specific targets.

Information regarding animal feed safety as related to public health will be developed and delivered. Pork Safety Committee

With FDA and the state regulators developing new programs to address the safety of non-medicated feed, comprehensive programming and development, including educational materials and research information, are needed to provide producers information to be able to comply with the new regulatory programs. Technical input will be provided to the appropriate audiences to help inform them on the public health aspect of feed safety.

Desired Outcome # 2 - Key segments of the pork chain understand and support PQA Plus.

Desired Outcome # 3 - Positive news on pork is utilized by “influencer” segments, and communicated to both consumer and producer audiences.

Desired Outcome # 4 - Key influencer segments are effectively communicating better preparation methods of pork to consumers.

Desired Outcome # 5 - Progress with the government was realized leading to a reduction in the endpoint cooking temperature of pork.

Risks from lower cooking temperatures will be assessed, and if needed interventions identified. Pork Safety Committee

Messages and risk communication strategies will be developed to deal with lowering the end point cooking temperatures of pork and if needed, interventions will be identified. Information will be developed to answer the government’s questions to lower cooking temperatures also.

Desired Outcome # 6 - A plan to address consumer confidence in product claims/definitions is in place.

Critical Issue # 3 - The development of human capital.

Desired Outcome # 1 - US pork production labor challenges have been assessed and a plan to address completed.

Desired Outcome # 2 - Tools that support education, recruiting, training and the retention of quality personnel exist and are being utilized.

Development of research, labor and leadership resources in the pork industry. Animal Science Committee

Develop an industry based working group or “Blue Ribbon Panel” to evaluate opportunities to expand the development of the US Pork Center of Excellence model to identify resources and collaborative opportunities for research and education with university and industry entities as well as other pork commodity stakeholders. This effort will identify priorities for future resource development to ensure the competitiveness of the US pork industry.

Sponsorship of industry programs to promote youth development for future leadership roles. Animal Science Committee

Support industry activities that promote youth and leadership development including the American Meat Science Association and the American Society of Animal Science including collegiate meat judging programs, Reciprocal Meats Conference, PORK 101 & PORK 105 and related programs. These programs are unique in their promotion of the pork industry and vital to the development of future leaders in the pork industry as well as providing continuing education for all stakeholders in the pork industry.

Desired Outcome # 4 - Future leaders of the pork industry have been developed and are supported in ways that create mutual opportunities.

Critical Issue # 4 - The profitability and competitive advantage for US pork.

Desired Outcome # 1 - Science based pork industry solutions for health, production and food safety were advanced.

Animal welfare targeted research. Animal Welfare Committee

Provide producers with science based animal welfare information through targeted research addressing topics to be defined by the Animal Welfare Committee.

Animal welfare competitive research. Animal Welfare Committee

Provide producers with science based animal welfare information through competitive research addressing topics to be defined and prioritized by the Animal Welfare Committee.

Targeted research funding provided for high priority research areas addressing swine health. Swine Health Committee

Healthy animals are the foundation for producer opportunity for profit and competitive sustainability. Swine health research programs address high priority health concerns. Research priorities are developed by the Swine Health Committee after additional input

from veterinarians and other animal health experts. Projects are funded according to the research priorities of the Swine Health Committee.

The PRRS Initiative gives a research framework to researchers, producers, veterinarians, & industry. Swine Health Committee

PRRS costs producers \$560 million each year. This unique pathogen has characteristics that challenge the traditional disease control strategies we have used successfully for many other diseases. While these tools can lessen the impact, they have not been able to prevent the occurrence of new outbreaks. A continued concerted and coordinated research effort needs to be applied to the study of the virus to develop tools and management strategies that will reduce the economic impact of PRRS.

Research priorities identified during the PCVAD Workshop will address PCVAD through research. Swine Health Committee

PCVAD is an emerging disease affecting US swine producers. A PCVAD Strategic Planning Workshop was organized by Checkoff to facilitate a research discussion among producers, veterinarians, researchers, and allied industries. A coordinated research plan was developed containing PCVAD research priorities with a goal of mitigating the economic effect of this disease. A competitive research call will address the priorities outlined in the strategic plan.

Swine Health Committee and Advisory Meetings. Swine Health Committee

Throughout 2007, there will be numerous established state and federal meetings covering swine health issues. In many instances, ad hoc meetings are announced at which swine industry representation is critical. Meeting agendas address swine health issues and affect implementation of programs that will directly or indirectly affect swine health and the opportunity for producer profit. To ensure producer input is provided, producers and/or their representatives will attend.

Address and respond to production issues regarding pork safety and human health.

Pork Safety Committee

The Pork Safety Committee and their advisory groups will meet to determine appropriate programming and responses to pork safety and human health concerns. The staff, committee and their advisors will engage in scientific forums, and other venues to gather information and respond to misinformation regarding food safety and public health.

Research programs to determine the ability of genetic resistance to mitigate PRRS and PCV2. Animal Science Committee

Develop a targeted research effort to identify genetic tools to mitigate the economic impact of PRRS and PCV2. Work cooperatively with allied industry, the USDA PRRS Cap II program and the NPB PRRS Initiative to identify additional sources of funding. Evaluate the potential to lessen economic impact, enhance the efficiency of vaccine application and enhance initiatives to eliminate pathogens from regional populations. This research will be enhanced by the swine genome sequencing project.

Research to mitigate soy allergens in nursery rations. Animal Science Committee

Targeted research to mitigate soy allergens in nursery rations to enhance the industry's ability to maintain competitiveness globally and with competing protein sources in cooperation with the United Soybean Board, the USDA and Purdue University. This research will improve the efficiency of nursery rations by lessening the allergenicity of soybean meal fed to nursery pigs.

Address Emerging Environmental Issues through Committee Work. Environment Committee

A process for tracking and analyzing emerging environmental issues relative to their potential impacts on pork producers is in place.

Educational programs for sow longevity concerns. Animal Science Committee

Continue development of a Sow Productivity Management Guide to assist producers directly with issues associated with sow longevity and mortality. Combine this effort with the development of a Discovery Conference if appropriate for the industry. These programs will provide answers for producers relating to sow productivity and longevity and assist them with measurable improvement in sow productivity and longevity.

Animal Science Committee Meetings to Identify and Act on Emerging Issues.

Funding is proposed to facilitate the appropriate NPB Animal Science response to emerging issues in the pork industry.

PCV2 Clearing House. Swine Health Committee

Develop and populate a clearing house for production and research information addressing porcine circovirus type 2 (PCV2). Information will be compiled then deployed on a web site segmented into two areas, one for producers and one for researchers and veterinarians. Information provided will include: current research, completed research, fact sheets, articles, and links to other resources.

Competitive Environmental Research. Swine Health Committee

Competitive research efforts according to Environmental Committee priority are conducted into improved, more effective and more economically viable environmental technologies and management practices and their economic effects.

Desired Outcome # 2 - Advancements were made in the pork industry's production practices which measurably improved its operating capabilities.

Identify, monitor, and respond to national and international animal welfare issues.

Swine Welfare Committee

Through meetings and discussions with animal welfare experts, producers, or other stakeholders, identify, monitor, and respond to national and international animal welfare issues that may affect the ability of producers to make production decisions and to prevent animal welfare from becoming a limiting factor in international trade.

Resources are developed that promote measures to increase and protect herd health.

Swine Health Committee

Biosecurity practices are important to swine producers aiding in the prevention of disease introduction or spread in swine production facilities. Producers would benefit from the development of a tool to evaluate the risk of infectious disease entry and spread into their operation. In addition, producers would benefit from information that specifically addresses basic epidemiology and biosecurity for individual diseases.

Targeted Environmental Research. Environment Committee

Targeted research efforts according to Environmental Committee priorities are conducted into specific environmental issues to develop information on specific issues including: quantifying the energy offset and value of manure savings, research manure application on grasses for biofuels, research methods for stabilizing and capturing nitrogen and ammonia and alternative uses/products from manure and continued technical support for the National Air Emissions Study.

Desired Outcome # 3 - A plan that evaluates options for sow housing systems based on the criteria of animal well being, satisfying customer expectations, and meeting the test of workable and affordable is in place.

Management tools for sow housing systems. Animal Science Committee

Develop tools to help producers better understand optimal management strategies for a variety of types of sow housing systems.

Science-based evaluation of sow housing systems to address sow longevity. Swine Welfare Committee, Animal Science Committee

Further evaluation of sow housing systems will demonstrate the industry's commitment to science-based welfare solutions that are acceptable to the components of the pork chain. Through competitive research, conduct a science-based evaluation of sow housing systems, the impact of housing on sow longevity and the factors affecting sow longevity.

Desired Outcome # 4 - US pork producers have begun implementation of PQA Plus.

PQA Plus. Swine Welfare Committee, Producer Education Department

The PQA Plus program will be available for producers to attain individual certification and site certification. The program will include work preparing the marketplace, the launch of the program, and marketing of the program following its rollout.

Youth PQA. Swine Welfare Committee, Producer Education Department

Youth Pork Quality Assurance is an extension of the PQA Plus program that is focused at youth ages 8-18 years of age. This program will deliver educational Quality Assurance materials to youth that are involved in the pork industry. States' Quality Assurance programs will meet minimum national standards to certify youth in a Youth PQA program. The largest effort will be to develop and update materials that correspond with PQA Plus content. 25,000 youth will participate in Youth PQA in 2007.

Desired Outcome # 5 - Pork producers understand the strategies and tools available to them for mitigating current and emerging risks to profitability.

Crisis communications planning and management. Swine Health Committee

To assure that the National Pork Board and state organizations are prepared to manage any event that could cause harm to the pork industry. This includes developing specific staff assignments and the continuing development of a crisis communications plan. This tactic also incorporates crisis planning with other government and commodity organizations.

Desired Outcome # 6 - In the face of competition for feed grains, a strategy for maintaining competitive feed costs is in place for US pork producers.

Educational programs for producers using distillers grains from ethanol production. Animal Science Committee

Maintain the industry's ability to maintain competitiveness globally and with competing protein sources by addressing economic and production issues created by mandated ethanol production and increasing fuel costs via pork industry specific educational programs for pork producers. This program will assist producers with the evaluation and application of distillers grains for swine rations. Will use web based tools for information delivery.

Swine Energy Systems Research. Animal Science Committee

Targeted research to evaluate energy systems for grow-finish ration in the US and Canada in cooperation with the United Soybean Board, the Prairie Swine Center, the University of Missouri, the University of Illinois, Purdue University and the USDA. This research will provide the industry with much needed information regarding energy utilization for ration development and will enhance the accuracy and efficiency of swine rations in the US utilizing corn and soy.

Critical Issue # 5 - The safeguard and expansion of international markets.

Desired Outcome # 1 - An assessment of international customer needs for food safety, pork quality and product development has been completed, and a plan to address the findings prepared and distributed to appropriate industry partners for action.

Identification and response to pork safety and public health needs of trading partners. Pork Safety Committee

Pork safety and antimicrobial use practices have the ability to serve as potential trade barriers. In order to protect our current exports and maximize new market export potential pork safety and public health concerns of international trading partners will be identified and responded to as needed. We will need to develop strategies to help producers meet those specifications requested by importing countries.

Desired Outcome # 2 - US pork exports increased 10% in volume in 2007.

Desired Outcome # 3 - US pork producers understand the expectations and requirements of their international customers and their role in safeguarding the markets.

Desired Outcome # 4 - An assessment and evaluation of risk management options that will assure business continuity in the event of US export interruption is complete.

Desired Outcome # 5 - A national animal health surveillance system for US pork is in place.

Develop and encourage state-specific Swine Health Advisory Committees. Swine Health Committees

SHACs will provide early warning swine health surveillance and communicate local issues to the national level. SHACs will be modeled after PRV Advisory Committees and consist of producers, veterinarians, and industry representatives. The outcomes generated from SHAC inputs will be communicated to SHAC's for review. SHACs will use outcomes to educate all segments of the state swine industry regarding swine health activities. SHACs were recognized in the Swine Futures Projects as a critical need.

Producers' input will be provided to a comprehensive swine health surveillance system. Swine Health Committee

Swine disease surveillance is critical for maintaining and expanding markets. A comprehensive swine disease surveillance program will need to have a structure for producer input in order to address industry needs. SHACs and an organized system of expert advisory groups will provide input through the Swine Health Committee to the USDA surveillance unit.

Leadership for exchange of information between swine industry and the National Surveillance Unit. Swine Health Committee

In order to identify the amount of funding necessary for a comprehensive and effective swine disease surveillance program, the industry has to provide surveillance objectives to the National Surveillance Unit (NSU). This information will be used in a pathway analysis that will identify the funding necessary to meet surveillance goals. The amount can then be communicated to industry stakeholders to support national surveillance programs.

The Swine ID Plan is essential to supporting the future of swine health. Swine Health Committee

The Swine ID Plan is essential for supporting rapid containment and eradication of highly contagious swine diseases, and will enable appropriate continued movement and marketing during disease outbreaks. In addition, the Swine ID Plan can support targeted surveillance for highly contagious diseases and other emerging diseases or syndromes. Producer and industry acceptance and participation is a vital component for plan implementation and its success supporting swine health.

Zoonotic and food safety issues are included in surveillance systems. Swine Health Committee

Checkoff will work with USDA, FDA, and others to address zoonotic and food safety issues are included in appropriate surveillance systems. Surveillance on Trichinella will be imperative to open new markets without costly carcass testing. If Avian Influenza becomes a global issue, surveillance will potentially protect U.S. swine markets.

Desired Outcome # 6 - The US pork industry is a key contributor in steering decisions at international standard setting events and proceedings.

Monitor and provide technical input to Codex food safety activities with potential to impact pork. Pork Safety Committee

Codex Alimentarius sets the standards by which sanitary and phytosanitary barriers to trade are established. The Food Industry Codex Coalition is an organization of commodities and others that give input to the US delegation to Codex Committees. It will be important to be involved in Codex discussions to help assure that food safety does not become a barrier to exporting US pork.