

## **DIAGNOSING VIRULENT NEWCASTLE DISEASE IN BELIZE**

### **OIE Reference laboratory an essential component**

***Belmopan, 25<sup>th</sup> November, 2008***

The high unexplained acute mortality in poultry indicated that a serious disease was present. The post mortem findings pointed at an exotic disease: Avian influenza, Velogenic Newcastle Disease (vNDV), Infectious laryngotracheitis. Only the laboratory could confirm. The Belize Agricultural Health Authority activated the emergency response plan and coordinated with the affected community who had also activated their incident command system. The community while agreeing to control the problem whatever it took to control it wanted to know the cause. As the emergency plan unfolded, amidst the intense activities being done almost simultaneously, the cry from the community was: “tell us what this is”.

The laboratory in Belize went into emergency work over weekend and holiday. The serological tests (ELISA, HI) for Newcastle disease were negative (due to the acuteness of the disease). Nevertheless it did indicate that the introduction was recent. The AGID and rapid test for Avian influenza were negative and while it gave some assurance, only the NVSL results could confirm. So while waiting for the results, the “what if it is AI” was a constant question even when two exposed people came down with mild conjunctivitis.

The National Veterinary Services Laboratory (NVSL) in the USA, an OIE reference laboratory, was contacted and the collaboration was so close that it can be said they were part of the emergency response. Samples were sent by courier, took two days to arrive and hours after their arrival, the NVSL issued preliminary results of virulent Newcastle disease. The following day (day 1) the results were confirmed and by day two the complete results were issued. The confirmed results (RRT-PCR): positive to vNDV, negative to Avian influenza. Results could have been confirmed on day 0 if tracheal/cloacal swabs had been submitted instead of tissues. Final results will be obtained with virus isolation.

The emergency response activities flow smoother now with the diagnosis confirmed. However, there is need to continue to diagnose vNDV for decision making. This is where a regional laboratory can be of great assistance if there is no in-country capability to perform PCR.

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