Systematic Review


ABSTRACT

While some *Ehrlichia* species, such as *E. ruminantium* and *E. minasensis*, are not popular even among veterinarians, they can infect cattle. The current study aimed to review studies on *Ehrlichia* spp. to evaluate its worldwide molecular prevalence, given the lack of information about bovine ehrlichiosis and the lack of previous systematic reviews and meta-analyses on this subject. In order to determine the molecular prevalence of *Ehrlichia* spp. in cattle, a systematic review of the literature was conducted in three databases. A meta-analysis with a random-effects model was performed to calculate the pooled prevalence with 95% confidence intervals (95% CI) and measures of heterogeneity were reported. Subgroup analyses were performed in terms of *Ehrlichia* species, country, and regions. The literature search yielded 1051 papers until August 1, 2019, with 71 studies entirely eligible for review. The pooled molecular prevalence for *Ehrlichia* at the individual level (N = 6232) was 2.3% (95% CI: 1.7-2.9%) with the highest value of 82.4%. Studies identified the highest pooled molecular prevalence of 6.6% (95% CI: 0.6-12.7%) for *E. canis*, followed by *E. ruminantium* (n = 4695, 75.33%) 52 studies, with 1.7% (95% CI: 1.1-2.3%) and *E. chaffeensis* with 1.5% (95% CI: 0.0-0.3%). Moreover, the obtained result was indicative of only one study addressing *E. minasensis*. As the findings suggested, heartwater (*E. ruminantium* infection) is a notifiable disease of domestic and wild ruminants, recorded by the World Organization for Animal Health. There is a possible risk of endemic heartwater in the Americas due to the climatic features. Furthermore, *E. minasensis*, *E. chaffeensis*, and *E. canis* were observed in cattle although the two last species could be a molecular misidentification with regard to their phylogenetic relationships with *E. minasensis*. 
**Keywords:** Bacteria, Bovine, *Ehrlichia*, Systematic review, Tick-borne

Review

Uses of Immunoglobulins as an Antimicrobials Alternative in Veterinary Medicine.

Abd El-Ghany WA


**ABSTRACT**
As a result of increasing the resistance to antimicrobials in the field of veterinary medicine that reflects on human health, there is a great demand to use some drug alternatives. The application of avian immunoglobulins (IgY) is regarded as an important alternative strategy. The IgYs have been produced by several techniques and applied for animals using different methods. In addition, egg yolk IgYs have many advantages over blood type ones. There are many uses of IgYs in veterinary medicine. They have been used for the prophylaxis and treatment of different infections especially the enteric ones in cattle, pigs, rabbits, dogs, rats, mice, and fish species. Moreover, several studies showed the importance of IgY for competing for the in vivo enteric pathogens in poultry and the in vitro foodborne pathogen. Therefore, it is important to put a spotlight on applications of egg yolk immunoglobulins IgY in veterinary medicine to overcome the problems of antimicrobials’ resistance as well as the tissue residues that adversely affect human health.

**Keywords:** Advantages, Animals, Poultry, Production, Yolk antibodies

Changes of Body Condition Scores, Serum Biochemistry and Liver Triacylglycerol in Periparturient Holstein Friesian Dairy Cows Raised in a Small-Holder Farm.

Triwutanon S and Rukkwamsuk Th
ABSTRACT

This Negative energy balance (NEB) inevitably occurs in periparturient dairy cows. Its consequences are related to reduced cows’ performances. Most studies concerning the NEB are performed in dairy cows of large-scale farms, particularly raised under non-tropical climate. The current study aimed to investigate the changes in body condition score, serum biochemical parameters, and liver triacylglycerol (TAG) accumulation in periparturient Holstein Friesian dairy cows raised by a small-holder farm. In this regard, 10 healthy pregnant dairy cows in a small-holder farm were recruited for the study. At 4 weeks before and 1, 2, 4, and 8 weeks after calving, blood samples were collected for determination of glucose, non-esterified fatty acid (NEFA), β-hydroxybutyrate (BHBA), and insulin-like growth factor-I (IGF-I) concentrations. BCS was evaluated at 4 weeks before and 2 weeks after calving. Liver samples were collected 4 weeks before and 2 weeks after calving to determine TAG concentration. Results revealed that serum NEFA and liver TAG concentration were elevated postpartum. Serum BHBA concentrations increased postpartum and the concentration indicated that dairy cows entered NEB condition as type I ketosis with a longer period. Serum IGF-I concentrations and BCS did not differ between before and after calving. In conclusion, dairy cows raised under small-holder tropical conditions suffered from serious NEB, though the cows had low milk production, as compared with the commercial non-tropical condition.

Keywords: Blood biochemistry, Dairy cow, Liver triacylglycerol, Negative energy balance, Small-holder farm
The aim of the present research was to determine the effect of both the gender of the female fetus, unvaccinated buffalo dams pregnant with a male fetus, and unvaccinated buffalo dams pregnant with a female fetus on the chemical composition and some biological parameters of the colostrum. Colostrum samples were collected at the birth time and 6, 12, 24, 48, and 72 hours after birth for measuring the chemical composition of the colostrum, as well as levels of IgG and IGF-1. Generally, the colostrum components were the highest at the birth time, then it decreased gradually up to 72 hours. Vaccination improved the maternal blood serum at the assigned periods.
ABSTRACT

Blood cockle, commonly known as a filter feeder, is found in many Surabaya traditional markets. A study aimed to investigate the contamination of pathogenic bacteria in blood cockle satay (Anadara granosa) samples sold at Surabaya traditional market, Indonesia. A total of 11 samples were employed using a research design with a quantitative approach. The Most Probable Number test for six samples indicated a value of <3.0 mpn/gr for one sample, 3.0 mpn/gr for two samples, and 3.6 mpn/gr for three samples. It can be concluded that the blood cockle satay samples sold at Surabaya traditional market (Indonesia) are not contaminated with pathogenic bacteria including E. coli and positive indole. Further research is needed to find the source of contamination and to improve the handling and processing of blood cockle satay to prevent pathogenic bacteria contamination.

Research Paper


ABSTRACT

The aim of this study was to investigate the effects of ethanolic extract of Dichrostachys glomerata fruit on the reproductive performance and characteristics of primiparous female guinea pigs (Cavia porcellus). A total of 48 primiparous female guinea pigs, aged 4 months old with the body weight of 400 ± 10 g, were divided into four groups with two replications per group (6 guinea pigs each). During 90 days of the study, Group 1 (control group) orally received 1 ml/kg b.w. of distilled water daily, and groups 2, 3, and 4 received 50, 100, and 200 mg/kg b.w. of ethanolic extract of Dichrostachys glomerata daily, respectively. At the end of the study, data were collected on fetal weight, crown-rump length, placenta weight, and number of post-implantation resorption and ovaries weight. The extract at 100 mg/kg body weight showed a significant increase in fetuses weight and fetuses crown-rump length, compared to the control group. The extract induced a significant decrease in the number of post-implantation resorption and ovaries weight. The extract at 200 mg/kg body weight showed a significant decrease in progesterone significantly decreased in the group treated with 200 mg/kg body weight. The results indicated that the ethanolic extract of Dichrostachys glomerata minimized reproductive stress and subsequently improved the reproductive performance of guinea pigs.

Keywords: ethanolic extract, Dichrostachys glomerata, reproductive performance, fetal weight, crown-rump length, progesterone.
were sensitive to vancomycin (33.3%) while 16.7% to erythromycin and doxycycline. Streptococcus equi and services, in addition to the intervention of animal health service providers, and/or farmers' lack of resistant isolates which proved the species were sensitive to penicillin, piperacillin-tazobactam, and lomefloxacin. Moreover, Pseudomonas aeruginosa June 2019 to April 2020. All samples were subjected to bacteriology analysis and isolated bacteria were analyzed using susceptibility test for different antibacterial agents. The findings of Staphylococcus aureus Streptococcus mitis isolates were sensitive to lomefloxacin, cefotaxime, meropenem, enrofloxacin, neomycin, and ... (100%) were sensitive to cefotaxime, meropenem, and doxycycline. All isolates of Enterococcus Stenotrophomonas maltophilia were sensitive to aztreonam and 20% of isolates sensitive to Piperacillin-tazobactam. All isolates were ...
Identification of Somatic Antigens of Adult Fasciola gigantica Isolated from Bali Cattle.

Sriasih M and Munjizun A.


ABSTRACT

In most tropical countries, such as Indonesia, fasciolosis is generally caused by *Fasciola gigantica* known as tropical liver fluke. However, most fasciolosis serodiagnostic tests have been developed solely for diagnosing fasciolosis caused by *Fasciola hepatica* (non-tropical liver fluke), and very few have been specifically designed for *F. gigantica*. The aim of this study was to determine the profile of antigenic proteins from the somatic extract of *F. gigantica* isolated from Bali cattle (*Bos javanicus*). The liver flukes were collected from a slaughtering house in Mataram, Indonesia. The somatic extracts were prepared by homogenizing in buffers containing 0.05 M NaCl, 0.02 M PMSF, and 0.05% Triton X-100. The characterization of the somatic extract proteins was performed using one-dimension gel electrophoresis and followed by Western blotting to determine the profile of its antigenic proteins. There were 14 bands of the somatic extracts with an estimated molecular weight ranging from 8 to 105 kDa shown on the gel electrophoresis. The results of the Western blot show that there were five prominent protein bands. Three out of five prominent antigenic proteins with molecular weights of 8, 27, and 33 kDa are promising to enrich the existence of antigens that have immunodiagnostic value for fasciolosis. Therefore, further studies are required to examine more deeply the potency of those three antigenic somatic proteins of *F. gigantica*.

Keywords: Bali cattle, *F. gigantica*, Immunodiagnostic, Somatic extract, Western Blot