

MULTIPLE INTRODUCTION OF HIGHLY PATHOGENIC AVIAN INFLUENZA OF H5N8 SUBTYPE IN CROATIA IN THE 2020/2021 SEASON

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Summary

In the season 2020/2021 two outbreaks of highly pathogenic avian influenza (HPAI) were detected in Croatia, one in northern and the other in eastern Croatia at a distance of approximately 200 kilometers apart. In both cases, the H5N8 subtype virus was detected. The first outbreak was recorded in mid-November 2020 at a fattening turkey farm, and the second outbreak in early March 2021 in three dead mute swans found within a four-kilometer diameter. The whole genome sequencing revealed that both outbreaks were caused by viruses of the Guandong/96 lineage, clade 2.3.4.4b. Viruses from both outbreaks in the 2020/2021 season are similar to HPAI viruses of H5 subtype detected in wild birds and poultry in Russia and Kazakhstan since July 2020 and with these viruses detected in northern, western and central Europe since October 2020. A more detailed analysis indicates a very close association of the virus detected in Croatia in a turkey farm in November 2020 with viruses detected in Western Europe in the autumn of the same year, especially with viruses detected in Germany, Sweden, Italy, the Czech Republic and Poland. In contrast, the virus detected in dead swans in March 2021 is closely related to viruses detected in early 2021 in Russia, particularly to viruses detected in poultry in Krasnodar and Kurgan. Although the introduction of the virus into the turkey farm in November 2020 remains unclear, it can undoubtedly be concluded that it is not directly related to viruses detected in wild birds in Croatia in March 2021 and there were at least two independent introductions of this virus. In order to prevent the introduction of HPAI viruses into poultry farms and avoid major economic losses, active wild bird monitoring is necessary, especially during autumn in areas where these viruses were detected.

Keywords: highly pathogenic avian influenza, Croatia, season 2020/2021

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