

Live Bird market monitoring

The surveillance on avian influenza at 147 LBMs (19 large scale LBMs and 128 small scale LBMs) located in 143 districts of 44 provinces and cities was conducted from October, 2012 to September, 2013. Totally, 8,122 pooled oro-pharyngeal swab specimens were collected from 40,610 ducks sold at these LBMs and 112 environmental specimens were taken and were tested for avian influenza virus detection by Real-time RT-PCR technique.

Analysis results show that 44/44 (100%) provinces and cities where samples were collected were positive with Influenza A, meanwhile 40/44 (90.91%) provinces were positive with H5, and 36/44 (81.82%) provinces were positive with H5N1 influenza virus. In 143 surveyed districts, proportions of detection of Influenza A, H5 and H5N1 were 93.71%, 68.53%, and 60.84%, respectively. Among 147 visited markets, there were 139 markets positive with Influenza A (94.56%), 101 markets positive with H5 (68.71%), and 90 markets positive with H5N1 (61.22%). Proportions of Influenza A, H5 and H5N1 detection were significantly higher in cold season (from December to March) than other months of a year.

In ducks sold at the LBMs, proportions of detection of Influenza A, H5 and H5N1 were 22.91%, 7.44%, and 5.68%, respectively. In environmental specimens at the LBMs, proportions of detection of Influenza A, H5 and H5N1 were 26.79%, 12.50%, and 3.75%, respectively.

Results of the surveillance indicated that avian influenza viruses, especially H5N1 sub-types, have been circulating widely at LBMs in many provinces and cities of the country. Presence of H5N1 virus was detected in all three regions (north, central and south) in Vietnam. Most duck species sold at the markets did not show clinical signs of avian influenza but a proportion of 5.68% of H5N1 was detected in the ducks sampled at LBMs emphasizing that ducks may pose a risk of exposure by shedding H5N1 virus.

It was strongly recommended to continue surveillance activities on HPAI including LBMs in the near future to serve for early detection of the disease, rapid response against any outbreak, proper outbreak control measure implementation, and clear understanding of H5N1 avian influenza virus evolution from isolates that are characterized. Some provinces and cities where AIV viruses including H5N1 virus were detected for several months should be taken into account of "H5N1 hotspot" for future relevant control measures applied in the areas.

Figure 17. Spatial distribution of LBMs which were positive with Influenza A (*pink*) vice versus negative ones (*grey*)

