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Impact of probiotic consortia on physiological conditions of broiler chickens

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The essence of the efficiency of probiotics lies in the stimulation of positive metabolic changes in the digestive tract of animals, improvement of nutrients absorption, enhancement of the organisms' resistance and antagonistic effect on harmful microflora. When pathogen infection and various external stresses disrupt intestinal balance, animals' growth rate is retarded. Therefore, the population of harmful microbes should be minimized to maintain animal health and maximum animal productivity. Probiotics can increase the number of intestinal micro flora and enhance the growth rate of chicks. Additionally, these beneficial microorganisms can be applied as antibiotic-growth promoter substitutions in broilers' diets. Today's biotechnology advances allow the successful usage of probiotic preparations consisting of a number of strains of microorganisms. Present results suggest that the probiotic consortia have a positive impact on physiological conditions of broilers. The daily gain of the broiler chickens that had received the probiotics preparation was 6.02%, pre-slaughter weight was 13.56%, the carcass weight was 14.69% and carcass output was 0.75% higher in comparison with the chickens that had not received the preparation. Results showed that there was 4.96% more globulin of the γ -globulin fraction in the blood of the experimental group of birds than of the control group. Serum cholesterol level was also reduced 17.6% in probiotic preparation treatment.

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Bioactivities of Saudi honey and its potentials as a functional food

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The aim of this study was to examine the antibacterial activity of the peroxide components of some locally produced honeys in Saudi Arabia: Toran, Zaitoon (Olive), Shaflah, Saha, Jizan, Rabea Aja, Fakhira, Sedr Aljanoob, Tenhat, Karath and Bareq against two bacteria i.e., methicillin resistant *Staphylococcus aureus* (MRSA, ATCC 43330) and *Acinetobacter baumannii*. Measurement of the antibacterial activity of honey samples by using the agar well diffusion method was adopted as follows by using turbidity standard McFarland 0.5, suspensions of bacterial strains MRSA ATCC 43330 and *Acinetobacter baumannii* were prepared. By spread plate method, 100 μ l of the suspension was inoculated onto Muller-Hinton agar medium. On the inoculated agar medium, five wells were made using a sterile cork borer (diameter 5 mm). 100 μ l of honey dilutions (10%, 30%, 50%, 70% and 100%) were used. The study indicated that the highly effective activity was in some local honey samples such as Toran honey against MRSA and Shafalah honey against MRSA and *Acinetobacter baumannii* which showed bactericidal effects at concentrations 70% to 100% as well. The majority of local honey samples recorded bacteriostatic effects on MRSA and *Acinetobacter baumannii* at concentrations 50 % and above. In conclusion this investigation indicated that in regard to the majority inhibitory effect on microorganisms, the existing of H₂O₂ in honey samples together with phenolic content greatly provide a strong antibacterial activities among different types of Saudi honey. Previous studies mentioned that the H₂O₂ content of honey interacts with phenolic content for better inhibitory effects than in absent of H₂O₂. Consequently, Saudi honey could be considered as a potential functional food in this regard.

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