

Evaluation of the Homeopathic Remedies Medication on Commercial Broiler Chickens Performance

M.M. Hadipour, G.H. Habibi, A. Ghorashinejad, A. Olyaie and M. Toriki
Department of Veterinary Clinical Sciences, Kazerun Branch,
Islamic Azad University, Kazerun, Iran

Abstract: This experiment had the objective of evaluating the influence of homeopathic remedies on the performance and health of broilers in intensive system of production. About 200 day old commercial broiler chickens were randomly divided in two equal groups (treatment and control) and were housed in the same condition. The medications were administered in the birds' drinking water in the test group with a 5% hydro-alcohol extract solution in 5 drops per bird daily during 42 days beginning at 1 day of age. No drugs and vaccines were used in the treatment group. Performance of broiler chickens in two groups were monitored on a daily basis. There were significant differences ($p < 0.05$) between two groups in growth rate, final weight, food conversion ratio and mortality rate. It is concluded that the results of this study justify use of these homeopathic remedies for increasing performance of commercial broilers.

Key words: Homeopathic remedies, commercial broilers, performance, drugs, vaccine, Iran

INTRODUCTION

Homeopathy is a holistic therapy, working with mind and body in the context of its environment and lifestyle and has been used in animals for at least 190 years (Saxton, 2007). It has become the focus of increasing interest and use as a complementary and alternative treatment for both human and animal disease (Saxton, 2007; Moffett *et al.*, 2006; Walach *et al.*, 2005). Homeopathy aims to activate self-healing mechanisms of the body. Therefore, the healing process might have a longer duration and more attention need to be paid to determine the correct remedy (Camerlink *et al.*, 2010). Sometimes, usually heralding a good response, there may be a temporary therapeutic aggravation of local or superficial symptoms (Hektoen, 2005). Homeopathic products are being increasingly utilized in veterinary medicine to augment productivity and health indexes of animals (Amalcaburio *et al.*, 2009). All species and all types of animals respond, from cats and dogs to farm animals, from horses and ponies to wild animals, from buffalo to goats, from birds and reptiles to fish (Camerlink *et al.*, 2010; Mathie *et al.*, 2010; Cracknell and Mills, 2008, 2011; Saxton, 2007; Lans *et al.*, 2007; Aboutboul, 2006; Rajkumar *et al.*, 2006; Varshney and Naresh, 2004, 2005; Velkers *et al.*, 2005). In homeopathy, practitioners treat diseases using very low dose preparations (potencies) according to the principle let like

be cured by like (*similia similibus curentur*): homeopaths select a drug that would if given to a healthy person cause symptoms similar to the presenting symptoms of the patient. This *similia* principle is the cornerstone of homeopathy. Fundamental research in physicochemical experiments or laboratory model organisms has studied the basic mechanisms underlying homeopathy and the *similia* principle (Clausen *et al.*, 2010; Van Wijk and Albrecht, 2007; Albrecht *et al.*, 2002). The use of antibiotics in the agricultural sector is increasing worldwide. In Iran, total antibiotic usage in the poultry industry have been increased since several years ago. High use of antibiotics can have negative aspects for animal health, human health and the environment (Sarmah *et al.*, 2006). This rapid rise in usage of veterinary antibiotics necessitates the development of sustainable alternatives. Homeopathy has demonstrated in many medical areas its effectiveness in practice but scientific evidence is lacking (Mathie, 2003). Organic farmers rely upon it as an effective, safe medicine which does not give rise to drug residues in meat, milk or eggs nor does homeopathy generates resistant microorganisms. Conventional farmers also make use of its benefits. Among its other benefits of especial importance in farmed animals is the fact that it cannot provoke antibiotic resistance in bacterial populations (Camerlink *et al.*, 2010). Furthermore, competition horses and dogs can be given homeopathy without risk of falling foul of competition

doping rules. While the use of homeopathy can clearly enhance physical appearance and performance by improving health, it cannot produce supernormal performance in the way that a drug can. There are currently 80-100 veterinary surgeons in the United Kingdom who prescribe homeopathic medicines in first opinion or referral practice (Mathie *et al.*, 2010). As homeopathic remedies usually contain only water and/or alcohol, they are thought to be generally safe (Hektoen, 2005). In poultry production, studies on the application of homeopathic treatments are being performed with a preventive or therapeutic intent (Amalcaburio *et al.*, 2009). On the other hand, use of homeopathy may favor a transition from the conventional broiler factory farming model to an agroecological based system. Agroecological research is typically conducted on a small scale and small farmers are more inclined to adopt this type of technology (Dalgaard *et al.*, 2003). Indeed, they are in need of a more profitable, environmentally sound alternative as organic broilers. Moreover, there is a growing social demand for chicken meat of higher biological quality, understood as antibiotic and coccidiostats free meat (Amalcaburio *et al.*, 2009). One of the main constraints for the adoption of organic broiler production by small farmers is the high cost of organic strains and its lower conversion rate. As a result, parting from available and low cost resources, chicks of industrial genetics were selected. These birds are offered at half the price and have a higher feed conversion rate than free-range strains. Furthermore, the semi-confined system with access to pasture has the advantages of being a differentiated alternative rearing system, yet suitable for small farmers. Because industrial strains have been excessively selected for high yield, their organisms are known to be fragile in various aspects of health. Hence, homeopathic remedies were selected as an attempt to mitigate the effects of the genetic selection (Amalcaburio *et al.*, 2009). Intensive rearing of poultry is necessary but favors dissemination of infectious disease agents. The incorporation of antimicrobial substances in animal feed is now banned in animal production. Some antimicrobial drugs like furazolidone and chloramphenicol cannot be used now. These substances are either deleterious to human health or responsible for acquisition of drug resistance by microorganisms associated with human hospital acquired infection. Homeopathic products have no contraindication and may contain several nosode (Berchieri *et al.*, 2006). Lack of knowledge and understanding might be reasons for the limited use of homeopathy in the poultry industry especially in Iran so this study discusses the efficacy of homeopathic remedies in broiler chickens performance.

MATERIALS AND METHODS

The experiment was carried out in the avian husbandry sector of the Kazerun Islamic Azad University Veterinary School from July-August 2008. Two groups of 100 days old commercial broiler chickens (treatment and control) were utilized. The homeopathic remedies, *Calcarea carbonica*, *Calcarea phosphorica*, *Hypericum perforatum* and *Sulphur* were administered in the birds drinking water in the test group with a 5% hydro-alcohol extract solution in 5 drops per bird daily during 42 days, beginning at 1 day of age. No drugs and vaccines other than homeopathic remedies were used in the treatment group. In the control group, the routine programmes in commercial broiler farms including the use of drugs and vaccines were used. Performance of broiler chickens including growth rate, final weight, food conversion ratio and mortality rate were monitored on a daily basis in two groups in three stages of growth including: stage 1 (days 1-14), stage 2 (days 15-28) and stage 3 (days 29-42). The student's t-test was used to analyze the results. All analyses were performed with SPSS version 17. The $p < 0.05$ was considered statistically significant.

RESULTS AND DISCUSSION

The mean weight gain of treatment group in different stages of growth was 290, 510, 620 and in control group was 255, 460 and 580 g. The mean final weight and food conversion ratio in treatment and control groups were 2550, 2140 g and 1.8, 2.3, respectively. The mortality rate in treatment and control groups was 1 and 6%. Results showed the beneficial effects of homeopathic remedies on broiler chickens performance specially from half growing period of broilers as in the stage 1 of experiment, there were no significant differences ($p > 0.05$) between four performance items. Growth rate and final weight of broilers in the treatment group were higher than to control group in the stages 2 and 3 ($p < 0.05$). No Significant differences ($p > 0.05$) were seen between two groups in food conversion ratio and mortality rate in the stages 1 and 2 but in the stage 3 of growth, food conversion ratio and mortality rate were lower in treatment group than control ($p < 0.05$).

Results of this study revealed that the homeopathic remedies medication in broiler chickens improve performance and do not have side effects and residues in broiler chicken tissues so, homeopathic remedies can be as a safe replacement to antibiotics in commercial broiler chickens and therefore, these chicken meats are safe for human consumption. If homeopathy is introduced into the poultry industry sector, the Iranian citizen could be better protected from pharmacological residues in poultry

products. In the poultry industry the main objective is getting large meat and egg production at a low cost within the shortest period of time. However, infectious diseases are outstanding obstacles because they mean money loss (carcass rejection, decrease in laying rate increased use of medicine, etc.). Antibiotics and vaccines are an important complement to poultry farmer preventive and control medicine programs. Nevertheless, the increase in antibiotic usage has created a residue in the animal products consumed by humans. Due to their effects on public health, antibiotic contaminated meat and eggs should not be eaten by humans therefore, antibiotic residues in poultry products are of concern. Alternative ways to defeat infections in the poultry industry have been looked for one of them is homeopathic therapeutic treatment. Some of its advantages are it is cheaper, safe and can be administered by different routes. Use of homeopathic products, instead of antibiotics and vaccines could save money and might decrease pollution in animal products (Sandoval *et al.*, 1998). Intramuscular vaccine administration requires individual manipulation of the birds and causes a local reaction. Therefore, any product that has no side effect and is of easy application might be of concerning Berchieri. In another study conducted by Amalcaburio *et al.* (2009) the homeopathic remedies did not present any growth promoting effect on broiler production. These results differ from the results and Briones who recorded a 6.4% difference in weight gain in homeopathically treated chickens when compared to a control group (without medication), reared in a confined system. These differences in results may be grounded in constituent methodological differences of the remedies (potencies, mediums and doses) as well as in the differences of rearing systems. Boratto came upon similar results in the final weight gain of homeopathically treated birds. Berchieri *et al.* (2006) reported that the homeopathic therapy decreased *Salmonella enteritidis* excretion in commercial birds. In this case, egg contamination may decrease since eggs are usually contaminated in the cloaca. Vizanni and Novelli (1993) demonstrated the homeopathic effect of promoting growth in chickens where homeopathic products had a similar or superior outcome to that of conventionally used antimicrobial drugs. Beneficial results of veterinary homeopathy have been revealed on broiler growth, promoting superior weight gain to control groups on epidemic control. Saad reported the control of an epidemic outbreak of Newcastle disease on broilers utilizing Belladonna 9cH and nosode (a remedy prepared from brain and trachea tissues of infected birds). The same researcher compared conventionally to homeopathically treated groups of broilers. Results attested greater weight gain and lower accumulated mortality rates in 53 days old birds of the homeopathically treated group (Saad). Likewise, Linares evaluated the effect of a homeopathic treatment with

Calcarea carbonica, Calcarea phosphorica and Calcarea fluorica on average weight, homogeneity, disease resistance and mortality in groups of layer hens and in comparison to the control group obtained excellent results. Further studies have corroborated the use of homeopathy for the reduction of stress in birds by means of behavioral observations. Oba examined the use of *Hypericum perforatum* for the treatment of stress in pullets and observed that birds were calmer and yet provided better feed conversion rates. Estrada compared the utilization of Sulphur 202cH and antibiotics in the treatment of mycoplasmosis in layer chickens where the cure rate was significantly higher in homeopathically treated birds than in birds treated with antibiotics. Nonetheless, not all studies on homeopathic applications have achieved similar results. As an example, Velkers *et al.* (2005) did not find differences between treatments with homeopathic remedies or with placebo in *Escherichia coli* experimentally infected chickens. Chaves evaluated the therapeutic potential of *Thuja occidentalis* on experimentally infected birds with avian poxvirus and found neither remission nor restriction of the skin lesions promoted by the infection. Such diverging outcomes call for a revision of methods utilized in the approach of this therapeutics. In order to achieve a desired degree of evidence, further laboratory experiments and clinical trials are required. Varshney and Naresh (2004) showed that the homeopathic complex medicine may be effective and economical in the management of udder health problems of buffaloes and in another research, they concluded that the combination of *Phytolacca*, *Calcarea fluorica*, *Silica*, *Belladonna*, *Bryonia*, *Arnica*, *Conium* and *Ipecacuanha* (Healwell VT-6) was effective and economical in the management of mastitis in lactating dairy cows (Varshney and Naresh, 2005). Rajkumar *et al.* (2006) showed an encouraging effect of homeopathic combination remedy in the management of anoestrus in cows. In both cats and dogs, dermatitis was the condition most frequently treated with homeopathy. In cats, other commonly treated conditions were confirmed as renal failure and hyperthyroidism while in dogs, arthritis, epilepsy and otitis externa were seen frequently once again. Newly prominent conditions were (in cats) arthritis and overgrooming and (in dogs) colitis, diarrhoea, fear, lymphoma, pyoderma, spondylosis and urinary incontinence (Mathie *et al.*, 2010). Although, each of these remedies alone has beneficial effects on broilers performance (Amalcaburio *et al.*, 2009) also combination of homeopathic remedies were used in the current study had synergistic effects on performance of broilers.

CONCLUSION

Since homeopathic products are cheaper and have the safe effectiveness, we advise further research on

these medications usage for decreasing usage of vaccines and antibiotics in poultry industry and subsequently, increasing broiler chickens performance.

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