عنوان مقاله:

Evaluation of drinking water of poultry breeding centers in terms of microbialcontamination and antibiotic resistance in Alborz province

محل انتشار:

اولین همایش منطقه ای دستاوردهای نوین و پژوهشهای دانش بنیان در میکروبیولوژی و بیوتکنولوژی (سال: 1401)

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خلاصه مقاله:

Background and objective: Access to safe drinking water without chemical and microbial contaminationis one of the main hygienic problems for all living organisms, including birds. Because in addition tothe beneficial roles of water in transporting nutrients, regulating body temperature, and physiologicalprocesses for birds, it can also play a fundamental role in the transmission of pathogenic agents.Therefore, continuously evaluating the water quality in poultry breeding centers is one of the most basicconditions for adequate monitoring of their growth and health. However, there are few reports to evaluatemicrobial contamination and antibiotic resistance in poultry breeding centers, especially in Alborzprovince. Due to the importance of this issue in the nutrition and health of poultry and humans, thepurpose of this study is to evaluate the microbial contamination of water, antibiotic resistance, andhygienic conditions of egg-laying chicken breeding centers in Alborz province.Methods: In this research, water samples and questionnaires were collected from ۱۵ poultry breedingcenters in the spring of ۱۴۰۰ and transferred to the laboratory. Then the samples were examined formicrobial contamination using MPN methods, membrane filter, and specific or differential culture media.In addition, biochemical and molecular techniques were used to definitively identify Salmonella becausesalmonellosis is one of the major diseases in poultry.Results: The results showed that coliforms, including Escherichia coli, were detected in the water of ۱۴centers (۹۳.۳۳%). Also, Enterococcus (۲۰%), Pseudomonas aeruginosa (۱۳.۳۳%), and Salmonella(۶.۶۶%) were isolated in lower numbers. During the investigation of the relationship between microbialcontamination and sanitary factors, Except for a significant relationship (P-value=۰.۰۲۹) betweenEnterococcus contamination and wastewater discharge, no significant association was observed in othercases. The results of antibiotic resistance tests showed that all coliforms were resistant to lincomycin andsensitive to gentamicin. Pseudomonas aeruginosa was resistant to all antibiotics, and Salmonella alsoshowed resistance to tetracycline and streptomycin. But in both of them, the highest sensitivity tospirofloxacin was observed. On the other hand, all the isolated enterococcus samples were resistant totetracycline and sensitive to penicillin.Conclusion: According to the results, microbial contamination was high in the poultry breeding centersof Alborz province, which can be considered a terrible threat to ... the health and nutrition of poultry an

کلمات کلیدی:

Drinking water, Microbial contamination, Antibiotic resistance, Poultry breeding centers,Alborz province+AF۱۹

لینک ثابت مقاله در پایگاه سیویلیکا: