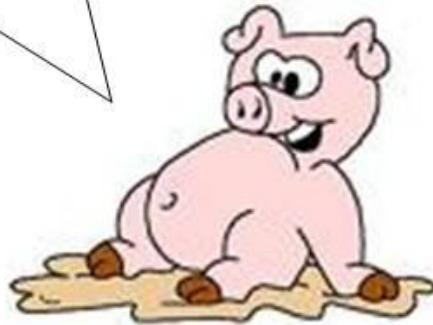


The Balkan Meeting on PRRS Diagnostics



Split, Croatia, 10 - 11 February 2011
Hotel Park Split



COST Action FA0902

**Understanding and combating porcine reproductive
and respiratory syndrome in Europe**

**The Balkan Meeting on PRRS
Diagnostics**

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The organization of The Balkan Meeting on PRRS Diagnostics was possible thanks to collaboration between the following parties:

European Cooperation in the field of Scientific and Technical Research (COST) (<http://www-cost.esf.org/>)

Croatian Veterinary Institute (<http://www.veinst.hr/>)

The Roslin Institute of the University of Edinburgh (<http://www.roslin.ed.ac.uk/>)

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The Balkan Meeting on PRRS Diagnostics

Scientific Committee

Tahar Ait-Ali, University of Edinburgh, UK. (Chair of COST Action FA0902)

Tomasz Stadejek, National Veterinary Research Institute, Pulawy, Poland.

Lars Larsen, National Veterinary Institute, Copenhagen, Denmark.

Bob Morrison, University of Minnesota, Minnesota, USA.

Dinko Novosel, Croatian Veterinary Institute, Croatia.

Organizing Committee

Tahar Ait-Ali, University of Edinburgh, UK.

Dinko Novosel, Croatian Veterinary Institute, Croatia.

Zoran Lipej, Croatian Veterinary Institute, Croatia.

Andreja Jungic, Croatian Veterinary Institute, Croatia.

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PRRS SITUATION IN SERBIA, WHAT'S NEXT

Petrovic T.¹, Milicevic V.², Prodanov- Radulovic J.¹, Maksimovic-Zoric J.², Lupulovic D.¹, Ivetic V.², Dosen R.¹, Lazic S.¹

1. Scientific Veterinary Institute „Novi Sad“, Novi Sad, Serbia

2. Scientific Veterinary Institute of Serbia, Belgrade, Serbia

PRRS is underestimated and uncontrolled swine disease in Serbia. It is possible that the PRRS was introduced in Serbia in 2001 and before that the disease was not present in the country, due to the political embargo in 1990's, when the Serbian borders were closed for any trade including trade of animals and animal products. The first suspicious on PRRS was based on clinical signs - massive respiratory disorders with high mortality of pigs on 2 large industrial farms, located on the north part of the Serbia (Vojvodina Province), 10 – 30 km from Croatian and Hungarian border. Shortly after, the disease on mentioned farms was confirmed by serology test (ELISA). PRRS virus was not isolated or confirmed at that time. It was suspected that the virus was introduced via boar's semen that was illegally imported from neighbouring countries. During that and following year, the respiratory syndrome with high morbidity and moderate mortality that was clinically diagnosed as PRRS was observed on many big industrial farms in Vojvodina province and latter on in central Serbia.

Due to the severe health problems and high economic losses, PRRS serology screening was done in 2002. Total 880 animals from 32 large pig farms in Vojvodina, were examined by IDEXX ELISA test. From that number 511 (58.07%) animals and 20 (62.50%) farms were found positive. During this monitoring the PRRS virus was detected and confirmed by RT-PCR and immunofluorescence in 2 out of 16 tissue samples from succumbed piglets' at infected farms. Based on those results the vaccination was introduced just in a few large pig farms during 2002 – 2003. The vaccination was done by Intervet "Nobilis PRRS" vaccine.

During 2004-2005 the second PRRS serology screening was done on 43 pig farms of different size in Vojvodina. Out of 1135 sera examined by IDEXX ELISA test, 540 (47.58%) animals and 28 (65.12%) farms were found positive. The prevalence of seropositive animals in infected herds was from 13 to 95%. The last PRRS serology screening was done in 2006-2007 on the territory of the whole country. In total, 3069 blood sera from randomly selected animals from 562 pig herds of different size (including small producers) located in 12 regions of Serbia were examined for the presence of specific antibodies against PRRSV by ELISA test. Positive animals were found in 115 (20.46%) herds. Positive herds are located in all examined regions (from 1.56 – 60.86%). The PRRS was most prevalent in northern, western and central part of the country (17.30 – 60.86%). On the contrary, in the eastern and southern part of the country PRRS was found in 1.56 – 8.98%. These differences could be connected to different density of the pig population in Serbian regions.

In the past and presently the PRRS in Serbia is clinically manifested almost exclusively as respiratory disorders. No reproductive, especially not massive reproductive disorders connected to PRRSV were seen in Serbian pig farms. Some minor reproductive problems maybe exist but as most of the pig farms in Serbia are compromised with many other viral diseases

including Morbus Aujeszky, and PPV, PCV2, influenza and sometimes CSFV, the aetiology of the reproductive disorders is not always clear.

The laboratory diagnosis of PRRSV in Serbia is mainly performed by serology testing with commercial ELISA tests. For that purpose mostly, the IDEXX ELISA was used. Among other ELISA producers, the Ingenasa ELISA test was used (in 2010). The virus detection is done by molecular testing. Just a limited number of samples from clinical cases have been sent for virus confirmation. The RT-PCR methods described by Shin et al, 1997 and ISU VDL Real Time RT-PCR: PRRSV (ORF7) are in use. Sometimes the PRRSV was not detected by RT-PCR in clinically suspected cases possibly due to lower sensitivity of the laboratory tests (the under diagnosed cases). For that reason, from 2011 many other RT-PCR and real time RT-PCR procedures are introduced in PRRSV detection. Only 18 RT-PCR positive samples were sequenced until now. All the sequenced PRRSV isolates belong to the EU genotype. US strain was not found until now.

No legislation procedures regarding PRRS exist in Serbia. There are no obligations for PRRS free certificate / status and for quarantine measures in national trade and pig transports, so the small producers import the infected gilts and especially the infected boars or boar semen from infected big pig production systems. There are maybe just a few farms that are free. Also, there are just few real pig nucleus or reproduction centres. Many of them are also infected with PRRSV. As a result, almost all large pig production systems in Serbia (including backyard pigs) are seropositive to PRRSV at this moment.

To the best of our knowledge, the vaccination against PRRS is not in use in Serbian pig farms at this moment as well as in the last 5 years. Also, at this moment PRRS monitoring and surveillance are not undertaken except for the animals during import from another country. The preventive measures are only done through farm management and depend from farm to farm. So, the main question that large pig producers, diagnosticians and researchers are asking is: "what's next?"

AN OVERVIEW ABOUT PRRS IN CROATIA

Zoran Lipej DVM, PhD, Dinko Novosel DVM, PhD

Pathology department, Croatian Veterinary Institute, Zagreb, Croatia.

Despite the fact that PRRS appeared in Europe in 1990 and affected many neighbouring countries, the disease was not established in Croatia until 1995, due to the fact that Croatia was at war until that time, and the international swine trade was at a standstill. The first clinical outbreak with severe reproductive disorders in breeding animals of unexplained reproductive disease was recorded in 1995. At that time, Croatia had not yet developed PRRS diagnostics. Therefore, serum samples were sent to the Veterinary Diagnostic Institute in Lelystad. The serum samples examined in the Netherlands tested positive by the IPMA test. Since 1996, serological diagnostics have been introduced to the Croatian Veterinary Institute (CVI) using the commercial ELISA kit HerdCheck Anti-PRRSV (IDEXX).