PENGARUH CEMARAN MIKOTOKSIN DALAM PAKAN KOMPLIT PADA *PARENT STOCK BROILER* DI DESA LUMPANG, KABUPATEN BOGOR, JAWA BARAT: KAJIAN TERHADAP KINERJA PRODUKSI DAN PERUBAHAN PATOLOGIK ORGAN TARGET PRIMER MIKOTOKSIN

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INTISARI

Penelitian ini dirancang untuk mempelajari tentang adanya cemaran mikotoksin dalam pakan komplit yang dikonsumsi oleh *parent stock* (PS) *broiler* dan dampaknya terhadap kinerja produksi, fertilitas, daya tetas telur, *saleable chick*, dan perubahan patologik organ target mikotoksin di desa Lumpang, Kabupaten Bogor, Jawa Barat. Penelitian dilakukan selama 15 minggu mulai ayam berumur 25-40 minggu. Digunakan PS *strain* Lohmann (unit A) sebanyak 100.000 ekor dan PS *strain* Cobb (unit B) sebanyak 100.000 ekor. Sebanyak 200 gram sampel pakan diambil dan dilakukan pemeriksaan jenis dan kandungan mikotoksin menggunakan *high performance liquid chromatography mass spectometry* (HPLC MS/MS). Sebanyak 5 ekor ayam dinekropsi kemudian diambil organ (hati,ginjal, testes, proventrikulus, dan limpa) untuk pemeriksaan histopatologi dengan pewarnaan hematoksilin dan eosin. Hasil pemeriksaan histopatologi akan dianalisis secara deskriptif. Data kinerja produksi, fertilitas, daya tetas telur, dan *saleable chick* sejak umur 25-40 minggu dianalisis secara statistik menggunakan uji *Mann Whitney*. Cemaran mikotoksin yang ditemukan pada unit A yaitu, fumonisin (196 µg/kg), DON (72 µg/kg), aflatoksin B1 (10.6 µg/kg). Sedangkan dapat ditemukan pada unit B yaitu, fumonisin (199 µg/kg), DON B (48 µg/kg), dan aflatoksin B1 (11.2 µg/kg). Penurunan produksi pada unit A dapat dijumpai mulai umur 31 minggu sampai 36 minggu, sedangkan pada unit B terjadi pada umur 35 minggu sampai 38 minggu. Persentase fertilitas unit A selalu berada dibawah standar normal yang telah ditetapkan. Persentase fertilitas terendah unit B terjadi pada umur 34 minggu, kemudian sedikit mengalami peningkatan pada umur 35 minggu. Daya tetas unit A terlihat berada diatas standar pada umur 27 minggu sampai 30 minggu. Pada umur 36 mingggu sampai umur 40 minggu daya tetas unit A terlihat konsisten dibawah standar. Persentase daya tetas unit B pada umur 26 sampai 35 minggu sesuai standar, tetapi pada umur 35 minggu daya tetas unit B sedikit berada dibawah standar. *Saleable chicks* unit A pada umur 36 minggu sampai 40 minggu berada jauh dibawah standar normal yang telah ditetapkan. *Saleable chicks* unit B terlihat konsisten berada dibawah standar mulai usia 26 minggu sampai 40 minggu. Perubahan histopatologi pada ayam yang mengkonsumsi multi mikotoksin ditemukan pada hati, limpa, dan testes. Tidak ada perbedaan signifikan (P>0,05) antara penurunan produksi,fertilitas, daya tetas, dan *saleable chicks* baik pada unit A dan unit B. Dapat disimpulkan bahwa konsumsi pakan komplit yang tercemar multi mikotoksin dapat memberikan dampak negatif terhadap performa produksi, fertilitas, daya tetas telur, *saleable chicks*, dan menyebabkan perubahan pada organ target *broiler parent stock*

Kata kunci: mikotoksin, fertilitas, daya tetas telur, performa produksi, *saleable chicks*,HPLC MS/MS.

INFLUENCE OF MYCOTOXIN IN COMPLETE FEED OF PARENT STOCK BROILER IN LUMPANG, BOGOR, WEST JAVA: STUDI ON PRODUCTION PERFORMANCE AND PATHOLOGICAL CHANGES IN PRIMARY MYCOTOXIN TARGET ORGAN

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ABSTRACT

This researched was designed to study the presence of mycotoxin contamination in the complete feed consumed by parent stock broiler and its impact on production performance, fertility, hatchability, saleable chicks, and pathological changes in mycotoxin target organs of parent stock broiler in Lumpang village, Bogor Regency, West Java. The study was carried out for 15 weeks starting from aged 25-40 week, 100.000 strain Lohmann (unit A) and 100.000 Cobb (unit B) are used. 200 grams of sample feed were taken then the type and mycotoxin content was examined using high performance liquid chromatography mass spectometry HPLC MS / MS. A total of 5 chickens were necropsized and then the organs (liver, kidney, testes, proventriculus, and spleen) were taken for histopathological examination by staining hematoxylin and eosin. The results of histopathological examination will be analyzed descriptively. Data on production performance, fertility, hatchability, and saleable chick were collected from weeks 25 to 40 then analyzed statistically using the Mann Whitney test. Mycotoxin contamination found in unit A were fumonisin (196 µg / kg), DON (72 µg / kg), aflatoxin B1 (10.6 µg / kg). While in unit B mycotoxins were found fumonisin (199 µg / kg), DON B (48 µg / kg), and aflatoxin B1 (11.2 µg / kg). Decline production in unit A from the age of 31 weeks to 36 weeks. Decrease production in unit B occurs at the age of 35 weeks to 38 weeks. The percentage of unit A fertility consistently below the normal standard. The lowest percentage of unit B fertility occurs at 34 weeks, then slightly increases at 35 weeks even still below the standard. Unit A hatchability was above standard at 27 weeks to 30 weeks. At the age of 36 weeks until the age of 40 weeks unit A hatchability was consistently below the standard. The percentage of unit B hatchability at 26 to 35 weeks according to the standard. While at the age of 35 weeks unit B hatchability was slightly below the standard. Percentage unit A saleable chicks at the age of 36 weeks to 40 weeks was far below the predetermined standard. The percentage of unit B saleable chicks look consistent below standard from the age of 26 weeks to 40 weeks. Histopathological changes in chickens consuming multi mycotoxins occurs on lymph, hepar, and testes. Statistically there were no significant differences (P> 0.05) between decreased production, fertility, hatchability, and saleable chicks in both unit A (Lohmann) and unit B (Cobb). From this research it can be concluded that the consumption of feed contaminated by multi mycotoxin has a negative impact on production performance, fertility, egg hatchability, saleable chicks, and causes changes in the target organs of broiler parent stock.

Keywords: mycotoxin, fertility, hatchability, production performance, saleable chicks, HPLC MS/MS