

СЕКЦИЈА ЗА ЗООНОЗЕ  
СРПСКО ВЕТЕРИНАРСКО ДРУШТВО  
ВЕТЕРИНАРСКИ СПЕЦИЈАЛИСТИЧКИ ИНСТИТУТ “ЗРЕЊАНИН”

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## NECESSITY AND POSSIBILITIES FOR ERADIACATION OF AUJESZKY'S DISEASE IN SERBIA

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### Summary

Aujeszky's disease (*Pseudorabies*, *Morbus Aujeszky*, *AD*) is an infectious disease that can infect all mammals including humans. The causative agent of the disease is the virus (Suid herpes virus-1, or Aujeszky's disease virus), belonging to the family *Herpesviridae*, subfamily *Alphaherpesvirinae*. Aujeszky's disease causes major health and economic losses, especially in pig breeding. Infection with *AD* in most animal species ends with the death, except in adult pigs, in which infection after acute turns into latent phase. Adult, infected pigs are reservoirs of the virus and the sources of infection. In order to prevent occurrence of the disease and the loss, veterinary-sanitary measures are applied, and one of the most effective is immunization of pigs. Also, implementation of series of measures, prescribed in the various laws and bylaws, may significantly affect the prevention of disease, and thus the occurrence of losses.

Aujeszky's disease is eradicated in many countries of the European Union and North America. In these countries, eradication of the disease resulted from several reasons, mainly to prevent the occurrence of economic losses, but also because of the legislation that regulate trade of pigs and pork products. Many countries developed and implemented programs for MA eradication back in the eighties and nineties of the twentieth century. Adoption of legislative regulations came before creating, and especially implementation of eradication programs. Thus, in 1964 is set the legal basis for surveillance and eradication of AD by Directive of Council of the European Economic Community (*Council Directive 64/432/EEC*). Many decisions were accepted later (Commission Decision 93/244/EEC, Commission Decision 93/24/EEC, Commission Decision 2001/618/EC, Commission Decision 2002/270/EC, Commission Decision 2008/185/EC amended by: 008/476/EC, 2008/988/EC, 2009/248/EC, 2009/621/EC, 2010/271/EC, 2010/434/EU, 2011/648/EU, 2012/701/EU), from various commissions and veterinary authorities of the European Union, according to which the disease began to eradicate in several EU countries. Key elements of the program for eradication of AD are based on the identifying of the disease, certification of herds, vaccination of pigs, control of the transport and trade of pigs, diagnosis, and continuous and planned monitoring. In Europe, AD-free countries are : England, France, Germany, Holland, Belgium, Denmark, Austria, Italy, Czech Republic, Slovakia, Slovenia, Norway, Finland, Sweden, Switzerland, several provinces in Spain, while in Hungary the eradication of AD is almost finished. In Republic of Serbia, AD is constantly present, especially in regions with intensive pig production. The disease often had the character of an epidemic when, along to the pigs on farms, can be infected and die other domestic animals (cattle, sheep, dogs). There are households and pig farms that are free from the disease, but more farms are infected with AD. The outbreak of AD on farms was

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prevented before by vaccination. Vaccination was conducted with attenuated vaccines of domestic production, but for almost two years, this vaccine is not available on the market. The only vaccine against AD in Serbia is an imported marker vaccine. However, the use of this vaccine is much less prevalent than the use of domestic, attenuated vaccine, and pigs in many herds are not vaccinated against AD.

Aujeszky's disease has been diagnosed by serological test and virus isolation in the sporadic investigation at the Scientific Veterinary Institute "Novi Sad". During 2013 and in the first half 2014, virus was isolated in 5 out of 16 suspected materials. According to the instruction of the Veterinary Directorate during the hunting season 2013/2014, for the first time was carried out monitoring of AD in wild boars in the whole territory of the Republic of Serbia. In the Scientific Veterinary Institute "Novi Sad" were tested 485 blood samples of wild boars from 12 epizootic districts, and the percentage of seropositive wild boars was 37%. Therefore, AD is present in Serbia and represents a serious threat to our economy, especially for pig production. Outbreak of the disease, particularly in regions with intensive farming of pigs are quite possible, because the number of non-vaccinated pigs is increasing, and the implementation of other biosecurity measures for prevention of incidence and spread of the disease is very poor. Therefore, it is necessary that the Veterinary Service of the Republic of Serbia, with the support of relevant ministries, pigs breeders, slaughterhouses, as soon as possible, start to design, and afterwards, to implement the program for eradication of AD. The needs for eradication of the disease are large and completely reasonable, especially because the interest of our pig production is to export pigs and pig products to the EU market.

Key elements of the program for eradication of AD in Serbia should be based on the experiences of countries that had eradicated the disease. It is necessary first to start with preparing the bylaws. Legislative provisions in these acts are not important only to create a legal basis for AD eradication, but they must regulate that eradication of AD encourage pigs breeders. Pig breeders have to recognize that the eradication of AD will have many benefits (better health, better trade, co-financing), and won't be just a measure for new taxes in pig production. The next step should be monitoring of AD on all commercial pig farms and pig farms with A and B type of implemented biosecurity measures. Based on monitoring, AD-free swine herds should be certificated and started with implementation of strict surveillance and control measures to prevent possible emergence of the disease. Also, based on monitoring results, it should define regions and measures that could be declared as AD-free in a short period. Vaccination of pigs with marker vaccines, considering the already known facts of the disease prevalence, represents a key measure for program of AD eradication. Vaccination must be planned, with as much as possible number of included pigs, in order to reduce the number of potential virus excretion and increase the number of protected pigs. Program must involve monitoring of the conducted vaccination in order to prevent possible infection. Active and passive surveillance must be defined in all herds where AD eradication is carried out, because any suspect infection must be tested on AD. In the program of AD eradication must be also included the planned exclusion of latently infected breeding animals from reproduction. Special attention in the program must be given to the introduction of breeding animals (gilts, sows, boars and sperm) into herds where the AD eradication is started or is already finished. Swine herds that got free from AD must be systematically controlled, in order to exclude any possibility of introduction of AD virus. Certainly, there are more elements that must be considered in a program of AD eradication. AD eradication program must be comprehensive, but with clearly defined stages and activities of implementation.

Eradication of Aujeszky's disease in Serbia is certainly necessary and shouldn't be postponed. Many opportunities are available, despite of great complexity and heterogeneity of pigs rearing in Serbia. The effects of eradication will be certainly better if the pig breeders and veterinary services, as main operative structures of the eradication program, will be supported by relevant ministries, as well as all other economic subjects that are directly or indirectly involved in pig breeding, meat processing and trade of pigs and products of pig meat.

**Keywords:** Aujeszky's disease, eradication, opportunities, needs, Serbia