**Systematic Review**

**Bovine Ehrlichiosis Prevalence: A Systematic Review and Meta-Analysis of Molecular Studies.**


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*.
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

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**Research Paper**

**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

[Full text- PDF ] [XML] [Google Scholar] [Crossref Metadata]
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
**ABSTRACT**

Results of the current study showed that colostrum of dams that gave birth to male fetus had a richer content of IgG and IGF-1 levels and a higher percentage of total solids, solids-not-fat, cholesterol, and calcium. However, colostrum collected from four groups of pregnant dams (four animals in each group) during the dry period was found to have the highest total protein, fat, and lactose. Additionally, vaccination improved the same colostrum 24 hours of postpartum. The levels of insulin-like growth factor hormone (IGF-1) and components except for IGF-1, which was not positively influenced by the vaccination. Generally, colostrum components were the highest at the birth time, then it decreased gradually up to 72 hours after the birth except that for the percentage of fat and lactose which showed gradual decreases up to 24 hours after the birth. Moreover, dams pregnant with a female fetus), in the pregnancy period, at the giving-birth period and after 24 hours of postpartum had a higher percentage of total solids, solids-not-fat, cholesterol, and calcium compared to dams pregnant with a male fetus. Overall, the findings of this study suggest that maternal factors, such as offspring sex and vaccination, have a significant impact on the composition of colostrum.

**Keywords:** Colostrum composition, Offspring sex, Vaccination, Calcium, Cholesterol.
**ABSTRACT**

E. coli, and Kusdarwati R. However, it potentially accumulates pollutant substances, both heavy metal or microbial so that determinative bacteriology and Indonesian national standard. Based on the obtained results, the study aimed to investigate the contamination of E. coli.

**Keywords:** Bacteria, E. coli, Surabaya traditional market, Indonesia.

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**ABSTRACT**


**Keywords:** Platelet-rich plasma, Veterinary orthopedic conditions, Wound healing.

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**ABSTRACT**


**Keywords:** Dichrostachys glomerata, Reproductive characteristics, Serum metabolites, Oxidative status, Female guinea pigs.

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**ABSTRACT**


**Keywords:** Escherichia coli, Blood cockle satay, Anadara granosa, Surabaya traditional market, Indonesia.
Staphylococcus aureus isolates were sensitive to lomefloxacin, cefotaxime, meropenem, enrofloxacin, neomycin, and disordered. The most predominant isolates were Stenotrophomonas maltophilia isolated from all organs, including the lungs. All Pseudomonas aeruginosa Rhodococcus equi Upper respiratory tract infection and pneumonia in foals are primarily caused by a bacterial Streptococcus equi was susceptible to Piperacillin-tazobactam (50%), 25% to lomefloxacin; infection. Gram-negative bacteria are commonly found in neonatal pneumonia although resistant isolates which proved the indicated that 38 (74.5%) animals were positive for the isolation of bacteria causing respiratory antibiotic-resistant bacteria in equine in Egypt.

**ABSTRACT**

Streptococcus equi, Pseudomonas aeruginosa resistance in these pathogens, and determine the types of antimicrobial isolates. A total of 203 different samples were collected from 42 horse foals, 5 adult horses, and 4 donkey foals from the different pathogens causing respiratory disorders in the equine, describe the antimicrobial and (one isolate) was only sensitive to clarithromycin was only sensitive to oxytetracycline and lomefloxacin. Moreover, species were sensitive to penicillin, piperacillin-tazobactam, and lomefloxacin. Moreover, (100%) were sensitive to cefotaxime, meropenem, and doxycycline. All isolates of Enterococcus species were sensitive to aztreonam and 20% of isolates sensitive to Piperacillin-tazobactam. All Staph

**Keywords:**
ABSTRACT

The present study was carried out to discover the protective and curative effects of alcoholic extracts of garlic and black seed on Eimeria magna infection in rabbits. The study evaluated the prophylactic and anticoccidial activities of the extracts through oral feeding for 50 days. The examined groups included: the infected group, the positive control group (sulfadimidine), negative control group (infection only), garlic pretreatment group, and garlic treatment group. The results showed that there were no significant differences in erythrocytes counts in all groups, whereas the body weight gain increased in control and infected groups, compared to the other groups. Similarly, the overall number of oocysts per gram was significantly lower in the garlic treatment and garlic pretreatment groups in comparison with the positive control group. Moreover, the histopathological examination of the infected group revealed that the ileal and caecal mucosa had cysts and ileal villi that appeared thickened and deformed with hypertrophied enterocytes containing numerous developmental stages of E. magna on days 14 and 28 post-infection. At the end of the experiment, the oocyst disappeared in garlic pretreatment, garlic treatment, and black seed extract groups, whereas the infected group and the positive control group still had oocyst in their intestines. Overall, the study concluded that garlic and black seed extracts showed promising anti-coccidial effects against E. magna infection in rabbits and could be used as a natural feed additive to control cecal coccidiosis in rabbits. Keywords: E. magna, garlic, black seed, rabbits, anticoccidial.
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