

Swine Committee Report

2015 NIAA Annual Conference

Tuesday, March 24, 2015



The Swine Committee met on Tuesday, March 24, 2015 from 10:00 a.m. to 12:30 p.m. during the 2015 NIAA Annual Conference in Indianapolis, Indiana, with approximately 25 people present.

Drs. Harry Snelson and Butch Baker served as Co-Chairs.

The Swine Committee session focused on Consumer directed programs at the National Pork Board, Disease mechanisms of spread, and programs to limit economic consequences of introduction. The following speakers presented relevant information pertaining to Sustainable pork framework at NPB, a pig truck wash study at Iowa State University, Community network modeling to evaluated risk factors associated with disease spread and USDA swine associated program updates of programs and evolution:

Allan Stokes, Director of Environmental Programs, National Pork Board, presented "The Sustainable Pork Framework." Pork Checkoff work. Double food production by 2050. United Nations now appreciates the role of agriculture in the future. Efficiency in production without increasing natural resources. Pork producers have been great environmental stewards – spent 7.5 million dollars over the past 10 years. Also funded a national air emissions monitoring study at 5 million dollars. One of our ethical principals. Consumers want to know more about their food – safety, quality, welfare, etc. Global market place for all agriculture commodities. Pork producers must increase efficiency to remain competitive. Significant increase in number of pigs marketed, reduced the breeding herd, reduced the land use, and reduced carbon footprint over 35% over the past 50 years.

Four pillars of environmental sustainability. University of Arkansas Center for Agricultural and Rural Sustainability. 3 phase approach. Literature review, Scan Life-Cycle assessment, and Detailed Life-cycle Assessment. Swine reported by EPA that swine produces 0.35 % of overall annual green-house gas produced. 2.5 lb. of CO₂ equivalents of carbon per 4 oz. of pork consumed. 42% of green house gas footprint comes from feed production. Water footprint (ground water) on farm is 14%, feed is 84% of water, rest is processing. 87% of on farm use is drinking water. We are linked to feed production and both crop and animal agriculture must work together to have impact. Developed a Pig Production Environmental Footprint Calculator version 2 is free for producers. Version 3 will include the land footprint and analytical tool later in 2015. Define sustainability – key performance indicators, metrics for each KPI, Benchmark for each metric, develop and adopt goals, implement strategies, measure each metric.

Sustainable pork advisory Council. 28 invitees. Made recommendations to the NPB. Defined sustainability as related to pork production. People. Pigs. Planet. 4 KPI's Human Health and safety, Animal Care and Welfare, Environmental Stewardship, and Economic Integrity. Science based and technology neutral. Key metrics developed for each of the KPI's. 9 areas of sustainable pork framework developed. The new strategic plan for the NPB the objectives articulate the goals of the sustainable pork framework. Sustainability data and reporting system under development for 2015. Sustainability is a journey and will evolve. Additional work on the calculator version 3 and beyond. The NPB has never stuck their head in the sand. Always seeking solutions.

Butch Baker, DVM, Interim Director of the Iowa Pork Industry Center, Iowa State University Extension and Outreach, presented "Truck Wash Study." Goals of the study and lots of photographs.

Troy Bigelow, DVM, USDA APHIS VS, presented "Swine Health Programs Update." Update on CIS activities, SECD and collaborations, and Business Plans. Comprehensive integrated surveillance activities are big deal now. Multiple agents. Passive, high risk, - integrated CIS activity. Pseudorabies/Swine brucellosis activities. D-lab, high risk swine and slaughter swine surveillance. All slaughter negative in 2014. High risk pigs do have some positives. Classical swine fever – surveillance stream (sick pigs). Slaughter collection, probability of exposure etc., very few samples in 2014. Influenza A surveillance have increased (IAV-S). H1N1 is predominant in 2014. Virus isolation has improved to 46% of samples. Full genome sequencing of virus of interest.

Currently review the IAV-S surveillance program. APHIS-PPD internal review and an external review. ASF & FMD Swine Surveillance program. 12 month pilot. Testing for both in 8 NAHLN laboratories. Have developed a communication plan to protect stake holders. Takes training to avoid economic consequences.

EPS Slaughter condemnation data. Monitored weekly. Three classes of swine – adults, market, and roasters. Ante-mortem and post-mortem condemnations.

SEDC federal order. Reporting, monitoring, and herd health plan. Delay between confirmation and reporting. Next steps for SEDC? What should the program evolve to? There has been a dramatic increase in site ID reporting. Payments have been successful, working with veterinarians and producers has been successful as well.

Swine Health Business Plan. FY 15 cost benefit analysis to the industry and stakeholders. Evaluation in August this year. Emergency response and preparedness is being evaluated and stakeholders are involved in collaboration. Field Disease Surveillance investigation and control activities will continue. Collaboration with State veterinarians on feral swine issues.

Enhance communication to stakeholders by USDA and update state status evaluations. The business plans are evaluated year to year and generally revised at least every 5 years. USDA encourages public comment on the business plans.

Shweta Bansal, PhD, Assistant Professor, Department of Biology at Georgetown University, presented "Modeling Emerging Disease in the US Swine Herd." US agricultural preparedness. Identify potential pathogen impact on our animal agriculture. Emerging diseases – PEDv. Economic issues. Potential threat of FMD is real. Zoonotic diseases of impact – Influenza etc. Network models to evaluate connectivity, transmission pathways, control strategies for containing spread, and risk analysis for swine disease management.

Swine industry connectivity and aggregation. US swine movement puts the issue at a national basis. Using network modeling. GB foot and mouth outbreak as an example. The role of transport to markets was significant. Role of disease modeling. Use during an epidemic. Determine spread mechanisms, predict future spread, and design control. Endemic Stage management. Prior to emergence – surveillance and preparedness.

Presented examples of the modeling:

PEDV spread in the US: Inventory vs. Cases. Density was not connected in the early days of the outbreak. What role of transportation? Other mechanisms. Mode of transmission is still open to speculation. Mostly based on small studies. Need large scale study to understand transmission routes. Role of movement in PEDV spread. Hypothesis if two states are closely connected with movement. Overall there was weak correlation. Three types of movement – no, directed, or undirected. The unpredicted model was predictive of the epidemic.

First cases in Ohio and Indiana. Did the arrival time in states help understand the source. Designing control strategies. Movement restrictions were self-imposed. Looked at optimized restrictions as a control mechanism. Regional restrictions allow business continuity. Likelihood of successful control was studied.

Quantifying risks for swine disease emergence. Not just swine movement but also other networks are a risks. Importation of swine, shipment of pork and animal feed. Used the model to determine hotspots.

Old Business: None was discussed.

New Business:

- No new resolutions or change to existing resolutions
- Consensus Points for NIAA White Paper Development
 - 1) Pork industry needs to continue to evaluate environmental impact measurements and tell consumers about the successes at reducing the industry's carbon footprint
 - 2) Increased emphasis needs to be placed on transportation biosecurity. Both Dr Baker's and Dr Bansal's presentations elucidated the risks to disease spread facilitated by contaminated transport.

General Discussion: None

Swine Committee Session adjourned at 12:26 PM.