

## **Avian influenza virus and DIVA strategies**

### **Abstract**

Vaccination is becoming a more acceptable option in the effort to eradicate avian influenza viruses (AIV) from commercial poultry, especially in countries where AIV is endemic. The main concern surrounding this option has been the inability of the conventional serological tests to differentiate antibodies produced due to vaccination from antibodies produced in response to virus infection. In attempts to address this issue, at least six strategies have been formulated, aiming to differentiate infected from vaccinated animals (DIVA), namely (i) sentinel birds, (ii) subunit vaccine, (iii) heterologous neuraminidase (NA), (iv) nonstructural 1 (NS1) protein, (v) matrix 2 ectodomain (M2e) protein, and (vi) haemagglutinin subunit 2 (HA2) glycoprotein. This short review briefly discusses the strengths and limitations of these DIVA strategies, together with the feasibility and practicality of the options as a part of the surveillance program directed toward the eventual eradication of AIV from poultry in countries where highly pathogenic avian influenza is endemic.