

Serological and molecular investigation of influenza in commercial pig farms in Serbia

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•Introduction



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Research article

PHYLOGENETIC ANALYSIS OF HA AND NA GENES OF SWINE INFLUENZA VIRUSES IN SERBIA IN 2016-2018

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- low detection
- coinfections
- detection of
- presence of

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Research article

SURVEY OF INFECTIOUS AGENTS ASSOCIATED WITH PORCINE RESPIRATORY DISEASE COMPLEX (PRDC) IN SERBIAN SWINE HERDS USING POLYMERASE CHAIN REACTION (PCR) DETECTION

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- The aim of this research:
 - to analyze the results of passive surveillance on the two commercial farms conducted from 2020th to 2022nd

Material and Methods



MATERIAL

- 528 sera samples
- 94 samples for molecular analyses (mummified fetuses, nasal swabs, oral fluids, parenchymatous organs, lungs, and sera)

METHODS

- Antibody detection: Ingezim Influenza A Kit, Ingenasa
- Genome detection: WHO protocol (2009) for detection of influenza A viruses (M gene real-time RT-PCR)

| | |
|--------|--------------------------|
| InfA F | GACCRATCCTGTCACCTCTGAC |
| InfA R | AGGGCATTYTGGACAAAKCGTCTA |
| InfA P | TGCAGTCCTCGCTCACTGGGCACG |

- Typing: multiplex real-time RT-PCR (Henritzi et al. 2016)

•Results and Discussion

- During three year period influenza A viruses confirmed on both farms
- Detection of the virus:
 - Overall positivity rate **55,3%** (farm A – **60%**, farm B – **28,6%**)
 - Nasal swabs – **78.7%**, oral fluid – **83.3%**
 - Mummified fetuses and sera – negative
 - Molecular typing – H1N1 subtype in farm A
- Detection of the antibodies:
 - Overall seroprevalence of **64,6%** (farm A – **61,2%**, farm B – **65.4%**)
 - Disproportion in number of tested sera from different age categories (sera from nursing pigs accounted **95,45%**, saws – **0,76%**, suckling piglets – **3,79%**)

| | No. of analyzed (%) | No. of positive | No. of negative | % of positive |
|------------------|---------------------|-----------------|-----------------|---------------|
| Nursery pigs | 504 (95.45) | 323 | 181 | 64.1 |
| Saws | 4 (0.76) | 4 | 0 | 100 |
| Suckling piglets | 20 (3.79) | 14 | 6 | 70 |
| Total | 528 (100) | 341 | 187 | 64.6 |

•Conclusion

- Endemic presence and high positivity rate in countries
- Pressing need for:
 - Improvement of diagnostic methods
 - Enhancement of surveillance systems
 - Vaccination of pig herds
 - Further research
 - Share the experience with pig breeders, farmers, etc.



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Požarevac



**PROGRAM OF 20TH SYMPOSIUM
~HEALTH CARE, SELECTION AND REPRODUCTION OF
PIGS~
WITH INTERNATIONAL PARTICIPATION**

Silver Lake – Veliko Gradište,
8th and 9th June, 2023

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...farmers, etc.

THANK YOU FOR YOUR ATTENTION!

