# *October 2026 Report*

## About the project

Variants of PRRSV continue to emerge, causing issues for the industry. To support proactive decision-making, we developed a national surveillance report designed to identify and communicate variants showing signs of wider spread, which we refer to as Variants Under Monitoring (VUMs). Our approach employs PRRS-Loom variant classifications for ORF5 sequences alongside with an algorithm that predicts which variants are likely to expand over the next 12 months (defined as an anticipated increase of >15% based on sequence counts). These predictions are combined with near-real-time national data from the Morrison Swine Health Monitoring Project (MSHMP) to track the number of currently affected sites. This project provides several key benefits, including proactive monitoring of circulating variants, enhanced situational awareness for stakeholders, and the promotion of faster, more coordinated responses to emerging threats.

## What are PRRSV variants and VUMs

PRRSV variants are groups of viruses that are closely related based on their ORF5 gene. Viruses within the same variant typically differ by less than 2.5% from one another and by less than 5% from the nearest related variant (click here to find more about PRRSV variants). Variants under monitoring (VUMs) are PRRSV-2 variants currently circulating in the U.S. that, based on genetic and epidemiological data, are predicted to have potential for widespread transmission. The prediction algorithm, developed using retrospective data, leverages early indicators to forecast increases in variant sequencing within the following year, with an accuracy of 77% (Pamornchainavakul et al., 2026). Sites affected by each VUM are identified through MSHMP by linking genetic sequences to their corresponding Premises ID. VUMs are further classified into four categories based on the number of new sites affected over the past six months. Variants that do not show sequence-based potential for widespread transmission are not considered variants under monitoring (VUM).

## *Summary of Variants Under Monitoring (VUMs) as of October 14, 2026*

This month's report identified the following number of VUMs in each category:

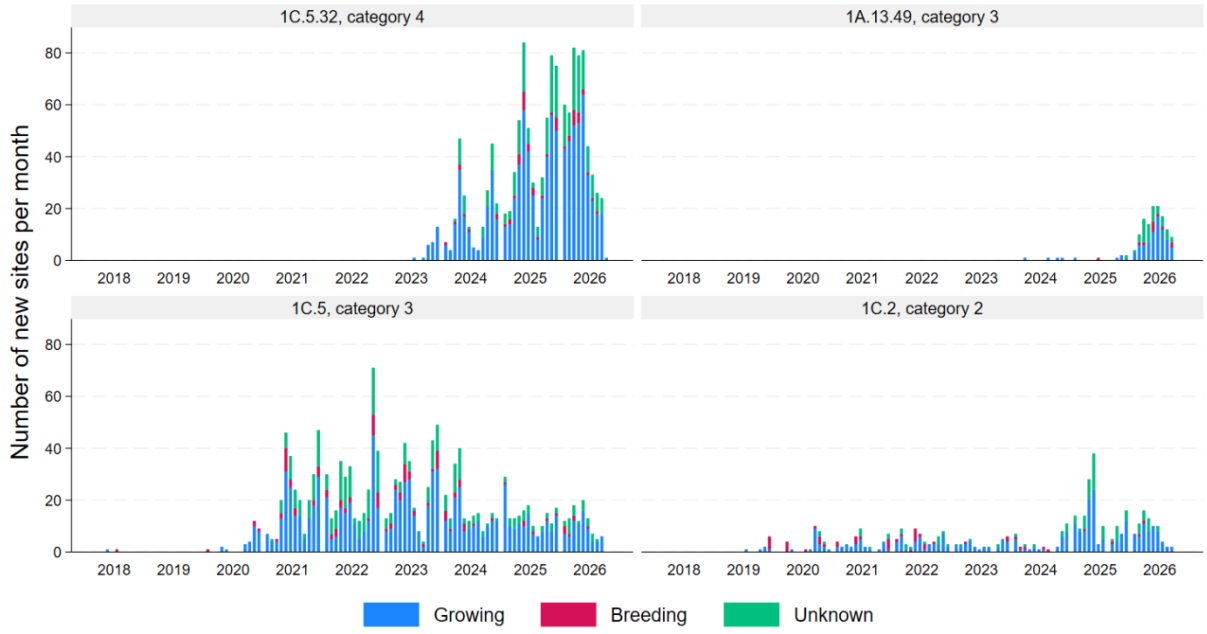
| PRRSV variant class | Predicted growth in next 12 months | Number new sites in past 6 months | Number of variants | Number of variants in past 6 months | Percent sequences in past 6 months |
|---|---|---|---|---|---|
| No enhanced monitoring | Low | - | 182 | 26 | 26 |
| VUM Category 1 | High | <=30 | 13 | 13 | 14 |
| VUM Category 2 | High | 31-50 | 1 | 1 | 3 |
| VUM Category 3 | High | 51-100 | 2 | 2 | 22 |
| VUM Category 4 | High | >100 | 1 | 1 | 35 |

Four PRRSV variants remain currently classified as Variants Under Monitoring (VUM) Category 2 or higher this month. Variant 1C.5.32 remains at Category 4 while variants 1A.13.49 and 1C.5 remain Category 3. Similarly, variant 1C.2 remains at Category 2. Historical reports for all variants that have reached Category 2 or higher are archived and available for review

## *Currently circulating PRRSV variants under monitoring (VUMs) as of October 14, 2026*

The table and epidemic curves below bring additional information on currently circulating VUMs that are category 2 or higher. Epidemic curves show the weekly number of new sites (including breeding and growing sites) affected by each variant, based on unique Premises ID.

| Variant | VUM category | Total sequences | Total sites | Total new sites in previous 6 months | Total systems | Total states | States in which circulation was detected |
|---|---|---|---|---|---|---|---|
| 1C.5.32 | 4 | 3942 | 1295 | 209 | 25 | 17 | CO IA IL IN KS KY MI MN MO NC NE OH OK PA SD TX WI |
| 1A.13.49 | 3 | 486 | 139 | 80 | 18 | 8 | IA IL KY MN NE OH SD TN |
| 1C.5 | 3 | 5229 | 1428 | 52 | 32 | 13 | IA IL IN KS MN MO NE OH OK PA SC SD WI |
| 1C.2 | 2 | 1450 | 473 | 37 | 24 | 16 | AR CO IA IL IN KS KY MN MO ND NE OH OK SD TX UT |



## *VUMs Situation Reports*

Situation reports describing existing scientific evidence and field reports on production impact/severity are provided for each VUM category 2 or higher. Information is gathered when a variant is first listed as a VUM category 2 or higher and updated as new information becomes available.

Situation Report of PRRSV Variant 1C.2, September 2026

Situation Report of PRRSV Variant 1A.13.49, August 2026

Situation Report of PRRSV Variant 1C.5, August 2026

Situation Report of PRRSV Variant 1H.18, August 2026

Situation Report of PRRSV Variant 1C.5.35, August 2026

Situation Report of PRRSV Variant 1C.2.45, August 2026

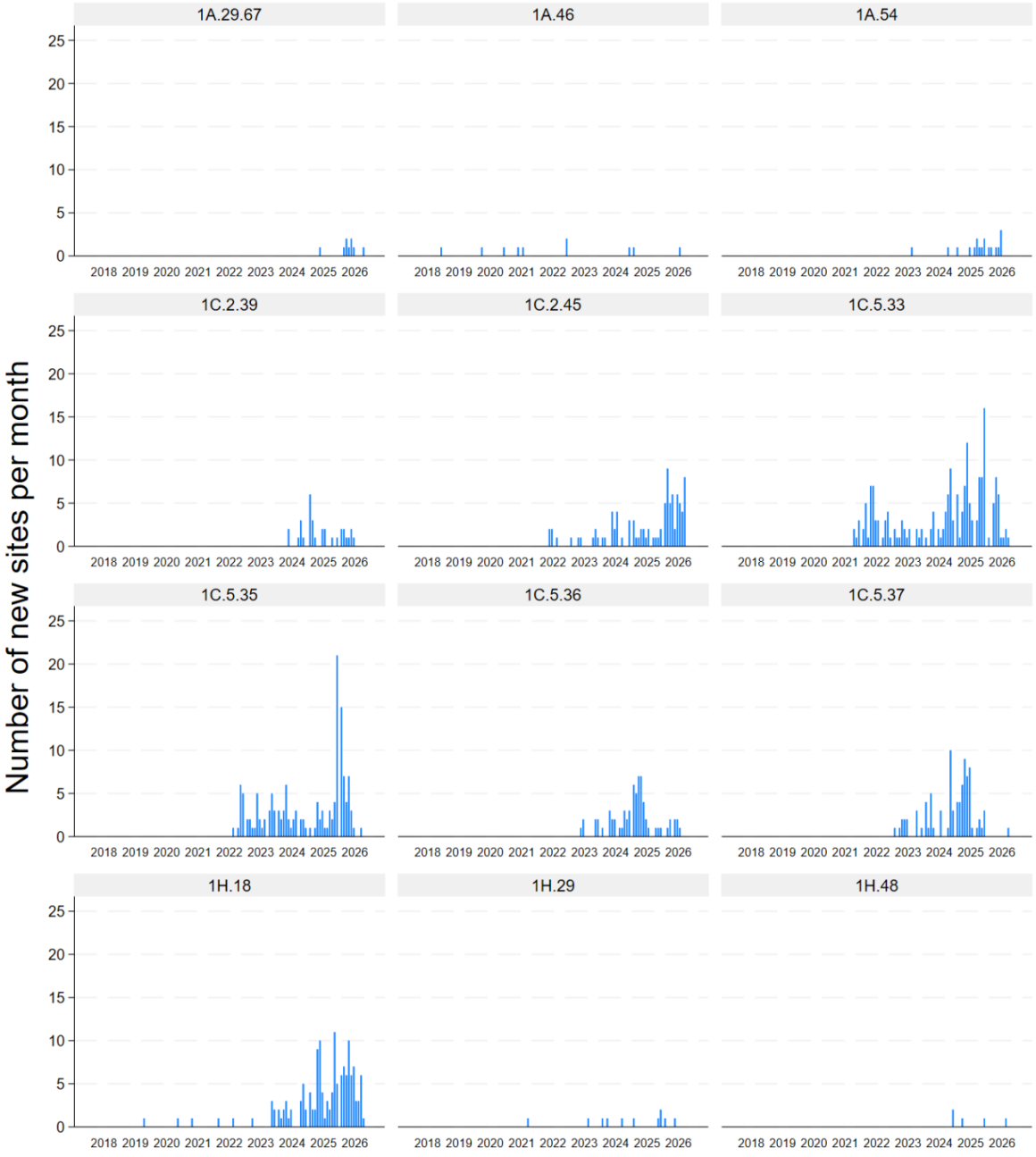
Situation Report of PRRSV Variant 1C.5.33, February 2026

Situation Report of PRRSV Variant 1C.5.32, January 2026

Situation Report of PRRSV Variant 1C.5.37, October 2025

## *Category 1 Variants Under Monitoring (VUMs) as of October 14, 2026*

Epidemic curves below show the weekly number of new sites affected by all VUMs category 1 (i.e., flagged by the sequence-level model for predicted growth potential with low number of new sites affected in the previous six months) as of October 2026.



## General disclaimers

The information presented in this report is based on data shared voluntarily by MSHMP-participating systems and diagnostic laboratories. While efforts have been made to ensure accuracy and timeliness, findings may be subject to reporting delays, variability in sampling strategies, and limitations inherent to diagnostic testing and sequencing. VUM categories are based on MSHMP data, which, while broadly representative of the U.S. swine industry, are not comprehensive. Interpretation of diagnostic laboratory data for pathogen detection should be made with caution, as surveillance efforts differ between breeding and growing sites, with greater sampling effort typically focused on breeding herds. Designations such as Variants Under Monitoring (VUMs) and their assigned categories are intended to support situational awareness and facilitate informed discussions among veterinarians, producers, researchers, and other stakeholders. They do not constitute definitive assessments of risk at the farm level and should not replace site-specific diagnostics, expert consultation, or context-specific decision-making.

## Project Team and Institutional Affiliations

This report was developed by a collaborative team of researchers at the University of Minnesota, including Dr. Mariana Kikuti, Dr. Cesar Corzo, Dr. Kimberly VanderWaal, Dr. Igor Paploski, and Dr. Nakarin Pamornchainavakul. It builds upon two key initiatives: the Morrison Swine Health Monitoring Project (MSHMP), which provides ongoing monitoring data across U.S. swine production systems, and PRRS-Loom, a platform for PRRSV-2 variant classification and early trend detection.

## Suggested citation

National Surveillance Report PRRSV Variants Under Monitoring, October 2026 [Internet]. Available from: https://mshmp.umn.edu/PRRS-variant-monitoring

## References and related sources

Morrison Swine Health Monitoring Project

PRRSLoom-Variants

VanderWaal K, Pamornchainavakul N, Kikuti M, Zhang J, Zeller M, Trevisan G, Rossow S, Schwartz M, Linhares DCL, Holtkamp DJ, da Silva JPH, Corzo CA, Baker JP, Anderson TK, Makau DN, Paploski IAD. PRRSV-2 variant classification: a dynamic nomenclature for enhanced monitoring and surveillance. mSphere 0:e00709-24. https://doi.org/10.1128/msphere.00709-24

Pamornchainavakul N, Kikuti M, Corzo CA, VanderWaal K. Real-time forecasting of porcine reproductive and respiratory syndrome virus type 2 genetic variant expansion in the field. Epidemics, Volume 57, 2026. https://doi.org/10.1016/j.epidem.2026.100945.