



# 2023 AASV Annual Meeting Proceedings Paper Formatting Guidelines

AASV expects to receive a paper for every presentation at the meeting, formatted according to these guidelines and submitted by **November 15**. The text sample (on the back) is a research paper with typical research headings. For non-research papers, use headings that are appropriate to your subject matter. Regardless of the type of presentation, your paper should reflect the information you will be presenting at the meeting.

## SUBMISSION

- All papers are due **Tuesday, November 15**
- Submit files to: [aasv@aasv.org](mailto:aasv@aasv.org)
- Questions? Call 515-465-5255 or email [aasv@aasv.org](mailto:aasv@aasv.org).

## LENGTH

- **ALL POSTER PRESENTATIONS**  
Limit your paper to one page of text (one sided) plus one table **OR** figure. Your table/figure must fit on one page or less. A figure may contain a maximum of 2 charts, graphs, or images (A and B).
- **INDUSTRIAL PARTNERS ORAL PRESENTATIONS**  
Limit your submission to a TOTAL of five pages, INCLUDING tables and figures (counting 2 figures or tables per page).
- **ALL OTHER PRESENTATIONS**  
No limit, within reason. Most papers are 2-5 pages in length when submitted in the requested format.

## FILE TYPES

- **TEXT**  
**Submit the text for your paper in a Word document.** Do NOT include tables or figures in this file, but DO include your table and figure references, such as (Table 1) or (Figure 1), within the text. See the sample text file on the next page for additional details.
- **TABLES**  
**If your paper includes tables, create the tables in Word.** Submit them in a second Word document, separate from the text. You may submit multiple tables in a single Word document. **Please do not use Excel** to create or submit tables. Do not submit tables as image files.
- **FIGURES**  
Use the term “Figure” to refer to and number ALL charts, graphs, and photos in your paper. We prefer to receive charts and graphs that have been created in Excel. **Submit the original xls file(s).** Do not place images of figures in Excel. Do NOT use PowerPoint. For charts and graphs created in statistics software, please submit each as a pdf file. Submit photographs and images as high resolution jpg or tif files. For pdf, jpg, and tif files, submit a separate Word document containing the figure captions and footnotes (do not include them in the figure images). **Please do not copy/paste your figures into the Word document containing your text.**

## BEFORE YOU SUBMIT

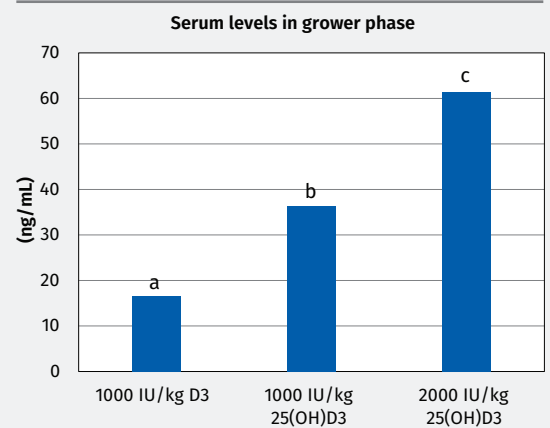
- Please have SOMEONE ELSE proofread your paper BEFORE submitting.
- Be sure to “Approve All Changes” and exit “Track Changes” mode before saving and sending your files.
- Has any part of your submission been published elsewhere? You must obtain permission for reprinting from the copyright holder.

**Table 1:** Create tables in Word, not Excel

Group	Maternal antibodies	IAV-S vaccine	IAV-S challenge
1	No	No	No
2	No	Yes	No
3	Yes	No	No
4	Yes	Yes	Yes
5	No	No	Yes
6	No	Yes	Yes

IAV-S = Influenza A virus swine

**Figure 1:** Include your figure captions within xls files or in a separate Word document.



a,b,c Different superscripts are statistically different ( $P < .05$ )

**Figure 2:** Refer to images as figures. Send jpg or tif files. Submit captions in a Word document.



**Your paper is due November 15, 2022**

# TEXT FORMATTING

## Layout

- Use a single-column layout, with single-spaced lines. Margins are not critical; 1" is customary.
- Use Times New Roman font; see below for font sizes.
- Do not use outline or bullet point format.
- Do not send PowerPoint files.

## Paper title

- Font size 24pt (do not bold or underline)
- Sentence capitalization (capitalize only the first word of the phrase)

## Author info

- Font size 12pt
- Use a semicolon to separate multiple authors (see adjacent sample).

## Headings

- Font size 16pt (do not bold or underline)
- Sentence capitalization

## Subheadings

- Font size 12pt (do not bold or underline)
- Sentence capitalization

## Body of text

- Font size 10pt
- Use only ONE space between sentences
- Use *italics* only for *Genus species* names, titles of books and journals, and *P* values.
- Use the font sizes indicated above to identify your Title, Headings, and Subheadings - do NOT use bold or underlined text for this purpose.
- Do NOT use **bold** or underlining within the body of your text.
- Use American spelling rather than British or Canadian spelling. For example, use "favor" instead of "favour."
- When quotation marks are used at the end of a phrase or sentence, always place the comma or period INSIDE the quotation mark.
- Capitalize acronyms and initialisms but do not capitalize disease names unless *Genus species*.  
For example: porcine epidemic diarrhea virus (PEDV), influenza A (IAV-S), porcine circovirus type 2 (PCV2), *Brachyspira hyodysenteriae*
- Use a capital V to represent "virus" in acronyms (PRRSV, PEDV, etc)

## Table/Figure references

- Refer to all charts, graphs, photographs, and images as Figures.
- Make sure all tables and figures are referred to within the text of the paper, citing them in consecutive order.
- Number tables separately from figures (Table 1, 2, 3 and Figure 1, 2, 3).

## References

- DO NOT use the endnotes feature in Word to format references. Avoid software programs that automatically create endnotes, footnotes, and references, as the embedded formatting cannot be read by the publication software.
- Use superscript Arabic numerals (no Roman numerals) to number references in order within the text.
- Do not use (Author, Year) within the text for references.
- Reference numbers that occur at the end of a sentence should be placed AFTER the period.
- Use "References" as the heading for the reference section, rather than Citations, Bibliography, Literature Cited, etc.
- Website reference example: Holtkamp D. Economic impact of *Mycoplasma hyopneumoniae* on pig farms. Pig 333. September 19, 2014. Accessed December 21, 2020. [https://www.pig333.com/articles/economic-impact-of-mycoplasma-hyopneumoniae-on-pig-farms\\_8936](https://www.pig333.com/articles/economic-impact-of-mycoplasma-hyopneumoniae-on-pig-farms_8936).

## Occurrence of wild type and vaccine-like porcine reproductive and respiratory syndrome virus 2 (PRRSV-2) strains in the United States

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### Introduction

Nucleotide sequencing of the open reading frame 5 (ORF5) region of the viral genome has become a popular methodology to differentiate genotypes and strains, and to understand viral diversity across time. Additionally, PRRS is one of the main infectious diseases affecting swine, and causes an average economic loss of US\$664 million per year in the US.<sup>1</sup> Thus, efforts in immunizing the herds have been made in the past few decades, particularly in high density swine regions. Our goal therefore was to describe PRRSV-2 genetic diversity and the frequency of vaccine-like strain detection in the course of over 10+ years of routine monitoring in the U.S. swine industry.

### Methods

Porcine reproductive and respiratory syndrome virus genotype 2 (PRRSV-2) genetic diversity in the U.S. was assessed using a database comprising 10 years' worth of sequence data obtained from swine production systems routine monitoring and outbreak investigations. A total of 26,831 ORF5 PRRSV-2 sequences from 34 production systems were included in this analysis. Within group mean genetic distance (ie, mean proportion of nucleotide differences within ORF5) per year according to herd type was calculated for all PRRSV-2 sequences. The percent nucleotide difference between each sequence and the ORF5 sequences from four commercially available PRRSV-2 vaccines (Ingelvac PRRS MLV, Ingelvac PRRS ATP, Fostera PRRS, and Prevacent PRRS) within the same lineage over time was used to classify sequences in wild-type or vaccine-like.

### Results

The mean ORF5 genetic distance fluctuated from 0.09 to 0.13, being generally smaller in years in which there was a relative higher frequency of dominant lineage. Vaccine-like sequences comprised about one fourth of sequences obtained through routine monitoring of PRRS. We found that lineage 5 sequences were mostly Ingelvac PRRS MLV-like (Figure 1). Lineage 8 sequences up to 2011 were 62.9% Ingelvac PRRS ATP-like while the remaining were wild-type viruses. From 2012 onwards, 51.9% of lineage 8 sequences were Ingelvac PRRS ATP-like, 45.0% were Fostera PRRS-like, and only 3.2% were wild-type. For lineage 1 sequences, 0.1% and 1.7% of the sequences were Prevacent PRRS-like in 2009-2018 and 2019, respectively.

### Discussion

The yearly increase and decrease in mean genetic distance possibly explained by the change in frequency of the dominant lineages and sub-lineages over time.<sup>2</sup> The overall frequency of vaccine-like strains is in accordance with what has been previously described, in which 80% and 60% of sub-lineages 5.1 and 8.9, respectively, were found to be vaccine-related.<sup>3</sup> Our results suggest that repeated introductions of vaccine-like viruses through the use of modified-live vaccines might decrease within-lineage viral diversity as vaccine-like strains become more prevalent.

### References

1. Holtkamp D, Kliebenstein J, Neumann E, et al. Assessment of the economic impact of porcine reproductive and respiratory syndrome virus on United States pork producers. *J Swine Health Prod.* 2013;21(2):72-84.
2. Paploski IAD, Corzo C, Rovira A, et al. Temporal Dynamics of Co-circulating Lineages of Porcine Reproductive and Respiratory Syndrome Virus. *Front Microbiol.* 2019;10:2486. <https://www.frontiersin.org/article/10.3389/fmicb.2019.02486>.
3. Brar MS, Shi M, Murtaugh MP, Leung FC-C. Evolutionary diversification of type 2 porcine reproductive and respiratory syndrome virus. *J Gen Virol.* 2015;96(Pt 7):1570-1580. doi:10.1099/vir.0.000104.

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