# PREVENTION OF CLASSICAL SWINE FEVER 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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**„SPREČAVANjE ŠIRENjA KLASIČNE KUGE SVINjA U POGRANIČNOM REGIONU HRVATSKA – SRBIJA (STOP – KKS)“**

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# CLASSICAL SWINE FEFER MONITORING IN WILD BOARS IN SERBIA

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## Abstract

Monitoring of classical swine fever in wild boars conducted since 2009 includes testing of serums for the presence of specific antibodies and examination of organs to the presence of classical swine fever virus. Passive surveillance lasts over the whole year and active surveillance lasts during the hunting season. For each area, based on estimated population size and projected annual hunting, is determined by the number of samples to be examined to confirm the presence or absence of infection with CSF (5-10%, 95% CL). Also, it is envisaged that 50% of the samples are derived from the age group 6-12 months, 1-2 years 35% and 15% over 2 years of age. Since 2009, the number of samples is increased 2.5 times, and in 2012, over 90% of all recorded cases, have all necessary data. According to data which are defined risk areas on the one hand, and a low density population of wild boars and their biology on the other hand, we can conclude that raising biosecurity measures on farms that bred pigs and education of owners, are the most important measures to prevent the spread of classical swine fever from wild boars to domestic pigs.

**Key words:** monitoring, classical swine fever, wild boars

## Introduction

Wild and domestic pigs belong to the same species, *Sus Scrofa*, and are susceptible for the same pathogens. In nature, although seldom, wild and domestic pigs can mate and give fertile cross-bred. Wild boar populates most of the European forests, even in wetlands or mountainous areas (Baubet, 1998; Acevedo et al., 2006). The size of populations has been critically increased over the last 30 years, possibly due to changes in the practice of hunting, to the expansion of single-crop farming and to climate warming. This development of wild boar population had increased also the risk of maintaining diseases in the wild and the risk of inter-transmission between wild boar and pigs (Acevedo et al., 2006; Hars et al., 2004).

Wild boar is a highly social species. According to the age, animals are classified into 4 classes: less than 6 months, 6 to 14 months, 14 to 24 months and up to 24 months (Monaco et al., 2003). Females with piglets born in the previous year live in groups. Females may leave or enter the group when becoming subadults. Subadult males leave the matriarchal group and often disperse less than 10km from their native area but due to the polygynous mating system of the species they are at risk to transmit infection between groups.

Matriarchal groups live on home range that may vary from 150 to more than 2000 ha (~500ha in average); adult males are roaming around matriarchal groups and often inhabit over larger areas (1000-2000ha in average) (Keuling et al., 2008). Although home-range area may vary according to food availability, landscape structure and hunting practice, using big dogs in hunting, radius of wild boar is less than 10 km. Wild boar sows give in average 4 to 7 piglets per year (Monaco et al., 2003) mainly in April/May, although it could be earlier in the years of rich oak production (Hohmann, 2005).

The virus of classical swine fever in wild boar causes the same clinical, histological and haematological changes (Depner et al., 1995). Investigation of the influence of maternal antibodies to the disease in pigs, showed that after infection of pigs that have low levels of maternal antibodies only mild symptoms appear, as diarrhea and reduced food intake, but the virus is excreted up to 19 days after infection. These pigs can maintain long-term epizootics in nature (Depner et al., 2000).

Although CSFV infection of domestic pigs and wild boars cause a similar disease, it is very difficult to prove CSF in wild pigs because the dead animals in nature are difficult to obtain, usually they are eaten by other animals or carcasses are hidden in the bush, especially in summer. Classical swine fever in wild boars since 2000 was recorded in Germany, France, Belgium, Luxembourg, Bulgaria, Romania, Hungary and Slovakia. The outbreak of SCF in wild boars is limited to subpopulations, depending on the terrain and natural barriers, as shown in Germany and France (OIE (2007), Appendix 3.8.1.)

The goal of control of classical swine fever in wild boar is the earliest detection of infection in order to take measures as soon as possible to control and eradicate or prevent the transmission of disease to domestic pigs. Indicators of infection in the population of wild boars are the shot diseased animals, animals with clinical symptoms, suspicious behaviour and animals which were found dead. For a disease which results in high mortality and morbidity, such as the CSF, the infected animals are important in monitoring and control of disease.

For detection of CSF virus infection of pigs, blood serum samples to detect specific antibodies or tonsils and spleen for detection of viruses are used. Unlike the samples originated from domestic pigs, samples of wild boar, especially blood serums, were significantly lower quality. The population of wild boar is free from CSF when all animals were negative for presence of virus in tissue samples and finding of specific antibodies is below a certain level of detection (<5%, 95% CI), respectively, given the length of persistence of antibodies in the blood, estimates are based on positive findings of antibodies, may be restricted only to the age category of 6 to 12 months, which eliminates infection in the past year. In the case that wild boar are vaccinated, age and time when the vaccinations are completed are the basic parameters for the assessment of infection (Kaden et al., 2006). Two years after the vaccination, the animals under 6 months may have maternal antibodies, and animals older than 12 or 18 can have a vaccine antibodies that means that target population is the age category of 6-12 (18) months. After 2 years of cessation of vaccination, the animals of age 6 to 24 months must be negative for the presence of specific antibodies if there is no infection with classical swine fever.

**Classical swine fever in Serbia**

Classical swine fever in Serbia in the period 2000 - 2012 CSF in domestic pigs in Serbia appeared in 1385 households, with a record number of outbreaks in 2006 when 401 households were infected with CSF. Classical swine fever in Serbia is prevented and combated with the constant maintenance of immunity, which is achieved by vaccination of all pigs with the attenuated vaccine C strain, as follows: piglets at the age of 45 to 60 days, gilts and sows at least 15 days prior to each breeding and boars two times a year (MPTŠV, 2012; MPTŠV, 2009).

After 2000 there was a significant deterioration in the epizootic situation and multi focal infection in the territory of the whole country. The most common methods and routes of transmission of infection were illegal transport of susceptible animals and unvaccinated domestic swine which were in contact with the natural reservoirs of the virus, such as wild boars (Milićević et al., 2009).

According to the political and socio-economic importance of classical swine fever, it is adopted the concept of eradication of this disease. One of the principles of the eradication program is based on the active and passive monitoring of the presence of classical swine fever virus in natural reservoirs, and the population of wild boars. Wild boars inhabit the whole territory of Serbia, population density is 0.2/km2 to 30/km2. Serbia has 300 registered hunting areas, 28 of whom fenced in with about 3000 wild boars. By the end of 2010, wild boars in fenced hunting areas have been vaccinated with attenuated vaccine (strain C), and since January 2011, vaccination of wild boars are prohibited.

Monitoring of classical swine fever in wild boars conducted since 2009 includes testing of serums for the presence of specific antibodies and examination of organs to the presence of classical swine fever virus. Passive surveillance lasts over the whole year and active surveillance lasts during the hunting season. For each area, based on estimated population size and projected annual hunting, is determined by the number of samples to be examined to confirm the presence or absence of infection with CSF (5-10%, 95% CL). Also, it is envisaged that 50% of the samples are derived from the age group 6-12 months, 1-2 years 35% and 15% over 2 years of age.

**Monitoring 2009/2010**

During hunting season, which lasts from November - March, has been tested a total of 831 samples. Of 499 animals were examined blood serums and organs, while the 332 samples are tested by examinations of organs only to the presence of CSF virus. In 14 of 499 examined animals (2.8%) were confirmed specific antibodies. CSF virus was detected in one case.

**Monitoring2010/2011**

Since 2437 the planned sample, 1351 samples were collected. All organ samples were negative for the presence of CSF virus, while antibodies are detected in 6.5% of cases and in 62 samples. 40 of 62 positive samples came from the gated grounds, of which 32 are descended from vaccinated animals. None of the positive

animal is found in the age category 0. The positive cases were found in fenced hunting Kovin, Bac, Sid, Krusevac, Kucine, Kamariste and outside fenced areas cases were found in Gadzin Han, Kovin Varvarin, Zagubica, Backa Palanka, Despotovac, Sid, Odzaci Kucevo, Branicevo, Pcinj, Morava, Rasina , Juzni Banat, Zapadna Backa and the Raska district.

Due to the very complicated situation in relation to vaccination, sera were titrable by VN test. Titers indicating contact with the virus are found in Zagubica, Sid, Odzaci, Krusevac and Bac. All but Zagubica come from gated grounds, which confirm that the fenced hunting areas are at risk due to the high density of wild boar and high possibility of transmission of the disease. In Zagubica was confirmed low prevalence, one of 77 examined animals had high titre [1.2% + / - 2.2% (95% CI)], while a total of 5 animals were positive [6.5% + / - 5.5% (95% CI)].

**Monitoring 2011/2011**

During this period, we examined 2033 samples of organs and 1741 samples from wild boars in the presence of the virus or specific antibodies against classical swine fever virus, which represents 89.6% of the planned number of samples. Polymerase chain reaction, in all of the organs proved the absence of classical swine fever virus. Only two samples (0.1%) originated from dead animals, while others samples are originated from wild boars shot in the regular shooting. Enzyme immunoassays (Ab ELISA) of 109 animals have been tested against CSFV-specific antibodies (6.3%), with the 14 of them had data of vaccination in 2009/2010. The relationship of age categories examined wild boars was 4.4% 0-6 months of age, 42.3% 6-18 months, 19.8% from 1.5 to 2.5 years, 25.7% over 2.5 years. In relation of gender, 49.5% of male wild boars were examined and 42.7% females. Of the total sample, 89.8% came from animals that were not vaccinated in 2011, and 84 (4.1%) samples came from animals that were vaccinated in 2009/2010 season.

By the analysis of results it can be defined risk areas, areas in which is not possible to accurately assess the situation of classical swine fever on the basis of the results, and areas where there is no risk of CSF. Risk areas are the areas of hunting: Crni Lug, Crni Vrh, Dubicka Reka, Mojsinjske mountains, Veliki Jastrebac, Zupa, Caricin grad, Homolje, Tumanska reka, Reka Todorova, Bakar, Babin zub, Kucaj-Breztovica, Lopastica, Vlasina, Fruska gora. CSF unclear situation on the basis of positive findings was present in hunting areas: Kosmaj, Rit, Sedlare, Kopaonik, Zelenik, Moravica, Luznica, Bosutske sume, Kamariste, Dobrava.

On a percentage basis of the plan - low, and the age structure of animals, blur CSF is present in the hunting areas: Kosmaj, Dubicka reka, Brzava, Vucjak, Rit, Kopaonik, Nera, Timok Varovnica, Zelenika, Trest, Vrska cuka, Juzni Kucaj, Milosevo, Crni Timok, Nisava Braniste, Skrapez, Dubrava, Sumatovac, Cemernica, Zlatibor, Kraljevica, Rujen, Bođanski rit, Palanacki rit , Kapetanski rit and Begej.

Also unclear is the present situation in hunting areas in which the plan is to achieve 0%, which is a 36.4% of total hunting area in which sampling is planned. Hunting areas where positive cases were detected, but where there is no risk of CSF taking into consideration the results of monitoring and information on previous vaccinations were Rudovci, Deliblatska, Srednji Banat, Vrsacki ritovi Banat, Stig,

Miroc-Strbac, Plavna, Kuciste, Karakuta, Srem-Macva, Suboticke planine, Cer-Vidojevica.

After three years of monitoring CSF in wild boar, the situation is much clearer, and the data from year to year, are better and more completed. Since 2009, the number of samples is increased 2.5 times, and in 2012, over 90% of all recorded cases, have all necessary data. According to data which are defined risk areas on the one hand, and a low density population of wild boars and their biology on the other hand, we can conclude that raising biosecurity measures on farms that bred pigs and education of owners, are the most important measures to prevent the spread of classical swine fever from wild boars to domestic pigs.

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# MONITORING KLASIČNE KUGE SVINJA KOD DIVLJIH SVINJA U SRBIJI

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## Kratak sadržaj

Monitoring klasične kuge svinja kod divljih svinja u Srbiji se sprovodi od 2009. godine i podrazumeva pregled krvhin seruma na prisustvo specifičnih antitela i pregled organa na prisustvo virusa klasične kuge. Pasivan nadzor traje preko cele godine, a aktivan u sezoni lova. Za svako lovište, na osnovu procenjene veličine populacije i planiranog godišnjeg odstrela, određen je broj uzoraka koje treba pregledati za potvrdu prisustva odnosno odsustvo infekcije virusom klasične kuge svinja (5-10 % , 95% C.L.). Takođe, predviđeno je da 50% uzoraka potiče od starosne kategorije 6-12 meseci, 35 % 1-2 godine i 15% preko 2 godine starosti. Nakon tri godine monitoringa KKS kod divljih svinja, situacija je znatno jasnija, a podaci iz godine u godinu kvalitetniji. Od 2009. godine, broj uzoraka se povećao 2,5 puta, a u 2012. godini, za preko 90% pregledanih životinja evidentirani su svi neophodni podaci. Imajući u vidu definisana rizična područja sa jedne strane, malu gustinu naseljenosti divljih svinja i njihovu biologiju sa druge strane, podizanje biosigurnosnih mera na gazdinstvima koja gaje svinje i edukacija vlasnika, najvažnije su mere koje će sprečiti širenje klasične kuge svinja sa divljih na domaće svinje.

**Ključne reči:** monitoring, klasična kuga svinja, divlje svinje

## Uvod

Divlje i domaće svinje su članovi iste vrste, Sus Scrofa, i obolevaju od istih zaraznih bolesti. U prirodi, iako se retko retko dešava, divlje i domaće svinje daju fertilno potomstvo. Divlje svinje naseljavaju većinu šuma Evrope, močvarne i planinske predele (Baubet, 1998; Acevedo i sar., 2006). Veličina populacije divljih svinja na globalnom nivou je u porastu poslednjih trideset godina zbog promena u načinu lova, klimatskih promena i veoma intenzivnoj proizvodnji žitarica. Povećanje populacije nosi sa sobom rizik od održavanja zaraznih bolesti i rizik od prenošenja istih na domaće životinje (Acevedo i sar., 2006; Hars i sar., 2004). Divlje svinje su veoma socijalne životinje. U odnosu na starost, možemo ih klasifikovati u 4 kategorije, 0-6 meseci, 6-14 meseci, 14-24 meseca i preko 24 meseca starosti (Monaco i sar., 2003). Krmače sa prasićima rođenim prethodne godine žive u grupama. Mlade ženke mogu da se pridruže novoj grupi ili napuste svoju neposredno pre dostizanja adultnog stadijuma. Mladi mužjaci napuštaju grupu i

odlaze 10 km dalje od svoje matične grupe (ONCFS 2004) ali zbog poligamskog načina života predstavljaju glavni put širenja infekcija među divljim svinjama.

Grupe ženki žive na 150 do 2000 h (~500 h u proseku) dok odrasli mužjaci lutaju između grupa ženki prelazeći znatno veće teritorije (1000-2000 h u proseku) (Keuling i sar., 2008). Iako radijus kretanja može varirati, zavisno od dostupne hrane, načina lova, korišćenja velikih pasa u lovu, prosečan radijus kretanja divlje svinje je manji od 10 km. Divlje svinje rađaju u proseku 4 do 7 prasića (Monaco i sar., 2003). Najviše mladih se rodi u periodu mart/april, ali i ranije kada žir dobro rodi (Hohmann, 2005).

Virus klasične kuga kod divljih svinja prouzrokuje iste kliničke, patomorfološke i hematološke promene (Depner i sar., 1995). Ispitivanjem uticaja maternalnih antitela na pojavu bolesti kod prasadi, pokazano je da se nakon infekcije prasadi koja imaju nizak nivo maternalnih antitela, pojavljuju samo blagi simptomi, dijareja i smanjen unos hrane, ali se virus izlučuje do 19 dana od infekcije. Ovakva prasad predstavljaju jedan od načina održavanja dugotrajnih epizootija u prirodi (Depner i sar., 2000).

Iako je pokazano da eksperimentalne infekcije domaćih i divljih svinja uzrokuju sličnu bolest, veoma je teško dokazati KKS kod divljih svinja jer je do uginulih životinja u prirodi teško doći; obično ih pojedu druge životinje ili su skrivene u žbunju, naročito leti.

Klasična kuga svinja kod divljih svinja od 2000 godine zabeležena je u Nemačkoj, Francuskoj, Belgiji, Luksemburgu, Bugarskoj, Rumuniji, Mađarskoj, Slovačkoj. Izbijanja kuge kod divljih svinja je ograničeno na subpopulacije, zavisno od reljefa i fizičkih barijera kao što je pokazano u Nemačkoj i Francuskoj (OIE (2007), Appendix 3.8.1.).

Cilj nadzora klasične kuge kod divljih svinja je najranije otkrivanje infekcije da bi se što pre preduzele mere za kontrolu i eradikaciju odnosno sprečilo prenošenje bolesti na domaće svinje. Indikator infekcije u populaciji divljih svinja su životinje odstreljene u sanitarnom odstrelu, sa kliničkim simptomima, sumnjivim ponašanjem i nađene uginule. Za bolesti čija je posledica visok mortalitet i morbiditet, kao što je KKS, obolele životinje su najvažnije u monitoringu i nadzoru bolesti.

Za dokazivanje infekcije svinja virusom KKS koriste se uzorci krvnog seruma za dokazivanje specifičnih antitela odnosno tonzile i slezina za dokazivanje virusa. Za razliku od uzoraka poreklom od domaćih svinja, uzorci od divljih svinja, naročito krvni serumi, značajno su lošijeg kvaliteta.

Populacija divljih svinja je slobodna od KKS kada su sve životinje negativne na prisusutvo virusa u uzorcima tkiva, a nalaz specifičnih antitela je ispod određenog nivoa detekcije (<5%, 95% CI), odnosno, s obzirom na dužinu perzistencije specifičnih antitela u krvi, procena, na osnovu pozitivnog nalaza antitela, se može ograničiti samo na starosnu kategoriju 6 do 12 meseci, što isključuje infekciju u poslednjih godinu dana. U slučaju kada su divlje svinje vakcinisane, starost i vreme kada je vakcinacija završena predstavljaju osnovne parametre za procenu infekcije (Kaden i sar., 2006). Dve godine nakon prestanka vakcinacije, životinje mlađe od 6 meseci mogu imati maternalna antitela, a životinje starije od 12 ili 18 imaju mogu imati vakcinalna antitela s toga je ciljna kategorija starosti 6-12 (18) meseci. Nakon 2 godine od prestanka vakcinacije, životinje 6 do

24 meseca ukoliko nema infekcije virusom klasične kuge svinja, moraju biti negativne na prisustvo specifičnih antitela.

**Klasična kuga svinja u Srbiji**

U periodu 2000 – 2012. klasična kuga svinja kod domaćih svinja u Srbiji se pojavila na 1385 gazdinstva, sa rekordnim brojem izbijanja u 2006. godini kada je 401 gazdinstvo bilo zaraženo virusom kuge svinja. Klasična kuga svinja u Srbiji se sprečava i suzbija stalnim održavanjem imuniteta, vakcinacijom svih svinja vakcinom od atenuiranog C soja i to prasadi u starosti od 45 do 60 dana, nazimica i krmača najkasnije 15 dana pre svakog pripusta i nerastova dva puta godišnje (MPTŠV, 2012; MPTŠV, 2009).

Posle 2000. godine došlo je do značajnog pogoršanja epizootiološke situacije i multi fokalnog širenja zaraze na teritoriju cele zemlje. Najčešći načini i putevi prenošenja zaraze bili su nelegalni promet prijemčivih životinja ali i kontakt nevakcinisanih domaćih svinja sa prirodnim rezervoarima virusa, odnosno divljim svinjama (Milićević i sar., 2009).

Imajući u vidi politički i socio-ekonomski značaj klasične kuge svinja, usvojen je koncept eradikacije ove bolesti. Jedan od principa na kojima je baziran program eradikacije je i aktivan i pasivan nadzor prisustva virusa klasične kuge svinja u prirodnim rezervoarima, odnosno u populaciji divljih svinja.

Divlje svinje naseljavaju celu teritoriju Srbije; gustina populacije je 0.2/km$^2$ do 30/km$^2$. U Srbiji je registrovano 300 lovišta, od kojih je 28 ograđenih i u kojima živi oko 3000 divljih svinja. Do kraja 2010 godine, divlje svinje u ograđenim lovištima su vakcinisane vakcinom od C soja, a od januara 2011 vakcinacija divljih svinja je zabranjena.

Monitoring klasične kuge svinja kod divljih svinja sprovodi se od 2009. godine i podrazumeva pregled krvhin seruma na prisustvo specifičnih antitela i pregled organa na prisustvo virusa klasične kuge. Pasivan nadzor traje preko cele godine, a aktivan u sezoni lova. Za svako lovište, na osnovu procenjene veličine populacije i planiranog godišnjeg odstrela, određen je broj uzoraka koje treba pregledati za potvrdu prisustva odnosno odsustvo infekcije virusom klasične kuge svinja (5-10 % , 95% C.L.). Takođe, predviđeno je da 50% uzoraka potiče od starosne kategorije 6-12 meseci, 35 % 1-2 godine i 15% preko 2 godine starosti.

**Monitoring 2009/2010**

Tokom lovne sezone koja traje u periodu novembar - mart, ukupno je pregledan 831 uzorak. Od 499 životinje pregledani su i krvni serum i organi, dok su od 332 pregledani samo organi na prisustvo virusa KKS. Kod 14 od 499 pregledanih životinja (2,8%) dokazana su specifična antitela. Virus KKS dokazan je u jednom slučaju.

**Monitoring 2010/2011**

Od 2437 planiranih uzoraka, 1351 uzorak je sakupljen. Svi uzorci organa bili su negativni na prisustvo virusa KKS, dok su antitela dokazana u 6,5%

slučajeva, odnosno kod 62 uzorka. 40 od 62 pozitivna uzorka su poticala iz ograđenih lovišta, a od toga 32 su poticala od vakcinisanih životinja. Nijedna pozitivna životinja nije nađena u 0 starosnoj kategoriji. Pozitivni slučajevi nađeni su u ograđenim lovištima Kovin, Bač, Šid, Kruševac, Kućine, Kamarište i van ograđenih delova u Gadžinom Hanu, Kovinu, Varvarinu, Žagubici, Bačkoj Palanci, Despotovcu, Šidu, Odžacima, Kučevu, braničevskom, pčinjskom, pomoravskom, rasinskom, južnobanatskom, zapadnobačkom i raškom okrugu.

Zbog veoma komplikovane situacije u odnosu na vakcinaciju, serumi su titrirani VN testom. Titrovi koji ukazuju na kontakt sa virusom su nadjeni u Žagubici, Šidu, Odžacima, Kruševcu, Baču. Svi osim Žagubice potiču iz ograđenih lovišta što potvrđuje da su ograđena lovišta rizična područja zbog velike gustine divljih svinja i lakog prenošenja bolesti. U Žagubici je utvrđena niska prevalencija, 1 od 77 pregledanih životinja je imala visok titar [1,2% +/- 2.2% (95% C.i.)] dok je ukupno 5 životinja bilo pozitivno [6.5% +/- 5,5% (95% C.i.)].

**Monitoring 2011/2012**

Tokom ovog perioda, pregledano je 2033 uzoraka organa i 1741 uzorak krvnih seruma divljih svinja na prisustvo virusa odnosno specifičnih antitela protiv virusa klasične kuge svinja, što predstavlja 89,6% od planiranog broja uzoraka.

Lančanom reakcijom polimeraze, ni u jednom od uzoraka organa nije dokazano prisustvo virusa klasične kuge svinja. Samo dva uzorka (0,1%) poticala su od uginulih životinja, dok su ostale divlje svinje odstreljene u redovnom odstrelu. Imunoenzimskim testom (AbELISA) kod 109 životinja dokazana su specifična antitela protiv CSFV (6,3%), s tim da za 14 životinja postoje podaci o vakcinaciji u 2009/2010. godini.

Odnos starosnih kategorija pregledanih divljih svinja je 4,4% 0-6 meseci starosti, 42,3% 6-18 meseci, 19,8% 1,5-2,5 godine, 25,7% preko 2,5 godine. U odnosu na pol, 49,5% muških divljih svinja je pregledano i 42,7% ženki. Od ukupnog broja uzoraka, 89,8% poticalo je od životinja koje nisu bile vakcinisane u 2011. godini, za 84 (4,1%) postoje podaci o vakcinaciji u 2009/2010.

Analizom rezultata, mogu se definisati rizična područja, područja u kojima na osnovu rezultata nije moguće precizno proceniti situaciju klasične kuge svinja i područja u kojima nema rizika od KKS. Rizična područja su područja lovišta Crni Lug, Crni Vrh, Dubička Reka, Mojsinjske planine, Veliki Jastrebac, Župa, Caričin grad, Homolje, Tumanska reka, Todorova reka, Bakar, Babin zub, Kučaj-Brezovica, Lopaštica, Vlasina, Fruška gora.

Nejasna KKS situacija na osnovu pozitivnih nalaza je prisutna u lovištime Kosmaj, Rit, Sedlare, Kopaonik, Zelenik, Moravica, Lužnica, Bosutske šume, Kamarište, Dobrava. Na osnovu procenta ostvarenja plana – nizak, i starosne strukture pregledanih životinja, nejasna slika KKS prisutna je u lovištima Kosmaj, Dubička Reka, Brzava, Vučjak, Rit, Kopaonik, Nera, Timok, Varovnica, Zelenika, Trest, Vrška čuka, Južni Kučaj, Miloševo, Crni Timok, Nišava, Branište, Skrapež, Dubrava, Šumatovac, Čemernica, Zlatibor, Kraljevica, Rujen, Bođanski rit, Palanački rit, Kapetanski rit, Begej. Takođe, nejasna situacija je prisutna i u loviština u kojima je ostvarenje plana 0%, a kojih je 36.4% od ukupnog broja lovišta u kojima je planirano uzorkovanje.

Lovišta u kojima su otkriveni pozitivni slučajevi, ali u kojima nema rizika od KKS uzimajući u obzir rezultate monitoringa i podatke o prethodnim vakcinacijama su Rudovci, Deliblatska peščara, Srednji Banat, Vršački ritovi-Ribnjak, Stig, Miroč-Štrbac, Plavna, Kućine, Karakuta, Srem-Mačva, Subotičke šume, Cer-Vidojevica.

Nakon tri godine monitoringa KKS kod divljih svinja, situacija je znatno jasnija, a podaci iz godine u godinu kvalitetniji. Od 2009. godine, broj uzoraka se povećao 2,5 puta, a u 2012. godini, za preko 90% pregledanih životinja evidentirani su svi neophodni podaci. Imajući u vidu definisana rizična područja sa jedne strane, malu gustinu naseljenosti divljih svinja i njihovu biologiju sa druge strane, podizanje biosigurnosnih mera na gazdinstvima koja gaje svinje i edukacija vlasnika, najvažnije su mere koje će sprečiti širenje klasične kuge svinja sa divljih na domaće svinje.

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