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Evaluation of the Applicability of Utilizing Human Influenza Type A Antigen Test Kits for Rapid Detection of Avian Influenza Virus in the Live Bird Markets of New York City

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Since 1998, New York State Department of Agriculture and Markets, in collaboration with the USDA, has conducted surveillance testing to detect and eradicate avian influenza in poultry sold in live bird markets in New York City. Recently, popular press and public health agencies have focused attention on a highly pathogenic avian influenza strain (H5N1) found in poultry outside the Western Hemisphere. This viral strain has been linked to human morbidity and mortality and has raised concerns for human health. Current bird testing methods include reverse real time polymerase chain reaction (RRT-PCR) and virus isolation (VI), which are both antigen detection tests and are highly sensitive and specific. The RRT-PCR and VI must be conducted in controlled laboratory settings and are expensive. The RRT-PCR can yield results in a matter of hours, while the VI may take 10 – 14 days. Manufacturers of human influenza Type A antigen detection kits have advocated for the use of these tests in poultry as a reliable, rapid, inexpensive tool to detect virus. This study attempted to evaluate the applicability of using human Influenza Type A antigen detection tests to detect the presence of avian influenza in poultry in the live bird markets and to compare the results obtained with the human influenza detection kits with those obtained using the gold standard RT-PCR and VI tests. A rapid, accurate, and inexpensive diagnostic test for avian influenza would enhance current surveillance programs.