

# Swine Disease Global Surveillance Report

Worldwide pork production is highly interconnected by trade between countries and markets which could increase the risk of introduction of foreign pathogens into the US.

## PROJECT

The aim of these reports is to have a system for near real-time identification of hazards that will contribute to the mission of assessing risks to the industry and ultimately, facilitate early detection and identification, or prevent occurrence of events, in partnership with official agencies, and with our international network of collaborators.

Monthly reports are created based on the systematically screening of multiple official data sources, such as government and international organization websites, and soft data sources like blogs, newspapers, and unstructured electronic information from around the world, that then are curated to build a raw repository. Afterward, a group of experts uses a multi-criteria rubric to score each event, based on novelty, potential direct and indirect financial impacts on the US market, credibility, scale and speed of the outbreak, connectedness, and local capacity to respond average is calculated. The output of the rubric is a final single score for each event which then it is published including an epidemiological interpretation of the context of the event.

*These communications and the information contained therein are for general informational and educational purposes only and are not to be construed as recommending or advocating a specific course of action.*



UNIVERSITY OF MINNESOTA



Swine Health Information Center

*University of Minnesota Technical Coordination*

Sol Perez<sup>1</sup>, Auguste Brihn

Andres Perez<sup>2</sup>

*Expert Focus group*

Jerry Torrison, Montserrat Torremorell,

Cesar Corzo, Paul Sundberg, John Deen

<sup>1</sup>Project coordinator. E-mail: [mperezag@umn.edu](mailto:mperezag@umn.edu)

<sup>2</sup>Principal investigator. E-mail: [aperez@umn.edu](mailto:aperez@umn.edu)

[www.cahfs.umn.edu](http://www.cahfs.umn.edu)

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**Spontaneous  
reporting TOOL**



## Swine Disease Global Surveillance Report

Tuesday, April 5, 2022 – Monday, May 2, 2022

### Report Highlights

- **JEV in Australia:** another 23 piggeries tested positive in April. Authorities' estimates predict up to 60-80% losses in affected sites.
- **Closer to the finish line:** a vaccine candidate for ASF has passed a crucial safety test required for regulatory approval.
- **PED in Canada:** Manitoba's largest outbreak to date; surveillance through Environmental Testing ongoing at high-traffic sites, over 48,000 submitted so far.

### OUTBREAKS BRIEF

R	Location	Date	Dx	Impact
2	Southeastern states and territories, <b>Australia</b>	4/20	JEV	Another 23 piggeries reported JEV cases
1	Palu (Jakarta), <b>Indonesia</b>	4/24	ASF	7 tones of pork destroyed after tested positive for ASF
1	Piedmont and Liguria region (north of the country), <b>Italy</b>	4/28	ASF	21 new outbreaks confirmed in wild boars. Making a total of 104 since the 1st report
1	Multiple locations, <b>The Dominican Republic</b>	March	ASF	Over 350 new outbreaks have been reported since our last report
1	Artibonite (44 miles from the border with DR), <b>Haiti</b>	4/18	ASF	3 cases of ASF detected in a farm with over 100 pigs
1	Samphelling, Chukha Dzongkhag district, <b>Bhutan</b>	4/15	ASF	44 deaths in a semi-commercial farm
1	Multiple locations, <b>Thailand</b>	4/22	ASF	23 new ASF outbreaks reported across 31 provinces since mid-March.
1	Southern Leyte (Province in Eastern Visayas), <b>The Philippines</b>	April	ASF	First report of ASF in the region - 14 backyard farmers were affected
1	Multiple locations (Ibaraki, Gunma, Tochigi prefectures), <b>Japan</b>	4/19	CSF	3 new cases of CSF in domestic pigs were reported - 14,400 destroyed.
1	Manitoba and Ontario, <b>Canada</b>	April	PED	New 10 outbreaks

Outbreaks described in the table above are colored according to an assigned significance score. The score is based on the identified hazard and potential to affect the US swine industry. Rank (R) Blue: 1 - no change in status; Red: 2 - needs extra attention as the situation is dynamic; Black: 3 - requires consideration or change in practices to reduce exposure to the US swine industry. A map with the location of the events reported is available at the end of this report.

## Japanese Encephalitis (JE)

### OCEANIA

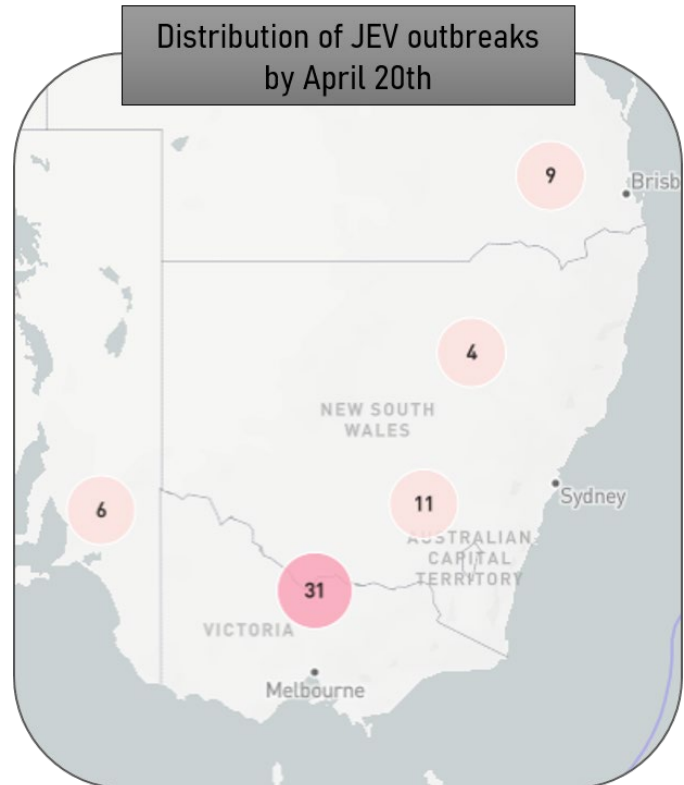
#### Australia

By April 20, 73 swine production sites affected by Japanese Encephalitis Virus (JEV) located in the Australian states of Victoria, Queensland, New South Wales, and South Australia were reported by the Australian Department of Agriculture. The initial four farms to report JEV were unrelated pig farms spanning 1500km in distance, all producers for SunPork Farms. The first reported affected farm was on February 25 and by March 29, more than 50 infected pig farms were reported across the eastern seaboard states of Australia and South Australia.

Since last month's report, there are now 30 piggeries in New South Wales, 22 in Victoria, 14 in Queensland, and seven in South Australia affected by JEV, with predicted estimates of up to 60-80% loss in production according to the NSW Department of Primary Industries chief veterinary officer ( Map 1). There have also been JEV detections in a small number of feral pigs in the West Daly region in the Northern Territory (Map 2).

**As of April 20, a pig population of over 420,000 has been affected.**

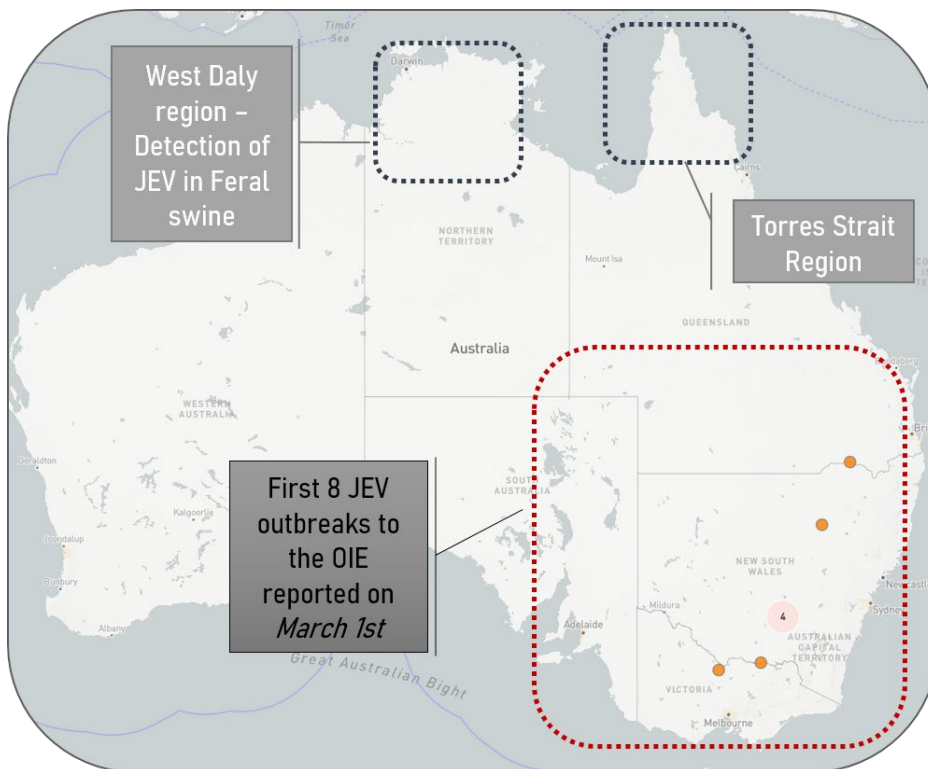
According to the Australian Department of Health's reports, 37 people have been affected by JEV, with three deaths occurring throughout Australia. Recent warm, wet weather is thought to be contributing to the proliferation of the *Culex spp.*, the mosquito responsible for the proliferation of the disease. Cases appear to be stabilizing amidst cooling temperatures leading to reduced mosquito activity. At the same time, vaccine efforts become a crucial focus for prevention as concerns arise about whether the disease will return annually.



Map 1. Current distribution of JEV outbreaks in Southeastern Australia

**TRACKING BACK**

The current distribution of outbreaks represents a significant change in the virus' presence in Australia. Serological evidence of Japanese encephalitis is periodically detected in the Torres Strait region of northern Australia but has not previously established transmission on mainland Australia. Climate conditions of above median rainfall and warmer minimum temperature may be a factor in the current event. Sequencing was conducted on selected JEV-positive swine samples for genotyping and confirmation. Analysis of the sequences indicated that all genomes belonged to JEV genotype IV and all sequences were more than 98% similar to each other across the covered regions. Comparison of the genomes to publicly available reference sequences showed the highest nucleotide identity to JEV/sw/Bali/93/2017 (LC461961.1; ~ 96.7% nucleotide identity), a genotype IV sample collected from Indonesia in 2017.



Map 2. Location of the first reported outbreaks of JEV in 2022.

**African Swine Fever**

**AMERICA**

**The US**

*African swine fever vaccine passes a critical safety test*

According to experts at the USDA's Agricultural Research Service (ARS), a vaccine candidate for ASF has passed a crucial safety test required for regulatory approval, advancing the vaccine one step closer to being commercially available. The important safety test passed is called the "reversion to virulence test," which is a test to ensure that the weakened form of the virus used in the vaccine does not switch back to its virulent form when administered to pigs.

The findings of these safety studies were published in a [peer-reviewed journal](#) and will be used to obtain authorization for the use of the ASF vaccine in Vietnam, where the ARS has partnered with the

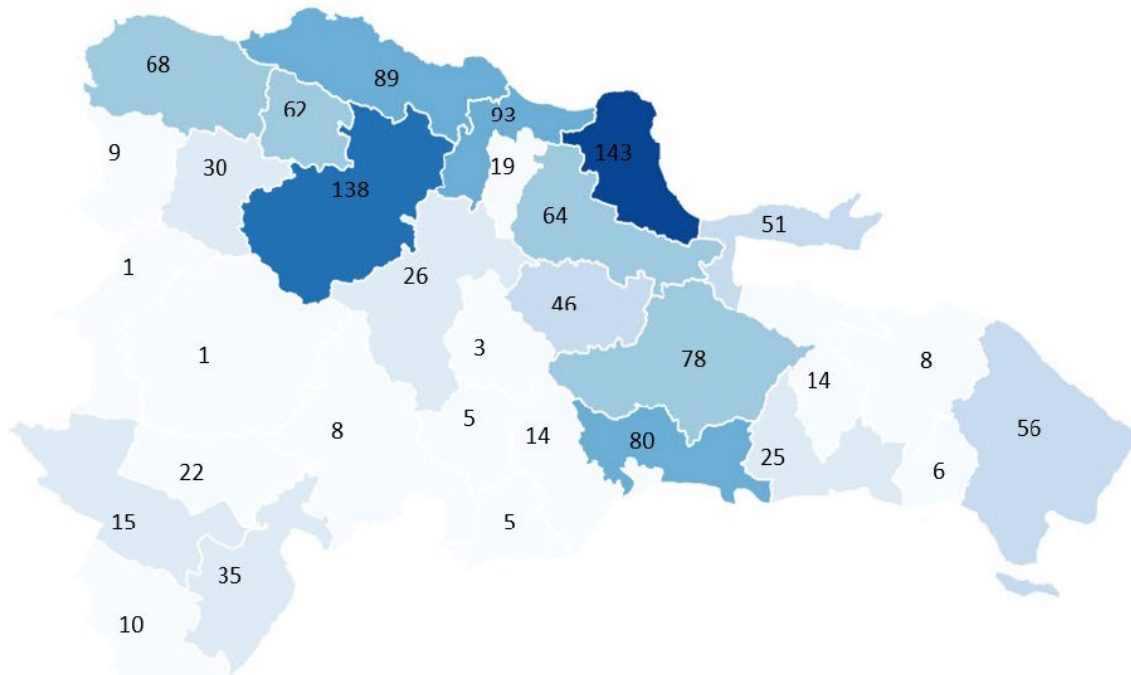
National Veterinary Joint Stock Company (NAVETCO), a local company, on ASF vaccine research and development. Vietnam's regulatory approval will enable further development of the candidate vaccine, bringing it closer to commercial availability.

### The Dominican Republic

Since the start of the epidemic (period between July 25, 2021 - April 22, 2022), only 221 of the 1,242 confirmed outbreaks (by the Dominican authorities) have been reported to the OIE (last follow-up report - 2/16/22). The total loss of animals throughout these 221 outbreaks is over 18,000. Most of these reports are from backyard premises with less than 100 pigs, although some feature community-style backyard operations with up to 1,000 pigs.

The Epidemiology Division, Department of Animal Health (DAH), Directorate of Livestock, Ministry of Agriculture in the Dominican Republic, implements the early alert reporting system, where all suspected cases are reported. There are some backlogs in their submission to OIE, inherent to the burden and challenges associated with investigating each suspected case that is reported.

**Until April 22, authorities had confirmed by molecular diagnosis 1,242 outbreaks in 30 provinces; 1,005 of those outbreaks have been resolved (Map 3).**



Map 3. Distribution of confirmed accumulated cases of ASF in the Dominican Republic since the first case in July 2021.

Since the beginning of the outbreak, samples from over 3,045 production sites have been taken and processed by Dominican veterinary services; 416 of them during the last month (the period between 3/25 and 4/22), from which 92 tested positive for ASF.

It is important to note that the positive rate has changed since November (from over 40% to 22%), denoting the progressive efficacy of control efforts across the country. Still, the active spread of the virus throughout the population is of great concern.

### EUROPE

**In April (04/05/2022-05/02/2022), only two countries reported new ASF outbreaks in domestic pigs: 22 in Romania and one in Russia. The number of outbreaks significantly decreased almost five times compared to the previous month (n=113).**

The distribution of ASF among wild boars in the European region has not changed compared to the previous month. All the same 12 countries, namely Bulgaria, Estonia, Germany, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Northern Macedonia, Hungary, and Russia, report new outbreaks of ASF among wild boars.

However, the number of new outbreaks among wild boars increased slightly to 3254 compared to the previous month (n=2796). A third of all cases were registered in Poland (n=1006) according to the latest reports (European Commission Animal Disease Information System (ADIS), OIE-WAHIS, EMPRES-i FAO).

### **Regional Highlights:**

- **Germany:** two new ASF cases were confirmed in wild boars outside the restricted area surrounded by an electric fence in the Ludwigslust-Parchim district (Mecklenburg-Western Pomerania). Due to the new findings, the ASF restriction areas had to be redesigned by general decree.
- **Poland:** An ASF outbreak was registered in a wild boar in the Pomeranian Voivodeship for the first time. The disease was previously confirmed here in mid-May 2020. The reappearance of ASF near the borders of the Łódź Voivodeship is also alarming: the disease was confirmed in the Mogielnica commune in the Grójec county, which is 3 km from the border of the Rawa County of the Łódź Province. However, ASF outbreaks in the province itself have not yet been confirmed.
- **Latvia:** in the first three months of this year, more than 300 ASF cases have been reported in wild boars. This indicates a rapid spread of the disease this year compared to when ASF was detected in almost 450 wild boars all year round. Currently, the most affected region is Latgale, where half of the total number of infected animals has been reported.

## **ASIA**

**In April, eight countries - The Philippines, Cambodia, Bhutan, Lao People's Republic, India, Malaysia, Thailand, and Vietnam - reported ASF outbreaks in domestic swine.**





Map 4: Current ASF situation in Asia (Source: FAO EMPRESi)

### Regional highlights

- Bhutan:** Local authorities reported the first ASF outbreak this year. The outbreak, which occurred in a semi-commercial pig farm in Samphelling, Chukha Dzongkhag district, was reported on April 15 and confirmed by the National Center for Animal Health on April 17. A press release says 44 pig deaths had been recorded so far, and about 615 pigs were at risk.
- India:** Outbreaks were reported in Mizoram and Tripura states in the country's northeast. In Mizoram, the outbreaks have been ongoing since February 2022, and over 700 pigs have died, and about 100 pigs have been culled. In Tripura, an outbreak was reported at a government breeding farm. The media reports that plans are underway to cull all the at-risk pigs on this breeding farm.
- Vietnam:** National authorities reported an ASF outbreak in Quang Nam province on April 7. A total of 709 cases were reported, and they were all destroyed by the authorities. According to the FAO ASF situation report, since January 2022, Vietnam has had over 500 ASF outbreaks in 42 provinces.
- Malaysia:** Early in April, the Negeri Sembilan State Veterinary Services Department (JPVNS) confirmed ASF on a farm in Port Dickson (west coast). A total of 273 infected pigs were culled on April 13. Several days later, JPVNS found that about 2,000 pigs at 19 unlicensed farms near the ASF-infected farms were believed to have been taken out of the farms without the authorization of the state authorities.
- Cambodia:** Media newsletters published that the president of the Cambodian Livestock Raisers' Association warned that the smuggling of live pigs from Vietnam through various small corridors, especially by waterways, is on the rise.

### Porcine Epidemic Diarrhea (PED)

## AMERICAS

### Canada

Since late January, another 29 outbreaks of PED have been documented by Manitoba province authorities, making a total of 93 outbreaks since the start of this epidemic in late October 2021. While this shows a significant decrease in the rate of new cases, it still is a drastic increase from the records of 2020, when only three outbreaks were reported (last report July 2021).

	2021			2022				Total
	Oct	Nov	Dec	Jan	Feb	March	April	
<b>Finisher</b>	1	4	11	12	3	6	<b>5</b>	42
<b>Nursery</b>		2	4	6	3	5	<b>1</b>	21
<b>Sow</b>	1	6	7	8	1	5		28
<b>Farrow to Finish</b>		1		1				2
	2	13	22	27	7	16	<b>6</b>	93

Table 1. Number of PED outbreaks in Manitoba classified by type of farm.

During the same period (Oct 2021 - April 2022), Ontario reported 11 outbreaks, four of those this last month (three in finisher farms and one in a nursery).

The Manager of Swine Health with Manitoba Pork said that the pattern in this latest outbreak is very similar to those of 2017 and 2019. Predominantly, most cases remain in the typical high-risk areas in southeastern Manitoba; however, a few cases have popped up in this area.

#### PED Surveillance through Environmental Testing

A voluntary PED testing program is ongoing at high-traffic sites that move or handle large numbers of pigs, including livestock assembly yards, federal and provincial abattoirs, truck-wash stations, and livestock trailers. As of April 27, 2022, 48,030 samples have been submitted for PED testing from 21 high-traffic sites. **Nine sites have tested positive for PED.**

## Foot-and-Mouth Disease (FMD)

### AFRICA

#### South Africa

The country is currently battling to contain 56 outbreaks of FMD. According to an update announced by the Minister of Agriculture, Land Reform and Rural Development, Ms. Thoko Didiza. These outbreaks are in farms and communal areas in the Free State, KwaZulu-Natal, Limpopo, North West, and Gauteng.

The latest outbreaks in South Africa result from illicit livestock movements out of FMD-controlled zones in the state of Limpopo. In 2019, South Africa lost its OIE-recognized FMD free zone status. Despite this, the country has maintained permanent movement restrictions in FMD protection zones in Limpopo and Mpumalanga.

### TOPIC Focus



## Study on the possible data collection flows from the EU Member States to EFSA for risk assessment studies

**Laboratory data flows at country level: African Swine Fever and Avian Influenza Surveillance - SIGMA Consortium** *External Scientific report from 05 April 2022* | <https://doi.org/10.2903/sp.efsa.2022.EN-7261>

On demand of the European Commission, the European Food Safety Authority (EFSA) provides support in the analysis of specific animal disease outbreaks and related risk factors. Such activities require data collection on susceptible animal populations and the results of surveillance and control activities, including laboratory testing, carried out by the European Union (EU) Member States (MSs).

The SIGMA Consortium was appointed to study the possible data collection flows from MSs to EFSA. The study's main goal was to collect data on available resources for data collection and identify potential difficulties and technical solutions to ensure the level of data quality for risk assessment purposes. The SIGMA consortium provided technical support in developing and implementing an automated data collection and reporting system on susceptible livestock and animal testing to detect animal diseases, such as AI, ASV, and LSD.

Four types of questionnaires were distributed among EU MSs and four Instrument for Pre-Accession Assistance (IPA) countries (Montenegro, Serbia, North Macedonia, and Kosovo) to identify the institutions responsible for the basic data generation or collection, the level of details, as well as existing repositories and data exchanges between Institutions.

Overall, 21 countries (17 EU MS and four IPA countries) returned 50 filled questionnaires. Data show that most countries have a national database, either at the central veterinary authority or the NRL level. For countries with multiple Laboratory Information Management Systems (LIMS) for data storage without consolidation at the national level, the SIGMA-EST tool was proposed to facilitate establishing and updating a national database. Regarding the ways of data updating, to ensure the completeness and accuracy of sampling data, the development of web-based sampling forms, where the sampling information is registered by the personnel performing the sampling activities, was proposed to avoid the use of paper forms, which are vulnerable to manual errors and mistakes.

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## References:

### Recurrent reports reviewed

OIE - [WAHIS interface - Immediate notifications](#)

OIE - [OIE Asia Regional office](#)

FAO - OIE - [WAHIS interface - Immediate notifications](#)

DEFRA - [Animal conditions international monitoring reports](#)

CAHSS - [CEZD Weekly Intelligence Report](#)

European commission - [ADIS disease overview](#)

### AMERICA

#### The Dominican Republic

SITUACIÓN ACTUAL DE FIEBRE PORCINA AFRICANA - Informe Técnico - Semanas Epidemiológicas 30-16 ()

Haiti

<https://rr-americas.oie.int/en/news/update-response-asf-outbreak/>

The US

<https://www.nationalhogfarmer.com/news/african-swine-fever-vaccine-passes-tests-regulatory-approval>

Canada

<https://www.gov.mb.ca/agriculture/animal-health-and-welfare/animal-health/porcine-epidemic-diarrhea.html>

<http://www.swinehealthontario.ca/Disease-Information/PED-PDCoV-Tracking-Map>

### EUROPE

Italy

<https://ilfattoalimentare.it/peste-suina-africana-104-i-casi-accertati-in-liguria-piemonte-ed-emilia-romagna-a-rischio-le-esportazioni.html>

### ASIA

Bhutan

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Indonesia

<https://republika.co.id/berita/rav7vp368/7-ton-daging-babi-di-palu-terinfeksi-virus-demam-babi-afria>

Malaysia

<https://www.nst.com.my/news/nation/2022/04/791444/2000-asf-infected-pigs-disappeared-lukut-farms>

Cambodia

<https://thmeythmey25.com/detail/92146>

### OCEANIA

Australia

<https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON365>

<https://www.ava.com.au/policy-advocacy/advocacy/emergency-animal-diseases/japanese-encephalitis/>

The GSDMR team compiles information drawn from multiple national (Ministries of Agriculture or Livestock, Local governments, and international sources (FAO, OIE, DEFRA, EC, etc.), as well as peer-reviewed scientific articles. The team makes every effort to ensure but does not guarantee the accuracy, completeness, or authenticity of the information. The designation employed and the presentation of material on maps and graphics do not imply the expression of any opinion whatsoever on the part of the GSDMR team concerning the legal or constitutional status of any country, territory, or sea area or concerning the delimitation of frontiers.

Any inquiries regarding this publication should be sent to us at [SwineGlobal@umn.edu](mailto:SwineGlobal@umn.edu)