B 1 strain or other avian paramyxoviruses; 7) there were no apparent serological differences between L^+R^- and L^+R^+.

These findings revealed that the Takavirus may be a variant of NDV, and that the HA reaction of the virus is converted into negative reaction at room temperature. This phenomenon may be due to the high NA activity of the virus.

ADHESION OF PILIATED *CORYNEBACTERIUM RENALE* TO BOVINE BLADDER EPITHELIAL CELLS WITH SPECIAL REFERENCE TO pH DEPENDENCY

Shinji TAKAI

Department of Hygiene and Microbiology
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060, Japan

The adhesion of *Corynebacterium renale* strain 115 to bovine bladder epithelial cells was studied using two clones of the bacteria, piliated (P^+) and nonpiliated (P^-).

Initial experiments were designed to determine the optimal conditions for adhesion of *C. renale* to bovine bladder epithelial cells. The adhesion of P^+ bacteria to the cells increased with elapsed time; the most rapid increase in adhesion was observed during the first 60 min of incubation. A decrease in the adhesion of P^+ bacteria was observed with the increasing NaCl concentration of the incubation medium from 136 to 348 mM. The adhesion of P^+ bacteria was not influenced by temperatures set at 2, 22, 30 and 37°C. The adhesion of P^- bacteria was poor and not influenced by these conditions.

The influence of pH on the adhesion of P^+ bacteria were examined. The number of P^+ bacteria which adhered to the cells was large at pHs above 7.6 but small at pHs below 6.8. The number of adhering P^+ bacteria per cell decreased strikingly after the pH of the mixture was lowered from 7.4 to 6.4. On the contrary, the number of adhering P^+ bacteria per cell increased strikingly after the pH of the mixture was raised from 6.4 to 7.4.

The adhesion of P^+ bacteria was inhibited by antipili serum. The adhesion was not inhibited by amino acids and sugars, including mannose, and was not influenced by Ca^{2+} and Mg^{2+}. P^- bacteria hardly attached to the epithelial cells, irrespective of the pH and other factors.