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IN THE BORDER REGION CROATIA – SERBIA
(STOP – CSF)**

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SPREČAVANJE ŠIRENJA KLASIČNE KUGE SVINJA U POGRANIČNOM REGIONU KROZ POBOLJŠANJE SANITARNIH STANDARDA I EDUKACIJU FARMERA (STOP – KKS)

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“PREVENTION OF CLASSICAL SWINE FEVER IN THE BORDER REGION CROATIA – SERBIA (STOP – CSF)” „SPREČAVANJE ŠIRENJA KLASIČNE KUGE SVINJA U POGRANIČNOM REGIONU HRVATSKA – SRBIJA (STOP – KKS)“

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ENZOOTIC OCCURRENCE OF CLASSICAL SWINE FEVER IN SREM DURING 2010 – WHAT WE LEARN FROM IT

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Case study

Classical swine fever (CSF) is a highly contagious viral disease that occurs in both domestic pigs and wild boars under natural conditions. The causative agents of the disease, classical swine fever virus (CSFV), together with Border disease virus (BDV) and bovine viral diarrhoea virus (BVDV) belongs to the genus *Pestivirus*, member of the family *Flaviviridae*. CSF virus has a worldwide distribution except the North America and Australia where the eradication has been successfully completed (Elbers, et al 1999). In the recent years several outbreaks of CSF that occurred in EU, have been proved to be difficult to control and caused extremely high economic losses (Weesendorp et al., 2011). Before the outbreak in 2010, Serbia had been officially free from CSF for three years. Vaccination of pigs against CSF with live attenuated C-strain vaccines is mandatory and financed by Veterinary Directorate in the Ministry of agriculture, trade, forestry and water management.

The objective of this paper is to describe an outbreak of classical swine fever (CSF) in municipality of Sremska Mitrovica in Vojvodina province in 2010, and the central and regional organisation of the campaign to control and eradicate CSF epidemic. The primary outbreak was detected on November 19, 2010, on a mixed farrow to finishing pig farm. The Minister of agriculture, trade, forestry and water management was involved from the start of CSF outbreak. The Chief Veterinary Officer of group for Veterinary Inspection, Animal Health Protection and Welfare was in charge of the Crisis Management Team. The team consisted of veterinary epidemiologists, veterinary inspectors, veterinary practitioners, representatives of municipal authorities, and local police. The main strategy used to eradicate the disease was based on stamping out, movement restrictions, emergency vaccination and pre-emptive slaughter of pigs in contact herds coupled with intensive surveillance. A total of 4 outbreaks and 17 contact small farms and households with backyard pigs were registered during the epidemic, and 9063 pigs from these herds were culled.

Table1. Number of culled pigs during the outbreak in 2010

Location	Number of culled pigs
Farm- Veliki Radinci	8715
Veliki Radinci - village	274
Bešenovo-village	74
Total	9063

A total of 3 outbreaks was detected through the pre-emptive slaughter in contact small pig farms, when diagnostic results of tissue samples (tonsils, spleen, kidney, ileum), indicated the presence of CSF virus.

All the contact herds were pre-emptively slaughtered within 10 days of the diagnosis of primary outbreak. The interval between the diagnosis of infected herd and slaughter of contact herds should be as short as possible, to lower the chance of transmission of CSF virus.

The time between introduction of CSF virus into the farm and diagnosis of CSF outbreak was estimated to be approximately 4 weeks. Suspicion was based on increasing mortality rate of weaning piglets. The clinical signs and course of the disease differs for each animal category and virus strain, and necropsy findings in situation when different vaccine status of animals is present can sometimes be difficult to interpret.

Although the exact route of introducing the virus into the farm remained unknown, it seems reasonable to assume that the virus was introduced either via transport trucks or persons which have been in contact with infected pigs. In March 2011, after completing the final disinfection of farm where primary outbreak was detected, the disease was considered to have been eradicated. Several factors complicated the eradication campaign: the organisation of pig farming with a large number of households with small number of backyard pigs, poor biosecurity measures on farms, practice to mate sows with hogs upon visit, insufficient rendering capacity, reluctance of pig owners to cooperate and illegal pig trade.

Keywords: classical swine fever, pigs, outbreak, eradication measures

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ENZOOTIJA KLASIČNE KUGE SVINJA U SREMU 2010 GODINE - ŠTA SMO NAUČILI

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Analiza slučaja

Klasična kuga svinja (KKS), je veoma kontagiozno virusno oboljenje koje se u prirodnim uslovima javlja kako kod domaćih tako i divljih svinja. Uzročnik oboljenja, virus klasične kuge svinja, pripada familiji *Flaviviridae* i zajedno sa uzročnicima border bolesti i bovine virusne dijareje svrstava se u rod *Pestivirus*. Virus je rasprostranjen širom sveta izuzev Severne Amerike i Australije, gde je eradikacija uspešno izvršena (Elbers i sar., 1999). U poslednjoj deceniji registrovano je nekoliko epizootija klasične kuge svinja u državama Evropske unije, koje su nanele velike ekonomske gubitke i pokazale se veoma komplikovanim za suzbijanje (Weesendorp i sar., 2011). Pre enzootije koja je registrovana 2010. godine, Srbija je bila zvanično slobodna od KKS tokom tri godine. Vakcinacija svinja protiv KKS je obavezna, a finansiranje je obezbeđeno preko Uprave za veterinu, Ministarstva poljoprivrede, trgovine, šumarstva i vodoprivrede.

Cilj ovog rada je bio da opiše i analizira enzootiju klasične kuge svinja u opštini Sremska Mitrovica u Autonomnoj pokrajini Vojvodina tokom 2010. godine, kao i način organizacije i sadejstva centralnih i lokalnih subjekata u suzbijanju oboljenja. Primarno žarište infekcije dijagnostikovano je 19. novembra 2010. godine na velikoj farmi svinja industrijskog tipa. Od samog početka enzootije u sve aktivnosti vezane za suzbijanje i iskorenjivanje KKS bio je uključen i resorni ministar Ministarstva poljoprivrede, trgovine, šumarstva i vodoprivrede. Za šefa kriznog štaba za suzbijanje KKS, imenovan je rukovodilac grupe veterinarske inspekcije za zdravstvenu zaštitu i dobrobit životinja, Uprave za veterinu. U sastavu tima za suzbijanje KKS nalazili su se i regionalni epizootiolozi, veterinarski inspektori, terenski veterinari, predstavnici lokalne samouprave i policije. Strategija suzbijanja zaraze zasnivala se na depopulaciji zaražene farme, *stamping out* metodom, ograničavanju kretanja u zaraženom i ugroženom području, preventivnom ubijanju i neškodljivo uklanjanju svinja u kontaktnim dvorištima i hitnoj vakcinaciji svinja uz pojačan i pooštren nadzor. Tokom enzootije registrovano su ukupno 4 žarišta i 17 kontaktnih domaćinstava, a broj svinja koje su ubijene i neškodljivo uklonjene iznosio je ukupno 9063.

Tabela1. Ukupno eutaniziranih i neškodljivo uklonjenih grla u enzootiji KKS 2010

Lokalitet	Broj eutaniziranih i neškodljivo uklonjenih grla
Farma Veliki Radinci	8715
Veliki Radinci - naselje	274
Bešenovo-naselje	74
Ukupno	9063

Nakon preventivnog ubijanja i uklanjanja svinja iz kontaktnih dvorišta, laboratorijskim ispitivanjem uzetih uzoraka organa (tonzila, slezine i bubrega, ileuma) prisustvo virusa ustanovljeno je kod svinja u tri domaćinstva.

Uništavanje svinja u kontaktnim domaćinstvima u dva naseljena mesta izvršeno je u roku od 10 dana po postavljanju definitivne dijagnoze u primarnom žarištu. Vremenski period koji protekne od momenta identifikovanja primarnog žarišta do žrtvovanja životinja u kontaktnim zaptima mora biti što je moguće kraći, da bi se smanjila mogućnost daljeg širenja infekcije.

Vremenski period od trenutka unošenja virusa KKS na farmu svinja, označenu kao primarno žarište, pa do momenta postavljanja konačne dijagnoze, procenjuje se da je iznosio 4 nedelje. Sumnju na infekciju pobudio je porast mortaliteta prasadi u odgoju. Postavljanje egzaktno dijagnoze otežava činjenica da klinička slika u velikoj meri zavisi od kategorije svinja, imunološkog statusa i soja virusa, i može se znatno razlikovati kod pojedinih jedinki. Takođe patoanatomski nalaz može biti nespecifičan u situaciji kada su jedinke u različitom stepenu imunizovane.

Iako način unošenja virusa u farmu nije pouzdano utvrđen, najverovatnije da je put unošenja bio preko kamiona za transport stoke ili ljudi koji su bili u kontaktu sa inficiranim svinjama. Nakon završne dezinfekcije farme, u martu 2011. godine, zaraza je smatrana zvanično prestalom i tada je objavljena. Određeni broj faktora otežavao je suzbijanje enzootije: struktura svinjarske proizvodnje, sa velikim brojem malih gazdinstava na kojima nisu postojale nikakve biosigurnosne mere, prirodni pripust svinja u selima, nedovoljan kapacitet pogona za preradu leševa, odbijanje vlasnika svinja da saraduju i nelegalan transport svinja.

Ključne reči: klasična kuga svinja, svinje, enzootija, suzbijanje

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