

**Centers for Disease Control and Prevention (CDC)
United States Department of Agriculture (USDA)
Council of State and Territorial Epidemiologists (CSTE)
Education and Prevention of Zoonotic Influenza Among Youth in Agriculture
Pilot Project Development Grant Application**

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II. Background

The Commonwealth of Kentucky has unique strengths that will make it an exceptional site for a collaborative swine livestock handling pilot project. Kentucky's geographic location is ideal for development of One Health interstate partnerships and regional collaboration, since it is surrounded by seven other states, many previously affected by swine variant influenza, and situated at the intersection of three USDA national influenza A virus in swine (IAV-S) surveillance regions.^{1,2} Past variant influenza outbreaks mainly affected pediatric populations with close swine contact at agricultural fairs such as 4-H exhibitors, and Kentucky's thriving agricultural community includes similar at risk youth populations, who would greatly benefit from relevant preventive educational interventions. Kentucky possesses an ever-growing network of strong state and local partners passionate about collaboration and public health that will not only develop and implement an effective pilot project but will also ardently reach out to neighboring states, to build One Health capacity.¹ Thus, Kentucky is strategically positioned to contribute to One Health expansion through a collaborative pilot project, targeting youth in agriculture with an educational intervention focused on prevention of influenza and other zoonotic diseases.¹

Kentucky's advantageous location makes it a prime setting for this type of pilot project, even though it ranks 18th among U.S. hog and pig producing states and has had no detected cases of variant influenza A.^{3,4} Of particular interest, 71.3% (n = 286) of the 401 total cases of variant influenza virus infections reported since 2005 in the U.S. occurred among people in five of Kentucky's seven neighboring states, including 38.4% H3N2v (n = 154) in Indiana, 29.0% H3N2v (n = 116) and 0.07% (n = 3) H1N1v in Ohio, 1.5% H3N2v (n = 5) and 0.02% (n = 1) H1N1v in Illinois, 1.5% H3N2v (n = 5) in West Virginia, and 0.05% (n = 2) H1N1v in Missouri.⁴ In addition, four of these neighbors to the north and west are among the top ten hog and pig producers in the nation with the following rankings: Illinois 4th, Indiana 5th, Missouri 7th, and Ohio 8th.^{3,5} As the southern-most state in USDA national IAV-S surveillance Region 2, Kentucky also borders Regions 1 and 3; Region 2 has the largest number of influenza A positive accessions (sets of samples, n=1,391) from swine and greatest IAV-S subtype diversity of all the regions.² These characteristics highlight why Kentucky's location could be key for intervention efforts to prevent future variant influenza virus outbreaks and potentially decrease the risk of another influenza pandemic, like H1N1 in 2009.

Through 4-H Youth Development programs, the Commonwealth of Kentucky has many families with youth swine project participants, but the extent of their awareness of swine exposure risks and their knowledge of necessary preventive measures to protect themselves and others remains uncertain. The Kentucky Department of Agriculture Swine Program offers various annual youth exhibition opportunities at more than 25 County Fairs, four District Market Shows, three Kentucky Junior Livestock Expos, the Kentucky State Fair, and the North American International Livestock Expo, all of which expose participants and the public to swine.⁶ As a result, targeting these Kentucky populations with an educational intervention about variant influenza viruses and other zoonotic diseases has the potential to make a significant public health impact. The Building Epidemiologic Capacity in Kentucky (BECKY) efforts of the Kentucky Department for Public Health's Division of Epidemiology and Health Planning have created an extensive network of well-established state and local collaborative partnerships, equipped to serve as both a solid foundation for the pilot project's success and a catalyst for outreach to surrounding states for One Health capacity building.¹

III. Resources

Ample infrastructure is currently in place to implement this CSTE/USDA/CDC pilot project and to enable its intervention to become a sustainable practice within work processes beyond the pilot's short term. Key personnel for this pilot project will come from the Kentucky Department for Public Health, Kentucky 4-H Foundation, Kentucky Local Health Departments, local county 4-H Extension Services, and local fair boards.

Key Agencies, Organizations & Personnel:

Kentucky Department for Public Health (KDPH)

The KDPH mission is to improve the health and safety of people in Kentucky through prevention, promotion and protection.⁷ To achieve this mission, KDPH develops, operates, and oversees state public health programs and activities created to improve the lives of Kentucky citizens and visitors by preventing negative health outcomes, promoting healthy lifestyles, and providing protection from diseases, injuries, and environmental health hazards. KDPH partners with local health departments, universities, private providers, among others, to provide nearly 150 different programs to help Kentuckians become healthier.⁷

KDPH is broken down into 7 divisions, including the Division of Epidemiology and Health Planning.⁷ This specific division's responsibilities include the control of communicable disease, disease surveillance and investigation, injury prevention and research, vital statistics and health data.⁸ To enhance its ability to meet such imperative responsibilities, the Building Epidemiology Capacity in Kentucky (BECKY) initiative⁹ was established in 2005 and has since been successfully expanding KDPH's network of effective epidemiologic and public health collaborations, which will contribute to both the success of this pilot project and its long-term sustainability.

State Epidemiologist, Dr. Jonathan Ballard

Dr. Ballard will serve as the principal coordinator and investigator for this grant. Dr. Ballard will oversee KDPH staff members' modification of existing educational materials and messaging for the pilot project's intervention and guide content dissemination and implementation. Dr. Ballard will ensure completion of project aims and foster effective collaboration between all program partners such as KDPH and 4-H Youth Development.

KDPH Immunization Program Manager (Margaret Jones, RN) and Immunization Program Staff

Ms. Jones will supervise alteration of selected educational materials to fit the needs of swine influenza prevention efforts in Kentucky as well as provide expertise regarding general influenza prevention. Ms. Jones acquired relevant experience through her active participation on a committee with Kentucky's former State Public Health Veterinarian that partnered with Indiana to implement infection prevention and hand hygiene initiatives at state fairs. Immunization Program Local Field Staff will be utilized to deliver program education materials to local health departments as needed.

State Public Health Veterinarian, Dr. Kelly Giesbrecht

Dr. Giesbrecht has expertise in animal welfare, zoonotic disease prevention, and epidemiological principles. Dr. Giesbrecht will be the primary contact for zoonotic disease questions and will oversee investigation of reportable cases of such diseases, including swine variant influenza, in partnership with KDPH's regional epidemiologists and reportable disease staff. Dr. Giesbrecht will serve as a leader in state animal health as part of the One Health initiative in Kentucky.

Assistant Director of the Division of Epidemiology and Health Planning, Mr. Paul Royce

Mr. Royce will serve as the financial administrator of this grant. He has extensive experience administering contracts and establishing sub-contracts, including for previous grants from CSTE, CDC, and many other granting agencies.

Local Health Departments (LHDs)

Local Health Department Environmentalists

Through LHDs, environmentalists protect the health of the public and prevent the spread of infectious diseases by performing important inspections of facilities, food and sanitation services, and special events such as agricultural fairs. As a result, LHD environmentalists are onsite at local county fairs, to accomplish related job duties, including inspections and posting of pertinent educational signage such as handwashing signs in animal barns. LHD environmentalists will be educated about the pilot project and requested to assist with intervention efforts at county fairs and local swine shows as able.

Local Health Department Public Health Nurses

LHD public health nurses develop and conduct educational counseling and teaching activities based on their local community needs, which often includes their presence at local agricultural fairs. LHD public health nurses will be educated about the pilot and can serve as an additional resource to deliver swine influenza prevention and hygiene information to youth at county fairs and youth agricultural club meetings.

Regional Epidemiologists

Sixteen regional epidemiologists are funded by KDPH but are based in LHDs across Kentucky. Health departments in Louisville and Lexington each have an additional epidemiologist. These staff members will be informed about the pilot project and assist with investigation of any swine variant influenza cases or outbreaks along with epidemiologists and nurses in the KDPH Reportable Disease Section.

Kentucky 4-H Foundation and the University of Kentucky (UK) College of Agriculture, Food and Environment

Kentucky 4-H Foundation is an independent 501(c)(3) organization dedicated to the financial support of the Kentucky 4-H Youth Development Program. The Kentucky 4-H Foundation will serve as the youth agricultural partner organization for this pilot project. The 4-H Youth Development Program is a part of the Kentucky Cooperative Extension Service, which is coordinated through the UK College of Agriculture, Food, and Environment and has local

extension service offices in all of the counties with swine agricultural exhibitions and shows. In Kentucky, 34.9% of youth are 4-H members.¹⁰

The University of Kentucky began in Lexington in 1865 as the Agricultural and Mechanical College of Kentucky, as a result of the 1862 Morrill Land-Grant College Act.¹¹ The UK College of Agriculture, Food and Environment is still a land-grant institution and is “committed to improving the quality of life for Kentuckians.”¹² Engagement, defined as “collaborating with diverse institutions, communities, and people to improve lives,” is among the college’s values, under which its Cooperative Extension falls, including the Kentucky 4-H Foundation’s Youth Development Program.^{12, 13} The Kentucky Cooperative Extension Service has been described as “the most comprehensive outreach and engagement program at the University of Kentucky.”¹³ According to the Kentucky Cooperative Extension’s 2016 Annual Report, Competitive Agriculture accounted for 26% of the program’s 6,566,454 contacts.¹⁰ Therefore, the Kentucky 4-H Foundation, the UK College of Agriculture, Food and Environment, and individuals in related leadership roles, described below, are also among Kentucky’s strengths as a site for an ultimately sustainable pilot project.

Extension Associate of Youth Livestock Programs, Mr. Steve Austin

Mr. Austin’s role positions him as a leader in both the Kentucky 4-H Youth Development Program and the UK College of Agriculture, Food and Environment with specialties in 4-H Youth and Youth Livestock Programs, serving as Kentucky’s statewide coordinator of related programs. He provides coordination and co-coordination of various project and activity areas throughout the state of Kentucky, including the following: Beef, Sheep, Swine, and Goat Project Animals; Market Animal Validation Program; Breeding Animal Nomination Program; Livestock Judging Program; Livestock Skillathon Program; Kentucky 4-H Livestock Volunteer Certification Program; and the Youth PQA Plus Program.¹⁴ Mr. Austin will be the Primary Agricultural Organization Coordinator for this project and will oversee the dispersion of the educational materials and messaging through the 4-H Youth Development Program and the Kentucky Cooperative Extension Service. Mr. Austin oversees the training of livestock judges and has developed a training program for youth livestock judging competitions culminating in the development of a state All-Star Livestock Judging Team. Mr. Austin will oversee that barn/exhibit hall oversight and swine influenza prevention is incorporated in the livestock judging training and All-Star Livestock Judging Team.

Director of 4-H Youth Development Program, Dr. Mark Mains

As “head clover” for Kentucky 4-H, Dr. Mains provides 4-H program oversight in all 120 of Kentucky’s counties.¹⁵ He will oversee distribution of project educational materials about swine variant influenza to local Extension Agents for 4-H Youth Development.

Agriculture Academic Enrichment Experience Intern(s)

Up to two graduate students in the UK College of Agriculture, Food and Environment will assist Mr. Austin in project implementation, including dissemination of educational materials and messaging developed by KDPH staff as well as content presentation at meetings of other key project participants, such as training Extension Agents for 4-H Youth Development and Certified Livestock Leaders. The interns will also serve in program evaluation data collection and analysis.

University of Kentucky Extension Agents for 4-H Youth Development

In Kentucky's 120 counties, there are 144 UK Extension Agents for 4-H Youth Development. Their major job responsibilities include the following: educational programming; leadership and council development; public accountability and service; facilitation, collaboration, and teamwork; and supervision.¹⁶ These individuals help prepare youth for career endeavors and, as part of delivering the educational materials to youth about swine influenza prevention, will be able to speak about public health as a potential career field to youth participants.

Certified Livestock Leaders

Since the Kentucky Certified Livestock Leaders (CLLs) volunteer program's inception, Kentucky 4-H has certified over 1000 CLLs, per Dr. Mains. In Kentucky Cooperative Extension Program year 2015-2016, 807 Certified Livestock Volunteers contributed over 50,841 hours of their time.¹⁰ There are currently 310 active CLLs that volunteer in 110 Kentucky counties, all of which have youth participants in livestock shows. CLLs hold educational meetings prior to county fairs with youth participants in swine exhibitions and coordinate onsite activities of swine shows at county fairs. The CLLs will incorporate pilot project swine influenza prevention content into their educational programming for youth participants.

Local Fair Boards

Local fair boards are primarily volunteer groups that coordinate local county fair activities. They usually have representatives from the agricultural community and individuals who assist CLLs with coordination of agricultural livestock exhibitions. The local fair boards will be provided information about swine influenza prevention and may assist CLLs with onsite dissemination of project educational materials and messaging.

A History of Collaboration

Previous collaboration between KDPH and swine exhibition leaders included diffusion of recommendations for swine handlers at the 2016 Kentucky State Fair, to prevent swine influenza transmission to humans, and collaborative partnership with the Indiana State Department of Health for development of general risk management practices for all swine exhibitions. Please see Appendix A (Information for Swine Exhibition Organizers at 2016 Kentucky State Fair) to review evidence of this prior collaboration to implement swine influenza prevention efforts. Kentucky has also started a One Health initiative. Dr. Poe, our former State Public Health Veterinarian, who recently passed away, started quarterly meetings between KDPH, Kentucky Department of Agriculture, university-affiliated stakeholders, non-profit agricultural groups, and private agricultural entities to collaborate One Health issues related to public health, animal health, and environmental health.

IV. Methods

Kentucky Department of Public Health (KDPH) Activities

Dr. Jonathan Ballard, Kentucky State Public Health Epidemiologist, will assume the role of state public health official and oversee all KDPH activities involved in this pilot project. Kentucky's

State Public Health Veterinarian will serve as the state animal welfare official for both this project and Kentucky's One Health initiative. KDPH Immunization Program staff, supervised by Margaret Jones, RN will be responsible for development of project educational materials, including outreach to other states to establish partnerships and request permission to use and modify their existing age-appropriate materials. Program staff has identified specific flyers and signs that appear particularly well-suited for dissemination and utilization at local county fairs' swine exhibition halls among other project purposes. "Be Healthy at the Fair" (Appendix B) signage, originally developed by the Minnesota State Fair and additionally adapted by Michigan for zoonotic disease prevention efforts, seems to be an excellent option for KDPH staff alteration, to create relevant posters and handouts for Kentucky. In addition, KDPH staff and Kentucky's State Public Health Veterinarian will review, update, and condense the existing document, "Information for Swine Exhibition Organizers at 2016 Kentucky State Fair" (Appendix A), as necessary, which will be shared with local county fair swine exhibition organizers and used to train pertinent individuals, such as CLLs. The printing of signs, flyers, handouts, and guidance for swine exhibition organizers will be coordinated by the KDPH Immunization Program staff.

KDPH Immunization Program staff will also develop relevant age-appropriate curriculum and content to train adult pilot program participants, including 4-H Youth Development leadership, UK Agriculture Academic Enrichment Experience Interns, UK 4-H Extension Agents for Youth Development, CLLs, regional epidemiologists, LHD environmentalists and public health nurses, and to educate 4-H youth participants. UK graduate interns and 4-H Youth Development Program leadership members will attend training sessions, provided by KDPH Immunization Program staff, about pilot project interventions, educational materials, and how to convey the appropriate public health messaging to local Cooperative Extension Service staff and CLLs. KDPH Immunization Program staff will also educate regional epidemiologists about swine variant influenza prevention techniques and coach them in assisting local 4-H programs with delivery of educational intervention content. Regional epidemiologists have regular email contact with State Epidemiologists as well as in person quarterly meetings, both of which will be utilized for dissemination of swine variant influenza material and messaging. Furthermore, LHD nurses and environmentalists have email distribution lists and routine contact with both the Immunization Program manager, Margaret Jones, and staff. This platform will be used to deliver pilot project educational materials to these LHD staff, who will also be asked, with financial support for LHD supplies, to participate in swine variant influenza educational interventions at both local youth agricultural program meetings and county fairs. To accomplish this in those key settings, LHD environmentalists and public health nurses will be able to work closely with 4-H leadership at the local level, to coordinate and facilitate education of 4-H youth members and their families, especially those involved in swine exhibition, about variant influenza and important preventive measures. Regional epidemiologists will serve as the primary investigators for any cases of swine variant influenza.

4-H Youth Development Program Activities

Mr. Steve Austin, Extension Associate of 4-H Youth Livestock Programs, will oversee the dissemination of materials and educational content to the CLLs with the assistance of up to two graduate interns. The CLLs have two in-person training sessions per year. As part of these trainings, the prevention of swine influenza transmission to humans will become a focus of the

meetings. The State Public Health Veterinarian and graduate intern(s) will present educational content developed by KDPH concerning the updated “Information for Swine Exhibition Organizers” about proper animal precautions for swine influenza prevention as well as the educational content for the CLLs to present to youth participants about proper precautions to prevent the transmission of swine influenza to humans. Mr. Steven Austin and Dr. Mark Mains, Director of 4-H Youth Development Program, also have routine electronic communications and biannual meetings with local UK 4-H Extension Agents for Youth Development, who coordinate local youth clubs involved in swine exhibitions. Mr. Austin and Dr. Mains will provide the swine influenza prevention materials and educational content to the local UK 4-H Extension Agents for Youth Development to share with local youth participants. Mr. Austin will incorporate barn/exhibition hall oversight and training in swine influenza prevention into the training of livestock judges and for the State Livestock Judging Team. Funds will be allocated to support the training of livestock judges and State All Start Livestock Training Team program.

Kentucky 4-H has certified over 1000 livestock volunteer leaders since the beginning of the program. Currently there are approximately 310 active certified volunteer leaders for livestock. There are 110 counties with certified volunteers for livestock. Each of these counties have 4-H youth participating in livestock shows, however only 29 counties are known to have had swine exhibitions in 2016 (Appendix C). These county fairs will be focus of this grant. Certification for livestock leaders is a statewide effort to prepare 4-H volunteers who work with livestock or horse clubs/groups to provide a meaningful, well-rounded educational experience based on principles of positive youth development and agricultural research. The objectives of certification are:

- A. To provide the knowledge base necessary for volunteers to present in-depth educational experiences to 4-H youth. This knowledge base includes:
 - a. Youth development (including what to expect at different ages/stages of life and how youth learn).
 - b. The best methods to use when teaching youth.
 - c. 4-H club management.
 - d. Volunteer recruitment and development.
 - e. Subject matter and skills related to species of animal.
- B. To provide 4-H leaders with curricula and a ready-to-use set of resources and teaching tools needed to conduct successful learning activities at 4-H meetings.
- C. To provide a measure of consistency among counties in resources available for use in teaching 4-H members.
- D. To ensure that 4-H members have a sound, well-rounded educational experience—it’s more than showing livestock or riding horses.
- E. To provide an opportunity for volunteers to introduce quality assurance and ethics lessons to youth.
- F. To reduce the liability that volunteers may encounter when working with 4-H animal projects and activities. This is accomplished by ensuring that all 4-H Livestock and Horse Volunteers are following a prescribed and approved curriculum and have been certified by the University of Kentucky to work with youth.
- G. To fulfill the desire of volunteers for greater personal knowledge of the subject matter which they need to teach to youth.

The local 4-H leaders must undertake a two day meeting to become a CLL. This certification program will serve as an instrumental means to deliver swine influenza prevention education and training. Club sizes that the CLLs lead range from 5-30 participants, and across 30 sites, we estimate that about 300 youth participants may participate in swine influenza prevention trainings at local club meetings.

There are 144 4-H Youth Development agents in our 120 counties. Their major job responsibilities include educational programming and volunteer development/council support. The agents are typically onsite at their local county fairs and often assist with agriculture youth exhibitions, and will assist in the dissemination of swine influenza prevention messaging and adherence among youth participants.

State Fair

In Kentucky, youth winners of swine exhibitions at local county fairs are able to exhibit their livestock at the Kentucky State Fair. Ongoing collaboration exists regarding information for proper swine handling and exhibit organizers at the Kentucky State Fair through a collaboration between KDPH, the Kentucky State Fair Board and the Kentucky Department of Agriculture. (Appendix A). Through focusing on delivering educational materials and messaging to youth participants in swine exhibition at the local county fair swine shows, the youth participants will have pre-exposure to this public health initiative. The same adapted signage for the local county fair swine exhibit halls will also be made available to the State Fair Board for distribution to state fair swine show participants.

Partnership with State of Indiana

The Kentucky State Fair Board has had the pleasure to host the National Future Farmers of America (FFA) Convention in Louisville, Kentucky for the last several years. The National FFA Convention will now be held in our neighboring state at Indianapolis, Indiana, where many cases of swine influenza among youth agricultural participants have been identified. The KDPH Influenza Program staff had exhibits at the national FFA Convention about influenza prevention as well as the prevention of other communicable diseases. The KDPH Influenza Program have a good working relationship with their counterparts in Indiana. As part of this pilot project, KDPH Influenza Program staff will share their methods, lessons learned, and assistance to the Indiana influenza prevention staff who may consider exhibiting at the National FFA Convention in Indianapolis.

Kentucky One Health Initiative

The new State Public Health Veterinarian named in April 2017 will continue leadership in the One Health initiative, with financial support for quarterly meetings among One Health stakeholders. The State Public Health Veterinarian will arrange speakers for the meetings related to One Health topics, promote inter agency and public/private partnerships to promote One Health collaboration and preparedness for the prevention of zoonotic diseases, including prevention of swine influenza transmission. The State Public Health Veterinarian or designee will attend a national One Health meeting to share Kentucky's One Health progress and to bring One Health information back to Kentucky One Health stakeholders.

Sustainability

The trainings of the CLLs will continue after this one year pilot funding and curriculum implemented within their training about the prevention of transmission of swine influenza to humans will continue beyond the one-year project. Youth who live on family farms with swine often participate in swine exhibitions in subsequent years, and their training by the CLLs may have carry-over to their family farm environments. Materials including signs and brochures will be printed with lamination in order to be used in subsequent years. 4-H Youth Development agents and staff will be educated by KDPH staff about swine influenza prevention, and this expanded knowledge base will carry on in their participation in future swine exhibitions beyond the pilot period.

Program Evaluation

Documentation and provision of progress reports, including counts of the following measures collected by program partners will be provided to CSTE:

- educational materials printed and distributed
- number of trainings and education meetings and activities with details such as date, time, location, number of participants.
individuals trained (Ex. LHD staff, CLLs, local 4-H Youth Development Leaders)
- youth participants (and families) educated
- cases of variant influenza and other reportable zoonotic diseases

KDPH staff are also willing to participate in formation of a CSTE CDC-led evaluation framework to assess implementation of project on a national level and will share lessons learned about partnering with a non-profit youth agricultural organization such as 4-H Youth Development.

V. IRB

No identifiable data will be obtained about individual participants within this pilot project. Any cases of swine influenza will be investigated using normal secure workflows and identifiable data will not be used beyond count data for the purposes evaluation of this pilot project. Should the aims of this study change in consultation with CSTE a full IRB proposal will be submitted to the Institutional Review Board at the Kentucky Cabinet for Health and Family Services.

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Appendix A: Information for Swine Exhibition Organizers at 2016 Kentucky State Fair

I. Background

The Kentucky Dept. for Public Health in cooperation with the Kentucky State Fair Board and The Kentucky Dept. of Agriculture has compiled the following recommendations for managing disease risks associated with exhibiting swine. These recommendations were compiled after the diagnosis of influenza virus in swine and people during the 2012 exhibition season in Indiana and other states. The principles set forth in this document will aid in managing the risks associated with many swine diseases, but this document is specifically focused on influenza viruses.

II. General Risk Management Practices for All Swine Exhibitions

Exhibition organizers should apply the following principles to all swine exhibitions in Indiana:

1. The exhibition organizer should:
 - a. Establish a relationship with a veterinarian who will serve as the show veterinarian or that is willing to be on-call for show related veterinary needs.
 - b. Work with the show veterinarian to develop a plan for identification of and response to influenza-like illness in pigs or exhibitors. The plan should include a protocol to communicate with exhibitors before, during and after the show.
 - c. Hold terminal shows following breeding animal shows whenever possible.
2. Exhibition organizers should inform exhibitors and animal caretakers that people experiencing influenza-like symptoms (fever, cough, runny nose, sore throat, muscle aches) should not be in contact with swine for at least 24 hours after the fever ends without the use of fever-reducing medication or until a physician has ruled out influenza as a diagnosis.
3. The following should be discouraged:
 - a. Eating, drinking and smoking in animal areas.
 - b. Preparing or serving food and drinks in animal areas.
 - c. Bringing pacifiers, baby bottles, drink cups and other eating or drinking utensils into animal areas.
 - d. Sleeping in the animal areas.
4. An adequate number of hand washing stations should be maintained during the exhibition. Signage to encourage use of these hand washing stations should be posted.
5. Barn hygiene should be monitored and maintained. Special attention should be paid to areas where the public may have access.

III. Influenza Risk Management Recommendations for Show Organizers

BOAH recommends that show organizers utilize the following tools to manage the animal and public health risk associated with influenza viruses at swine exhibitions. These tools will not eliminate the risk of influenza infection. Each tool will by itself aid in reducing the risk of influenza spread. However, using a combination of the tools together as a part of an overall biosecurity plan will likely provide the greatest reduction in risk.

A. Vaccination

BOAH strongly recommends that all swine should be vaccinated for influenza prior to the opening day of the exhibition. Swine should be vaccinated within 120 days of the opening day of the exhibition. Swine should be vaccinated according to the label directions which often require two doses of vaccine. If exhibited swine will be sold for slaughter, careful attention to vaccination withdrawal times is warranted. Most influenza vaccines have a required 21 day withdrawal period prior to slaughter.

Appendix A: Information for Swine Exhibition Organizers at 2016 Kentucky State Fair

Exhibition organizers should take precautions to prevent ineligible swine from entering the slaughter channel.

Swine vaccinated for influenza are less likely to become ill and if they do become ill are likely to shed the virus for a shorter time. The immune system of a pig vaccinated for influenza is strengthened against influenza infection. Influenza vaccination will likely provide a significant level of protection even if the swine are exposed to an influenza strain that is different than the specific virus strains used to make the vaccine.

Influenza vaccines are commercially available by the vial through farm supply stores, distributors and veterinarians. Veterinarians may offer smaller quantities to clients.

B. Length of Stay

Exhibition organizers should take steps to limit the amount of time swine are congregated on the exhibition grounds. Ideally pigs entered in the competition will be on the exhibition grounds for not more than seventy-two (72) hours.

The longer pigs are congregated together the greater the risk that influenza virus will circulate among the pig population at that exhibition. If pigs become infected, a shorter duration of stay will decrease the risk other swine and people will be exposed to the virus.

Exhibition organizers should:

1. Encourage dismissal and load-out of swine soon after they have completed their competition.
2. Separate animal displays, such as a sow with litter and breed type displays, from the animals entered in the competition.

C. Barn Monitoring

Pigs should be observed daily for signs of disease or infection. Exhibitors should be encouraged to report signs of illness in swine to the appropriate show staff. If flu-like signs are observed, the show staff should contact a veterinarian to evaluate the animal and/or take the pig's temperature to determine if the pig will remain on the exhibition premises.

Pigs may be screened for signs of illness by taking a rectal temperature of the pig. BOAH recommends the following procedure for evaluating temperatures:

- a. If the temperature is 105.0°F or higher, verify with a non-digital, glass thermometer for one minute.
- b. If the temperature is verified to be over 105.0°F, remove the pig from the exhibition grounds.

The thermometer should be disinfected between each pig using an appropriate disinfectant.

In addition to monitoring of pigs in the barn, an exhibition organizer may choose to take temperatures prior to the pigs entering the barn (at check in) to screen for sick pigs. However, BOAH understands that it may not be practical to take temperatures for all entering swine at some exhibitions. When taking the temperature of pigs upon arrival, use the following procedure:

- a. If the temperature is 105.0°F or higher, verify with a non-digital, glass thermometer for one minute.
- b. If the temperature is verified to be over 105.0°F, either:
 - i. Remove the pig from the exhibition grounds; or

Appendix A: Information for Swine Exhibition Organizers at 2016 Kentucky State Fair

- ii. Wait 20 minutes for the pig to rest. At the 20 minute mark, take the rectal temp again. If the pig's temperature is 105.0°F or higher, remove the pig from the exhibition grounds.

D. Animal Identification

Exhibited swine should be identified with an official identification that is unique to the pig. BOAH recommends that exhibition swine are identified with USDA approved 840 radio frequency identification (RFID) tags. The tag number on an 840 tag is visible on the tag but it also contains a small chip that stores the 15-digit tag number. The tag number is associated with the location where the animal resides. The 840 tag enhances the speed and accuracy of any animal disease investigation that may arise out of the exhibition.

The tag number may be read using a panel or wand reader providing an opportunity to incorporate the identification information into electronic show records that may save time and effort for organizers.

IV. Event Registration and Records

Exhibition organizers should be aware of and follow the following state laws:

Exhibition organizers must notify the BOAH within ten days of the opening of the exhibition of the following:

1. The opening date of the exhibition.
2. The duration of the event.
3. The location of the event.
4. The nature of the event and species of the animals expected to be at the event.
5. The name, address and phone number of the person organizing the event. 345 IAC 7-4.5-2.

Exhibition organizers must keep the following records for at least two years:

1. Each participants name and address.
2. The species of each animal exhibited by the participant.
If an animal is sold through an auction or other sale as a part of the exhibition, the name and address of the purchaser of the animal.

BE HEALTHY

at the FESTIVAL

People and animals
can share germs.



No food or drink
in animal areas.



Wash your hands
with soap and
water when you
leave the barn.



Closely supervise
toddlers and
young children
and avoid hand to
mouth contact.

The elderly, pregnant women, children under five
and people with underlying health conditions are at
a higher risk of becoming ill.



MICHIGAN STATE
UNIVERSITY

College of Veterinary Medicine



MICHIGAN STATE
UNIVERSITY

Extension

Adapted with permission from the Minnesota State Fair.

MSU is an affirmative-action, equal-opportunity employer, committed to achieving excellence through a diverse workforce and inclusive culture that encourages all people to reach their full potential.

2016 SWINE SHOWS

FAIR

CONTACT PERSON

(DATES LOCATIONS)

MUHENBERG COUNTY FAIR	WEDNESDAY JUNE 8 @ 5 PM 2:30-4 PM CHECK-I	DARRIN BENTON
JUNE 3-11	MARKET HOG	P O BOX 623
POWDERLY	MARKET HOG CLASSES 20-12-10-8-6-4	GREENVILLE KY 42345
		270-543-0097

NICHOLAS COUNTY FAIR

JUNE 4-18	SATURDAY JUNE 18 @ 7 PM ARRIVE BY 6 PM	RACHEL ABNEY
CARLISLE	Y-D-H-O-MARKET HOG	368 EAST MAIN STREET
	MARKET & PUREBRED CLASSES 15-10-5 MUST HAVE	CARLISLE KY 40311
	5 OR MORE PER BREED FOR BREED SHOW	859-289-2312
	CH-100 RES-50	859-248-8933

DANVILLE-BOYLE COUNTY FAIR

JUNE 13-18	SATURDAY JUNE 11 @ 6 PM ARRIVE BY 4:30 PM	RYAN OWENS
DANVILLE	S-Y-CW-PC-D-H-L-BERKSHIRE	P O BOX 777
	BARROW & GILT CLASSES 10-7-5-3-1-1-1-1	DANVILLE KY 40422
	G.C.-50 R.C.-25	859-516-3868

SHELBY COUNTY FAIR

JUNE 13-25	FRIDAY JUNE 17 @ 8 AM ARRIVE BY 7:30 AM	TOM INGRAM
SHELBYVILLE	OPEN TO 4-H & FFA ONLY	913 FLOOD ROAD
	ALL CLASSES 15-10-8-5	SHELBYVILLE KY 40065
		502-321-1254

WOODFORD COUNTY FAIR

JUNE 17-25

VERSAILLES

FRIDAY JUNE 24 @ 7 PM ARRIVE BY 6 PM

MARKET HOG CLASSES

ALL CLASSES 20-15-10-5-5-5-5 G.C.-100 R.C.-50

MARY LOU WATKINS

P O BOX 342

VERSAILLES KY 40383

859-229-9461

BOURBON COUNTY FAIR

JUNE 18-25

PARIS

MONDAY JUNE 20 @ 8 PM ARRIVE BY 7 PM

MARKET HOG CLASSES

MARKET HOG CLASSES 20-15-10-5-5-5 G.C.-100 R.C.-50

LESLIE YAZELL

165 NORTHLAND DRIVE

PARIS KY 40361

859-987-5605

UNION COUNTY FAIR

JUNE 20-25

STURGIS

THURSDAY JUNE 23 @ 9 AM ARRIVE BY 8 AM

GILTS & BARROWS

MARKET HOG CLASSES 25-20-15-10-5 CH-50 RES-25
SHOWMANSHIP - 30

MISTY STRUNK

P O BOX 325

STURGIS KY 42459

270-333-4107

270-952-1272

CLARK COUNTY FAIR

JUNE 25-JULY 2

WINCHESTER

THURSDAY JUNE 30 @ 7 PM ARRIVE BY 6 PM

MARKET HOG

MARKET HOG CLASSES 20-15-10-5-5-5 SHOWMANSHIP
CLASSES 20-15-10-5-5-5

MELISSA CLARK

P O BOX 439

WINCHESTER KY 40392

859-744-9780

859-749-0917

GARRARD COUNTY FAIR

JUNE 27-JULY 2

LANCASTER

TUESDAY JUNE 28 @ 8 PM ARRIVE BY 7 PM

S-Y-CW-D-H-L-O

MARKET HOG CLASSES 10-8-6-4-2-2-2-2-2

G.C. GILT-35 R.C. - 10 G.C. MARKET HOG-35 R.C.-10

DARBY MONTGOMERY

P O BOX 130

LANCASTER KY 40444

859-339-3922

SCOTT COUNTY FAIR

JUNE 28-JULY 2

GEORGETOWN

MONDAY JUNE 27 @ 8 PM ARRIVE BY 7 PM

MARKET HOG CLASSES

OPEN MARKET CLASSES 20-18-15-10 CONTACT

MICHELLE SIMON @ 859-630-9179 FOR MORE INFO.

PAULA MORAN

100 FARMERS BANK DR. SUITE 100

GEORGETOWN KY 40324

502-867-4176

502-576-2434

WESTERN KENTUCKY STATE FAIR

JULY 1-9

HOPKINSVILLE

SATURDAY JULY 9 @ 9 AM ARRIVE BY 8 AM

MARKET HOG CLASSES

MARKET HOG CLASSES 18-16-14-12-10

4-H/FFA YOUTH ONLY

TIM HENDERSON

P O BOX 325

HOPKINSVILLE KY 42241

270-881-3515

ESTILL COUNTY FAIR

JULY 1-9

IRVINE

SATURDAY JULY 2 @ 9 AM ARRIVE BY 8:30

ALL BREEDS

SOW MARKET HOG & FEEDER PIG CLASSES 15-12-10

TED HUNT

P O BOX 361

IRVINE KY 40336

606-723-5573

HENRY COUNTY FAIR

JULY 4-9

NEW CASTLE

WEDNESDAY JULY 6 @ 7 PM ARRIVE BY 4 PM

MARKET HOG CLASSES

MARKET HOG CLASSES 20-15-10

SHOWMANSHIP-50

JUSTIN ATCHISON

P O BOX 612

NEW CASTLE KY 40050

502-845-6505

TRIMBLE COUNTY FAIR

JULY 4-9

BEDFORD

THURSDAY JULY 7 @ 6 PM ARRIVE BY 5:30 PM

ALL BREEDS

GILT & MARKET CLASSES 10-7-5

LINDA CRAIG

1984 ABBOTT LANE

BEDFORD KY 40006

502-255-3930

BATH COUNTY FAIR

JULY 5-9

OWINGSVILLE

THURSDAY JULY 7 @ 6:30 PM ARRIVE BY 4:30 P
MARKET HOG CLASSES
MARKET HOG CLASSES 20-15-10-5
GARY HAMILTON
2914 EAST HWY 60
OWINGSVILLE KY 40360
606-674-6121
606-782-0335

FRANKLIN COUNTY FAIR

JULY 12-16

FRANKFORT

WED. JULY 13 @ 7 PM ARRIVE BY 6:30
ALL BREEDS
MARKET HOG & GILT CLASSES 20-15-10-5 MARKET
CH-25 CONTACT JACKIE BRANHAM @ 502-545-0890
RICHARD MITCHELL
P O BOX 4565
FRANKFORT KY 40604
502-319-0029
502-695-5841

MCLEAN COUNTY FAIR

JULY 14-16

CALHOUN

FRIDAY JULY 15 @ 6 PM CST ARRIVE BY 5 PM
MARKET HOG CLASSES
MARKET HOG CLASSES 20-17-14-11-9
CARY HICKS
P O BOX 265
CALHOUN KY 42327
270-273-3690
270-993-8989

LEXINGTON LIONS BLUEGRASS FA

JULY 14-24

LEXINGTON

THURSDAY JULY 21 @ 7 PM ARRIVE BY 5:30 PM
MARKET HOG
MARKET HOG CLASSES 20-15-12-10-8 G.C. - 100 R.C. - 50
NICK CARTER
1140 RED MILE PLACE
LEXINGTON KY 40504
859-257-5582
859-749-9616

TOLLESBORO FAIR

JULY 15-23

TOLLESBORO

TUESDAY JULY 19 @ 7 PM ARRIVE BY 6 PM
ALL BREEDS
GILT BOAR PAIR & MARKET CLASSES 15-10-5
STEVEN PEDERSEN
14884 W KY 9
TOLLESBORO KY 41189
937-795-2740
606-798-2421

OWEN COUNTY FAIR

MONDAY JULY 18 @ 7:30 PM ARRIVE BY 7 PM FADANA BRAMBLETT
 MARKET HOG & GILT CLASSES 4190 HWY 127 SOUTH
 GILT & MARKET HOG CLASSES 25-20-15 OWENTON KY 40359
 502-484-5598
 502-514-2384

MERCER COUNTY FAIR

SATURDAY JULY 30 @ 9 AM ARRIVE BY 8:30 LEMAYNE ELLIS
 MARKET HOG CLASSES P O BOX 444
 DANISH SYSTEM HARRODSBURG KY 40330
 859-734-5546

MEADE COUNTY FAIR

MONDAY JULY 25 @ 5 PM MELISSA YATES
 CALL FOR CHECK-IN TIMES P O BOX 325
 OPEN BREEDING GILTS 30-25-20-15-12-10-10-10-10 BRANDENBURG KY 40108
 MARKET HOGS 270-422-2000
 30-25-20-15-12-10-10-10-10 CH GILT 50 CH MARKET
 HOG 50 CALL (270) 547-2917 FOR CHECK-IN TIME

HOPKINS COUNTY FAIR

WEDNESDAY JULY 27 @ 5 PM CST ALLEN SEIBERT
 BE ON GROUNDS BY 4 PM P O BOX 425
 MARKET HOG CLASSES 15-10-6-4-2-2 MADISONVILLE KY 42431
 270-339-0021

DAVISS COUNTY LIONS FAIR

THURSDAY JULY 28 @ 6 PM ARRIVE BY 4 PM TIM BOWEN
 MARKET HOG 245 CARDINAL LANE
 MARKET HOG CLASSES 15-10-8-6-5 CH-50 RES-25 OWENSBORO KY 42303
 270-570-4460

JULY 22-24 & 27-30

PHILPOT

SOUTHERN KENTUCKY FAIR

JULY 31-AUGUST 6

BOWLING GREEN

TUESDAY AUGUST 2 @ 5 PM ARRIVE BY 4 PM

MARKET HOG CLASSES

ALL CLASSES 20-15-10-5

STEVE HENDERSON

P O BOX 69

BOWLING GREEN KY 42102

270-779-8300

GRANT COUNTY FAIR

AUGUST 1-6

WILLIAMSTOWN

WEDNESDAY AUG. 3 @ 10 AM ARRIVE BY 8:30

Y-D-H-MARKET

GILT BOAR PAIR & MARKET CLASSES 20-15-10-5

TENA WEBSTER

P O BOX 96

WILLIAMSTOWN KY 41097

859-445-4885

859-824-8521

GERMANTOWN FAIR

AUGUST 1-6

GERMANTOWN

WEDNESDAY AUGUST 3 @ 9 AM

ARRIVE ON TUES. 8/2 BY 10 AM

MARKET HOG CLASSES DANISH SYSTEM
OPEN TO 4-H & FFA MEMBERS FROM BRACKEN MASON
FLEMING LEWIS & ROBERTSON COUNTIES

LU ANN ASBURY

2853 ASBURY ROAD

AUGUSTA KY 41002

606-564-0478

606-728-5687

MONTGOMERY COUNTY FAIR

AUGUST 1-6

MT STERLING

WEDNESDAY AUGUST 3 @ 7 PM

ON GROUNDS BY 6 PM

MARKET HOG CLASSES 20-15-10-5

KAREN COCKRELL

5790 CAMARGO-LEVEE ROAD

JEFFERSONVILLE KY 40337

859-498-2589

ROWAN COUNTY FAIR

AUGUST 17-20

MOREHEAD

FRIDAY AUGUST 19

TBA

CALL MIKE PATRICK @ 606-356-5225 FOR SHOW DETAILS

MIKE PATRICK

6200 US 60 EAST

MOREHEAD KY 40351

606-356-5225

606-286-1658

Inputs & Resources

Activities & Outputs

Outcomes

Kentucky Department for Public Health (KDPH)

- Primary State Health Department Coordinator, State Public Health Epidemiologist
- State Public Health Veterinarian
- Immunization Program Manager, Staff, and Local Field Staff
- Assistant Director, Division of Epidemiology and Health Planning

Kentucky 4-H Foundation & University of Kentucky (UK) College of Agriculture, Food and Environment

- Primary Agriculture Organization Coordinator, Extension Associate for Youth Livestock Programs
- Director of 4-H Youth Development Program
- Agriculture Academic Enrichment Experience Intern(s)

Local Health Departments (LHDs)

- Environmentalists
- Public Health Nurses
- Regional Epidemiologists

County 4-H Programs

- UK Extension Agents for Youth Development (EAYDs)
- Certified Livestock Leaders (CLLs)
- Youth
- Families

Local Fair Boards

KDPH Coordination of Activities

- Development of educational materials, including partnering with and outreach to other states
- Documentation and provision of progress reports, including counts of the following measures, collected by program partners:
 - educational materials printed and distributed
 - training and education meetings and activities with details such as date, time, location, number of participants, etc.
 - individuals trained (Ex. LHD staff, EAYDs, CLLs)
 - youth participants (and families) educated
 - cases of variant influenza and zoonotic diseases
- Assistance with program training, distribution of educational materials, data collection, evaluation

4-H & UK Cooperation & Collaboration

- Assistance with coordination and facilitation of activities between KDPH, UK, LHDs, 4-H chapters, including program training meetings, materials distribution, and implementation

LHD Implementation

- Dissemination of educational materials and onsite education and evaluation at Swine Exhibition sites (Ex. County Fairs)
- Education about symptoms, case reporting, and disease surveillance

4-H Meetings & Swine Exhibitions

- Education of 4-H youth and families about swine variant influenza and zoonotic diseases, preventive measures, public health response and related careers

Increased One Health capacity through new and improved collaborative partnerships and enhanced communication between local, state, and interstate regional public health, agriculture, and youth organizations.

Development of a sustainable intervention and network for future preventive efforts.

Improvement of participants' awareness, knowledge, and understanding of swine variant influenza and zoonotic diseases, preventive measures, and public health response and related careers.

Potential adoption of appropriate preventive behaviors among program participants, including youth swine exhibitors and their families.

Improved One Health team approach and response to variant influenza and zoonotic diseases in Kentucky and the surrounding region.

Enhanced adoption of prevention strategies and decreased transmission of swine variant influenza and zoonotic diseases among program participants.



College of Agriculture, Food and Environment
Department of Animal and Food Sciences

April 6, 2017

To whom it may concern:

It is important for those of us who have been placed in positions of providing education to the Livestock Youth Exhibitors of Kentucky, to provide them and others attending livestock shows accurate and meaningful information about issues such as proper health issues dealing with the exhibitor and their project. Those involved with the writing of this grant and the implementation of the core teaching elements agree that there is a strong need to provide educational materials to and gather data from those individuals who are raising and exhibiting show pigs and the individuals who attend swine shows.

We look forward to working together to raise awareness of, but more importantly how to deal with potential bio-security for possible swine/human health issues.

If you have any questions feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Steve Austin'.

Steve Austin

Extension Associate for Youth Livestock Programs

steven.austin@uky.edu



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service
 4-H Youth Development

Cooperative Extension Service
Kentucky 4-H Youth Development
212 Scovell Hall
Lexington, KY 40546-0064
859-257-5961
Fax: 859-257-7180
<http://4-h.co.uky.edu>

Pilot Project Development Grant Application Letter of Support

April 5, 2017

Re: **Education & Prevention of Zoonotic Influenza among Youth in Agriculture**

To Whom It May Concern:

I am writing this letter to show my support for the educational objectives included in the CDC – USDA – CSTE Education and prevention of zoonotic influenza among youth in agriculture grant application. I believe that this is a topic of great importance and applicability in the Kentucky agriculture community. Through the proposed implementation of this pilot project, Kentucky youth will be better prepared in understanding and addressing the health concerns associated with swine influenza transmission.

As the director of the Kentucky 4-H Youth Development program, I work with youth livestock programs extensively. Through this work I can see, firsthand, how educating youth on disease transmission will work toward the goals outlined in this grant proposal.

Sincerely,

Mark Mains, Ph.D.
Assistant Director of 4-H Youth Development
mmains@uky.edu | 859-218-0989 (w) | 859-257-5961 (f)

Cooperative Extension Service
Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

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LEXINGTON, KY 40546



Disabilities
accommodated
with prior notification.

