

**POTENSI VAKSIN INFEKSIUS *CORYZA* TETRAVALEN PADA AYAM  
PETELUR BERDASARKAN UJI SEROLOGI DAN UJI TANTANG  
DENGAN *Avibacterium paragallinarum* SEROTIPE A DAN B**

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**Intisari**

*Avibacterium paragallinarum* merupakan penyebab *infectious coryza* yang dapat mengakibatkan penurunan produksi ayam petelur hingga 10-40%. Di Indonesia vaksin *coryza* tersedia dalam bentuk bivalen, trivalen, dan tetravalen. Penelitian ini bertujuan untuk mengetahui efektifitas vaksin *coryza* tetravalen pada ayam petelur berdasarkan titer antibodi dan ujiantang. Sebanyak 40 ekor ayam petelur betina strain *Lohmann* berumur 4 minggu dibagi dalam 4 kelompok, masing-masing 10 ekor. Kelompok NVA dan NVB tidak divaksin, sedangkan kelompok VA dan VB divaksin menggunakan vaksin *coryza* tetravalen IC Quadro<sup>®</sup>. Serum darah dikoleksi pada hari ke 0, 14, dan 28 untuk dilakukan uji HA-HI. Ujiantang dilakukan melalui tetes intranasal menggunakan isolat *Av. paragallinarum* serotipe A-221 dan B-Spross konsentrasi 10<sup>6</sup> cfu/ml. Gejala klinis diamati selama 14 hari paska infeksi. Pada akhir penelitian ayam dieuthanasi, kemudian dilakukan isolasi ulang dan pemeriksaan patologis pada *sinus infraorbitalis*, kulit *fasial*, dan *trakhea*. Data titer antibodi dan perubahan patologis dianalisa secara deskriptif, sedangkan skor gejala klinis dianalisa dengan uji non parametrik *Mann Whitney Test* menggunakan program SPSS.

Rata-rata titer antibodi pada kelompok VA hari ke-28 paska infeksi adalah 20 HI unit. Skor gejala klinis pada kelompok ayam yang divaksin tetravalen lebih rendah dibandingkan dengan kelompok yang tidak divaksin ( $P < 0,05$ ). Kelompok VA dibanding NVA dan kelompok VB dibanding NVB masing-masing memiliki skor gejala 2,7 : 14,2 dan 1,1 : 6,3. Perubahan patologis pada kelompok ayam yang divaksin tetravalen lebih ringan dibandingkan kelompok yang tidak divaksin, baik secara makroskopis maupun mikroskopis. Berdasarkan uji serologis dan ujiantang, dapat disimpulkan bahwa potensi vaksin infeksius *coryza* tetravalen pada ayam petelur menunjukkan proteksi terhadap infeksi buatan *Av. paragallinarum*.

**Kata kunci:** *Av. paragallinarum*, vaksin, uji serologi, ujiantang.

**EFFICACY OF TETRAVALEN CORYZA VACCINE IN LAYER CHICKENS BASED ON SEROLOGICAL TEST AND CHALLENGE TEST WITH *Avibacterium paragallinarum* SEROTYPE A AND B**

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**Abstract**

Infectious coryza is caused by the infection of *Avibacterium paragallinarum* which can lead to decreased production in laying hens of up to 10-40%. In Indonesia, coryza vaccine is available in form of bivalent, trivalent, and tetravalent forms. This study aims to determine the effectiveness of tetravalen coryza vaccine in layers based on antibody titer and challenge test. Forty 4-week-old Lohmanns were divided into 4 groups, 10 chickens respectively. The NVA and NVB groups were not vaccinated, while the VA and VB groups were vaccinated using the tetravalen coryza IC Quadro® vaccine. Blood serum was collected on days 0, 14, and 28 for HA-HI test. The challenge test was performed through intranasal drops using *Av. paragallinarum* isolates NVserotype A-221 and B-Spross concentration  $6 \times 10^8$  cfu/ml. Clinical signs were observed for 14 days post infection. At the end of the study the chickens were euthanised, then reisolation of bacteria and pathological examination of the infraorbital sinus, facial skin, and trachea were conducted. Data on antibody titres and pathological changes were analyzed descriptively, while clinical symptom scores were analyzed by non-parametric Mann Whitney Test using SPSS program.

The average antibody titer on the NVA group 28th day post infection was 20 HI units. Scores of clinical signs in the vaccinated chicken group were lower than that of the unvaccinated group ( $P < 0.05$ ). The VA group versus NVA and VB groups versus NVB scored 2.7: 14.2 and 1.1: 6.3 respectively. The pathological changes in the vaccinated chickens were milder than those not vaccinated both macroscopically and microscopically. Based on serological test and challenge test it can be concluded that tetravalent infectious coryza vaccination in chickens artificially infected with *Av. paragallinarum* shows good efficacy.

**Keywords:** *Av. paragallinarum*, vaccine, serological test, challenge test.