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Standardization of indirect ELISA for antibody detection to PPR in vaccinated sheep

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Peste Des Petits Ruminants (PPR) is an acute, highly contagious, economically important disease of small ruminants with high rates of morbidity and mortality. Clinically the disease resembles Rinderpest and is characterized by severe pyrexia, occulonasal discharges, pneumonia, necrotizing and erosive stomatitis and enteritis leading to severe diarrhea. As the incidence of RP went down PPR has taken a rising toll. Andhra Pradesh state has become the centre of major epidemics of PPR. There is no suitable test for detection of PPRV antibodies at field level at an affordable price. Serum Neutralization Test and c-ELISA are commonly employed diagnostic techniques for testing serum samples. Most of the state laboratories cannot afford screening of large number of samples by SNT as it is a laborious, time consuming and requires cell culture facilities. The use of monoclonal antibodies in c-ELISA makes it economically non viable under field conditions when compared to indirect ELISA which is much cheaper as it does not require the use of any monoclonal antibodies. In view of the above limitations, the present study was taken up to develop a polyclonal based indirect ELISA for detection of antibodies to PPRV using partially purified PPR viral antigen propagated in Vero cell lines. A cut-off value (0.627) was set as twice the mean (0.5127) of negative population based on the distribution of known negative serum samples (N=50) in respect of PPR viral antibodies in the test. For validation of assay, a total of 500 sera samples were tested. The efficacy of the present assay compared very well with SNT having high relative specificity (100%) and relatively low sensitivity (84%) and can be used as a good alternative to c-ELISA and SNT for disease monitoring and sero surveillance.

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Different wavelengths of light on egg production and myostatin in native and dual purpose hens

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In broilers and layers, lighting programs employed are not standardized and likely will never be. However, when one considers all of the variables involved in the rearing of broilers and the objectives of poultry rearing, this is no surprise. Weight, feed intake, FCR, enhancing skeletal muscle growth, bird's health and mortality data are needed to customize the lighting programs of the future. Research and the popular use of broiler lighting programs provide data and an endorsement of the derived benefits. Broiler birds lighting programs in concert with the proper genetics, environment, nutrition and management create the best in welfare for the birds and performance. However, weight gain and feed cost is the major problem in the poultry. With the latest innovations, it is possible to advance the weight gain in native, dual purpose birds with available managemental tools by a week or two to combat the feed cost and more returns to farmers. Further, excess fat deposition represents the principal source of inefficiency in animal production. Enhancing skeletal muscle growth and suppressing carcass fat deposition is expected to significantly improve the efficiency of meat animal production and feed utilization, as well as providing health benefits to consumers. This review focuses on the effect of light illumination (and also RNAi) against myostatin on skeletal muscle growth of the chicken and attaining more weight gain earlier. Myostatin has shown to be the most potent negative regulator of skeletal muscle growth. It was reported that light illumination during embryogenesis and postnatal period plays a role in proliferation and subsequent differentiation of adult myoblasts and influences myofiber growth as evident by a higher number of uniform myofibers. This needs to be studied for optimizing managemental practices to combat high feed costs at the end user level.

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