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Center for the Ecology of Infectious Diseases

Swine Health Information Center
Japanese Encephalitis Virus (JEV) Research
JEV Information Sharing Network Website
SHIC #A0006404UG John M. Drake (PI)

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Summary: With funding provided by the [Swine Health Information Center](#) (SHIC), the Center for the Ecology of Infectious Diseases (CEID) at the University of Georgia is building a Japanese encephalitis virus (JEV) Information Sharing Network and accompanying website. The network and website are outcomes of the symposium [Japanese Encephalitis Virus: Emerging Global Threat to Humans & Livestock](#), cosponsored by SHIC and the University of Georgia and held at CEID October 17 – 19, 2022.

The JEV Information Sharing Network website will be a maintained repository of information about JEV, including ecology and epidemiology, and will be managed by CEID. The JEV Information Sharing Network website will be accessible to global academic institutions, government agencies, private individuals, and industry actors that have a vested interest in JEV infectious disease dynamics. Materials may include data, summaries, white papers, technical literature, and visualizations.

Pertinent JEV Information

The JEV Information Sharing Network Website will feature menus providing access to key sources of information, including:

- **Ecology:** Information about natural reservoir species, amplifying hosts (e.g. domestic and wild pigs), and mosquito vectors; environmental covariates (e.g. precipitation and temperature, natural barriers such as the Australian Great Dividing Ridge or the Appalachian Mountains in the United States); and the spatial spread of vector species via wind dispersion or aircraft.
- **Epidemiology:** Genetic and phenotypic information about genotypes I – V; levels of viremia by host species; clinical manifestations in humans and livestock; comparison to other diseases such as West Nile virus; commercialization of swine

approved vaccines.

- **Impacts:** Economic impacts on industry; impacts on animal and human health.
- **Outbreak Response Plans:** Information about Australia's 2022 JEV outbreak and updated response policies; USDA APHIS development of response policies; industry specific response plans; diagnostic tools for genotypes I – V.
- **Data**
- **Technical Literature**

The development and population of these sections and additional subject matter will be guided by questions from CEID, SHIC, and other institutions and individuals. Sample questions could include:

- Which bird species by geographic region are suspected but unconfirmed JEV reservoir hosts?
- How can we identify clinical signs of infection in domestic swine beyond abortions, shaky pigs, etc.?
- What can producers and veterinarians do to respond to an outbreak and contain it?
- Has JEV ever been detected in the United States? If so, where? And how was an outbreak prevented?
- What have countries in Asia and Southeast Asia with endemic JEV done to either prevent or control outbreaks?
- How do we efficiently screen for genotypes I – V?
- How do we differentiate between JEV antibodies from other diseases such as West Nile virus?
- Does mosquito surveillance in the United States need to be improved? If so, where?
- Have wild boar infections in the United States been confirmed? If so, where?
- Has the importation risk of infected JEV mosquitoes from Australia or other endemic countries increased? If so, why?
- What help can we provide to pork producers in Australia, other endemic countries, or in the United States when an outbreak has been confirmed?
- When an outbreak has been confirmed, how can we develop succinct messaging for the public that successfully communicates that pork is safe to eat?
- How do we ensure public safety in a community that is experiencing an outbreak?
- How much would an outbreak in the United States cost the pork industry? How much would an outbreak cost associated industries?

Next Steps

You have received this document because CEID, SHIC, or another agency or individual has identified you to be interested in JEV. From your perspective as an infectious disease ecologist, pork producer, swine veterinarian, state or federal animal health official, or

another profession, please let us know what information that you believe should be included in the JEV Information Sharing Network website.

Please submit your ideas to John King via email by **February 28, 2023**. You will be notified when your email is received.

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