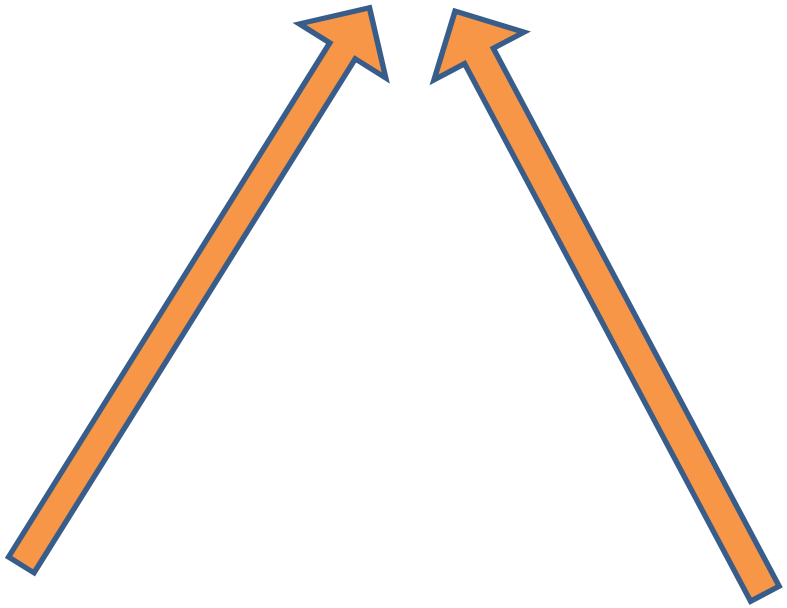
Importance of Biosecurity at the Poultry Farm

DR. J.L. VEGAD

B.V. Sc. (Gold Medalist), M.V. Sc., PhD (New Zealand),Visiting Professor USA, FNAVS, FIAVP

BIOSECURITY



Disease

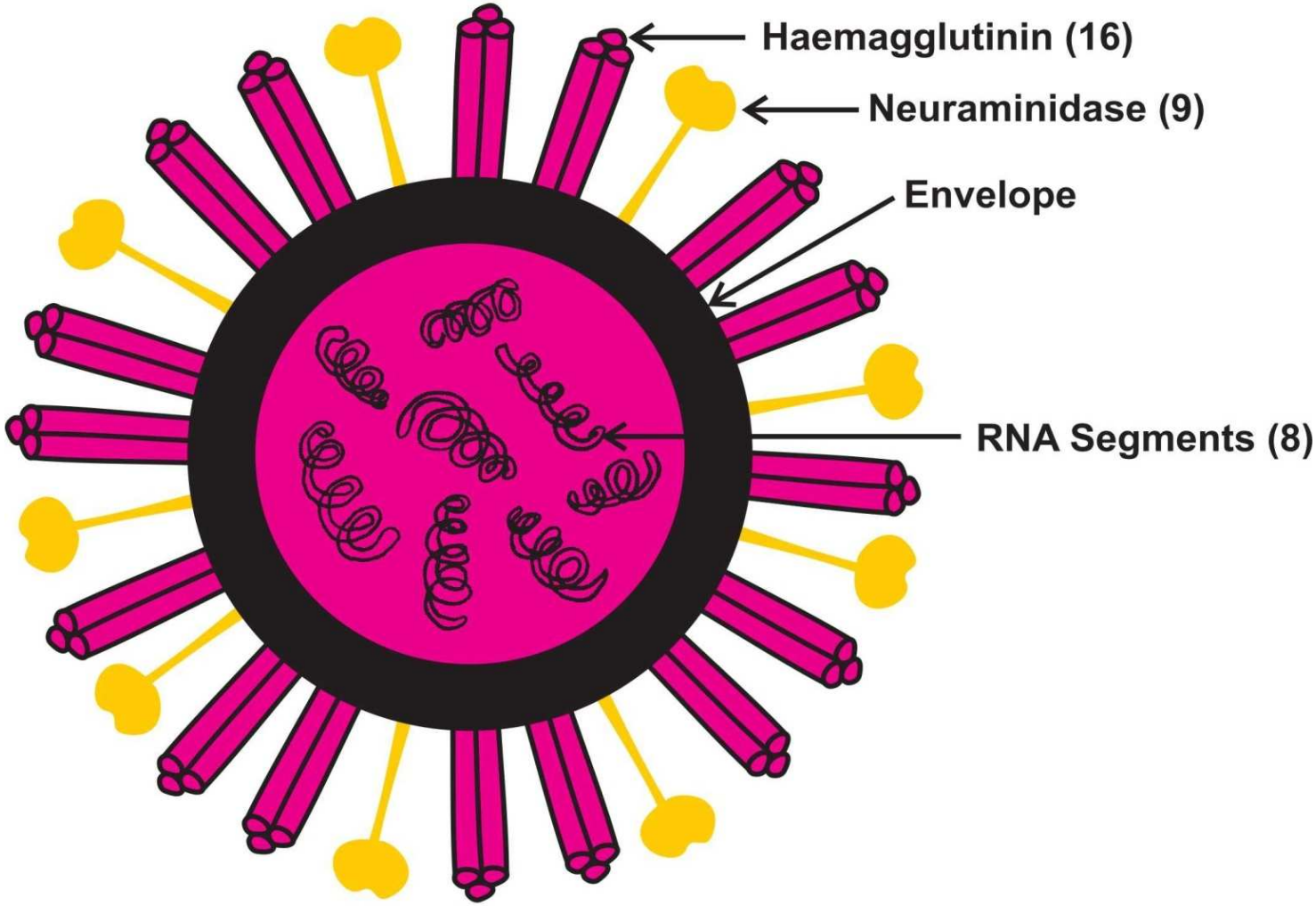
Limitations of Vaccination

Doubling Time of Bacteria

1. Bacteria - Doubling Time - 50 minutes
In 24 hours - 500 millions (50 crores)

***2. E. coli* - Doubling Time - 20 minutes**
In 9.5 hours - 500 millions (50 crores)

3.*Clostridium perfringens* - Doubling Time 7 minutes
In 3.5 hours – 500 millions (50 crores)


Haemagglutinin (16)
Neuraminidase (9)
Envelope
RNA Segments (8)

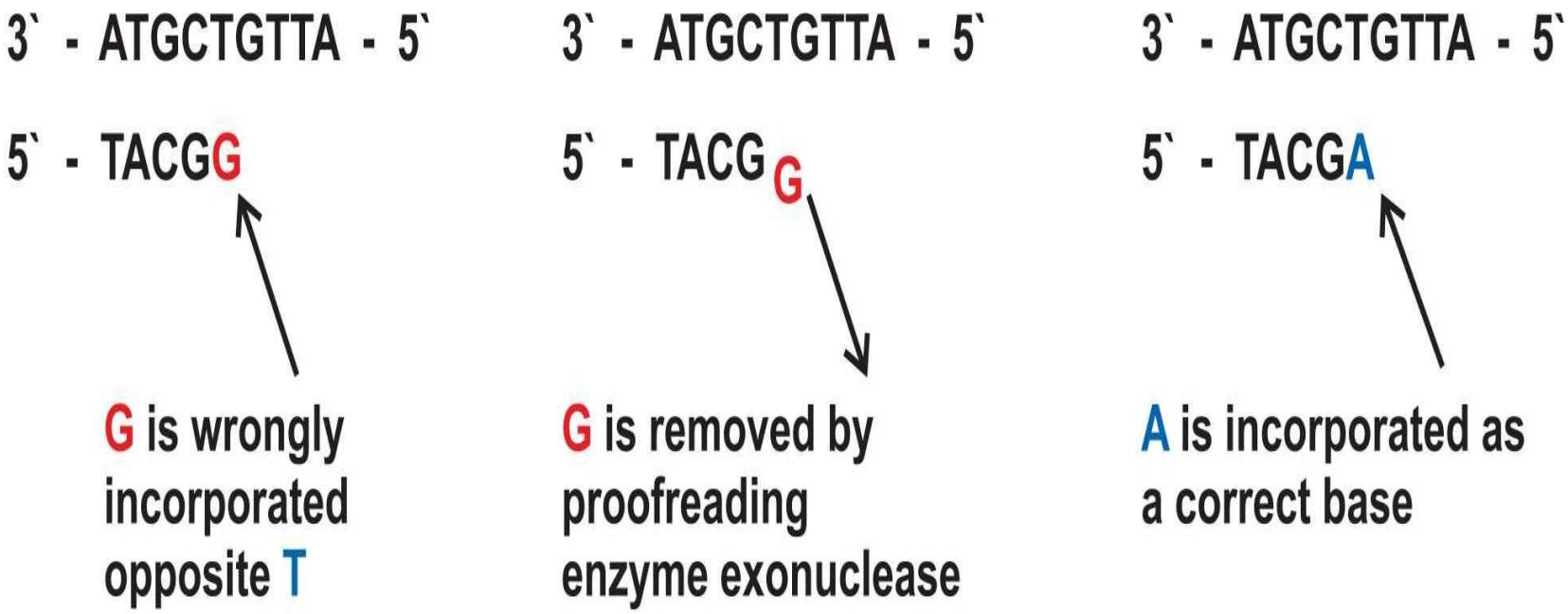


Fig. 2. Proofreading mechanism in a virus

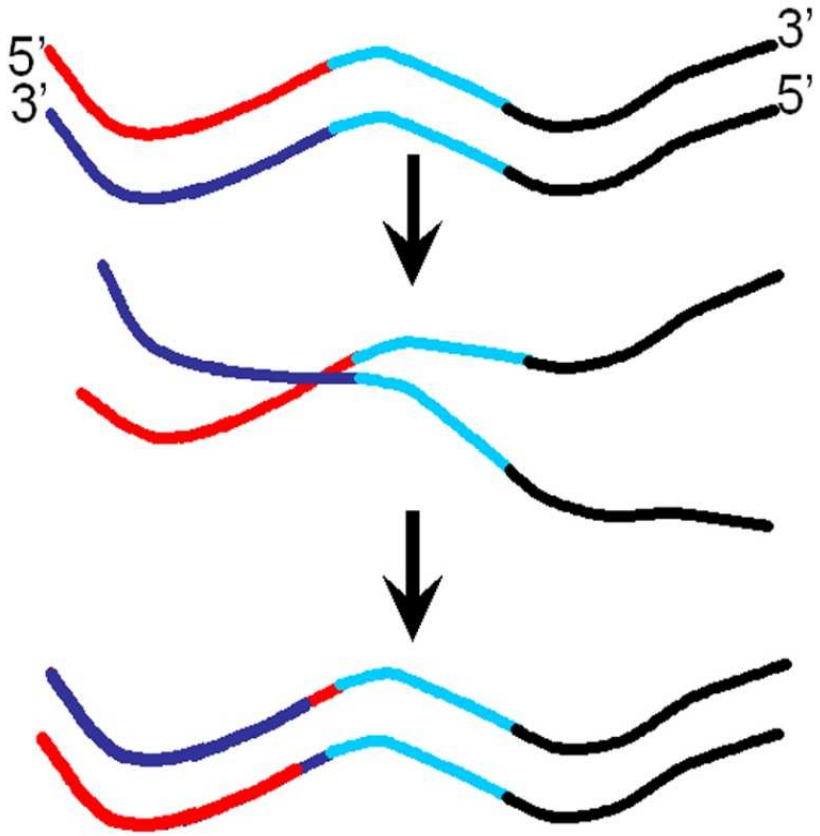


Figure 3. Mechanism of recombination on nucleic acid strands

Phenotypic on-and-off Switching (Immune evasion)

M. gallisepticum **has an inherent mechanism for making rapid and sudden changes in the expression of its surface proteins in response to antibodies.**

Phenotypic on-and-off Switching (Immune evasion) This is a very complex mechanism in which the organism changes its surface antigens. It is due to phase variable expression in the two MG genes pMGA and pvA which encode major surface proteins p52 and p67 (pMGA). These changes allow the mycoplsma to escape host's immune responses. The organism therefore persists even in the presence of systemic and local antibody (carrier state).

Thank you