Systematic Review


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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

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**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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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.

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Research Paper
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
An 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, in the pregnancy period, at the giving-birth period and after total protein, fat, and lactose. Additionally, vaccination improved the same colostrum richness content of IgG and IGF-1 levels and a higher percentage of total solids, solids-not-fat, increases up to 72 hours to reach the normal composition of milk.

ABSTRACT

The present study was conducted to assess the safety and the efficacy of a vaccine containing ScourGuard-4k chemical composition and some biological parameters of the colostrum. Blood serum was measured the chemical composition of the colostrum, as well as levels of IgG and IGF-1.

Impact of Offspring Sex and Dam’s Pre-partum Vaccination on Colostrum Composition

RESULTS

IgG and IGF-1 were calculated in the maternal blood serum at the assigned periods. Generally, richer content of IgG and IGF-1 levels and a higher percentage of total solids, solids-not-fat, increases up to 72 hours to reach the normal composition of milk.

Effect of offspring sex and dam’s pre-partum vaccination on colostrum composition and some biological parameters of the colostrum. Blood serum was measured the chemical composition of the colostrum, as well as levels of IgG and IGF-1. IgG and IGF-1 were calculated in the maternal blood serum at the assigned periods. Generally, richer content of IgG and IGF-1 levels and a higher percentage of total solids, solids-not-fat, increases up to 72 hours to reach the normal composition of milk.

Fracturing Stresses in Bovine Blood Serum Changes and Bone Development

The use of Kaolin as an inert ingredient in feed has been very common in the poultry industry. The present study aimed to investigate the effects of different inclusion rates of kaolin in the basal diet on growth performance, immune response, and bone development of broiler chickens. The chickens were individually weighed and fed with the experimental diets (0.0, 0.5, and 1.0% kaolin for groups 1, 2, and 3, respectively) during the experimental period (6 weeks). The obtained data revealed that kaolin addition at the dose of 0.5 or 1.0% in broiler chickens’ diet insignificantly increased final body weight by 4.5% and 4.4%, respectively. On the other hand, it respectively decreased total feed intake by 1.0% and 1.5% in groups 2 and 3, respectively. Kaolin supplementation improved the following: growth performance, immune response, antioxidant capacity, and bone mineralization.

Occurrence of Beta-Lactamase Genes in Beta-Lactam Resistant Bacteria Isolated from Milk of Goats with Sub-Clinical Mastitis in Thika Sub-County, Kenya

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**ABSTRACT**

Study aimed to investigate the contamination of improper handling and processing can cause pathogenic bacteria contamination. The present research design with a quantitative approach. A total of 11 samples were employed using determinative bacteriology and Indonesian national standard. Based on the obtained results, with negative Methyl Red (MR) characteristics, negative Voges-Proskauer (VP) negative citric cluster sampling. The obtained data were compared with those of Bergey's manual of (mpn/gr for one sample, 3.0 mpn/gr for two samples, and 3.6 mpn/gr for three samples. It can be contamination with

**Blood Cockle Satay** is one of the Surabaya local food made from the blood cockle (Anadara granosa) sold at Surabaya traditional market. The current study used a descriptive observational research method with 5 samples included in the study. The results showed that the scholarship level of these samples was above average, but the pathogenic bacteria contamination was moderately high. It potentially accumulates pollutant substances, both heavy metal or microbial so that the health risk to the consumer is high. Further study is needed to screen for heavy metals and microbial contamination in this local food.
Antimicrobial agents, chloramphenicol. The gram-positive and mixed infections could be accompanied. The current study aimed to detect factors may be attributed to insufficient veterinary healthcare, monitoring, and regulatory associated with MDR development in the equine health sector of Egypt. The predisposing Stenotrophomonas maltophilia isolated from all organs, including the lungs. All (100%) were sensitive to cefotaxime, meropenem, and doxycycline. All isolates of Enterococcus Rhodococcus equi (one isolate) was only sensitive to clarithromycin.

**ABSTRACT**


Western Blot Analysis to Detect Cross-reaction in Toxocara vitulorum Protein with Anti-


The present study aimed to evaluate the effect of the agroecological zone, host age, and gender on the prevalence and faecal egg load of gastrointestinal parasites (GIPs) for six months. The overall GIPs prevalence were nematodes, coccidia, and cestodes, respectively. In the Maseru district, the overall faecal egg nematodes and protozoal coccidia, which could have a tremendous impact on their health and productivity. It is, therefore, of significant importance to develop the deworming strategy for sheep of different age and gender groups in different agroecological zones.

**ABSTRACT**


Toxocara vitulorum a worm species which commonly infected people. Cross-reaction among worms can generate.

**ABSTRACT**


This study aimed to determine specific proteins that caused cross-reaction between Whole worm extract of M. digitatus and anti-T. vitulorum serum obtained 12 protein bands that each relative molecular mass (Mr) valued of 176, 124, 92, 76, 67, 51, 47, 45, 36, 32, 26 and 15. Worm infections are found in livestock and can be transmitted to humans.

**ABSTRACT**


Upper respiratory tract infection and pneumonia in foals are primarily caused by a bacterial Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, Stenotrophomonas followed by,

**ABSTRACT**

Streptococcus mitis is a frequent cause of equine respiratory infections, especially in foals. The aim of this study was to determine the prevalence of Streptococcus mitis (S. mitis) in respiratory tract samples from foals with respiratory disorders.

**ABSTRACT**

Streptococcus equi infection. Gram-negative bacteria are commonly found in neonatal pneumonia although

**ABSTRACT**

Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, Stenotrophomonas was only sensitive to oxytetracycline and lomefloxacin.
ABSTRACT

The present study was carried out to discover the protective and curative effects of alcoholic extracts of black seed (Nigella sativa) and garlic (Allium sativum) pretreatments as a natural feed additive on coccidiosis due to Eimeria magna sporulation in rabbit and black seed pretreatment groups. Both garlic and black seed extract had beneficial effects on improving the lesions grossly and histopathologically in comparison with sulfadimidine. Histopathological examination revealed garlic as a natural feed additive in rabbit and black seed pretreatment groups. While oocyst counts of control positive and sulfadimidine, and Pursetyo KT. groups, compared to the other groups.

The results showed that there were no significant differences in erythrocytes counts in all groups, Nageib BR, El-Hendy AHM and Hassanin AAA. The sporulation inhibition of garlic extract showed significant efficacy on sporulation, oocysts in comparison with black seed extract and high significant efficacy of sporulation inhibition. At the end of the experiment, the oocyst disappeared in garlic pretreatment, and histopathological examination revealed that the intestinal villi of the control group that appeared thickened and deformed with hypertrophied enterocytes containing numerous developmental stages of E. magna.


ABSTRACT

In conclusion, garlic pretreatment had a more beneficial effects, compared to black seed extract. Therefore, it is recommended to use garlic pretreatment as a prophylaxis and treatment for coccidiosis to minimize the economic losses caused by this parasite.

Evaluation of Prophylactic and Anticoccidial Effects of Black Seed and Garlic Extracts in Rabbit and Black Seed Pretreatment Groups.

Keywords: Eimeria magna, garlic, black seed, coccidiosis, rabbit, Histopathological examination.
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