

ABSTRAK

STUDI KLINIS BABESIOSIS PADA SAPI POTONG MENGGUNAKAN *REAL-TIME POLYMERASE CHAIN REACTION* DI WILAYAH KECAMATAN PLERET, BANTUL

Windy Martha Sari

21/480714/KH/10966

Babesiosis merupakan penyakit parasit darah yang menyebabkan anemia, hemoglobinuria, dan penurunan produksi. Spesies protozoa *Babesia* sp. yang sering menyebabkan babesiosis pada sapi adalah *Babesia bovis* dan *Babesia bigemina*, yang tersebar di negara tropis, termasuk Indonesia. Penelitian ini bertujuan untuk mengetahui insidensi babesiosis berdasarkan pemeriksaan klinis, pemeriksaan apus darah, pemeriksaan molekuler, dan hematologi darah di Kecamatan Pleret, Bantul. Penelitian dilakukan menggunakan metode *random sampling* dengan jumlah sampel sebanyak 38 ekor sapi pada Juli hingga September 2024. Sampel darah diperiksa secara mikroskopis menggunakan pewarnaan Giemsa 10% dan pengujian molekuler dengan *real-time* PCR. Data diperoleh melalui observasi dan wawancara dengan peternak, kemudian dianalisis menggunakan perangkat lunak *Microsoft Excel* dan *SPSS Statistics 16*. Hasil penelitian menunjukkan bahwa pemeriksaan klinis berpengaruh terhadap kejadian babesiosis. Sebanyak 17 dari 38 sampel terkonfirmasi positif babesiosis melalui pemeriksaan apus darah, sedangkan 30 dari 38 sampel positif babesiosis melalui pemeriksaan molekuler menggunakan *real-time* PCR. Hasil pemeriksaan hematologi darah antara sapi yang positif dan negatif babesiosis dari beberapa parameter tidak menunjukkan perbedaan yang signifikan ($P > 0,05$). Kesimpulan dari penelitian ini adalah insidensi babesiosis di Kecamatan Pleret, Bantul, berdasarkan pemeriksaan apus darah sebanyak 38 sampel sebesar 44,73%, sedangkan berdasarkan pemeriksaan *real-time* PCR sebanyak 38 sampel sebesar 78,94%. Faktor pemeriksaan klinis yang berpengaruh meliputi *breed*, jenis kelamin, umur, dan skor kondisi tubuh (*Body Condition Score* atau BCS).

Kata kunci: Babesiosis, insidensi, *real-time* PCR

ABSTRACT

CLINICAL STUDY OF BABESIOSIS IN BEEF CATTLE USING *REAL-TIME POLYMERASE CHAIN REACTION* IN PLERET DISTRICT, BANTUL

Windy Martha Sari

21/480714/KH/10966

Babesiosis is a blood parasitic disease that causes anemia, hemoglobinuria, and decreased production. The protozoan species *Babesia sp.* that frequently causes babesiosis in cattle are *Babesia bovis* and *Babesia bigemina*, which are widespread in tropical countries, including Indonesia. This study aims to determine the incidence of babesiosis based on clinical examination, blood smear examination, molecular testing, and blood hematology in Pleret District, Bantul. The study was conducted using a random sampling method with a total of 38 cattle samples collected from July to September 2024. Blood samples were examined microscopically using 10% Giemsa staining and molecular testing with real-time PCR. Data were obtained through observation and interviews with farmers, then analyzed using Microsoft Excel and SPSS Statistics 16 software. The results showed that clinical examination influenced the occurrence of babesiosis. A total of 17 out of 38 samples were confirmed positive for babesiosis through blood smear examination, while 30 out of 38 samples tested positive for babesiosis through molecular testing using real-time PCR. The blood hematology results between babesiosis-positive and negative cattle did not show significant differences in several parameters ($P>0.05$). The conclusion of this study is that the incidence of babesiosis in Pleret District, Bantul, based on blood smear examination of 38 samples was 44.73%, while based on real-time PCR examination of 38 samples, it was 78.94%. The clinical examination factors that influenced the incidence included breed, sex, age, and Body Condition Score (BCS).

Keywords: Babesiosis, incidence, real-time PCR