

Increase in low pathogenic avian influenza infections on poultry farms in the Netherlands

*Van Der Goot, J.¹, Verhagen, J.², Gonzales, J.¹, Backer, J.¹, Bongers, J.¹, Boender, G.¹ and Koch, G.¹,
¹Wageningen University and Research, Central Veterinary Institute, Netherlands, ²Nationaal Influenza
Centrum, Erasmus Medisch Centrum, Netherlands; jeanet.vandergoot@wur.nl*

Since Low Pathogenic Avian Influenza (LPAI) viruses have the potential to mutate to Highly Pathogenic Avian Influenza (HPAI) viruses, efforts are made to detect LPAI infections in poultry as early as possible. For this reason, a serological surveillance is in place in the Netherlands, testing all poultry farms 1-4 times a year, depending on farm type. In the last years the number of LPAI detections has dramatically increased: 2 primary LPAI introductions were detected in 2006, 23 in 2011. Most infections were detected by the serological surveillance (56/69), and no obvious causes could be found for this increase: the surveillance was not intensified, the number of poultry farms did not change. Because wild birds are considered as the main reservoir of LPAI viruses, the number of wild birds and the LPAI virus prevalence in wild birds were also taken into account, but both were not increased. A publication based on part of these data shows that free range layer farms have a 11x higher change of becoming infected than indoor layer farms. Also turkey farms and duck farms have a higher risk of infection. Considering control measures we did a spatial analysis and a time analysis. The spatial cluster analysis on the LPAI positive layer farms identified two small regions in the Netherlands with a higher risk of LPAI introductions and one large region with a lower risk. There is an obvious peak in the detections in May and June (25/69). To make a link between the moment of detection and the introduction Monte Carlo simulations were performed using transmission parameters from LPAI virus infections in the field and in experiments. In this way it was estimated that an infection is detected 7.8-41 (minimal 3; maximal 70) days after introduction.