

Using Brine Shrimps as Food and Premix for Domestic Birds, and Issues of the Prophylactics of Infectious and Parasitic Diseases

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Abstract

The brine shrimps of the genus *Artemia* (Crustacea: Anostraca: Artemiidae) is widely used in the poultry farming as the food and premix of domestic birds. In salt lakes many wild bird species are vectors of infectious and parasitic diseases, and the feeding of farming birds with brine shrimp species of *Artemia* has potential danger of certain diseases. Using the brine shrimps of the genus *Artemia* in the poultry farming requires measures of disinfection of the raw materials and equipment. The brine shrimps, *Artemia* may be serving as potential intermediate hosts of the tapeworm, *Diphyllobothrium dendriticum*, and one of the sources of the infectious diseases of game birds.

Key words: *Artemia*, poultry farming, infectious diseases, parasites

Introduction

The poultry farming as other types of animal breeding is now intensively developing in many countries, by selecting for high-productive breeds, lineages and hybrids of birds, and by rationalizing their feeding and caretaking. Among the foods and premixes of domestic birds, the preference was given to natural substrates with high content of proteins, vitamins, mineral elements and other biologically active substances.

The effective cost of feeding is an important part of making profit from poultry farming. In this concern, using salt-water small brine shrimps of the genus *Artemia* as the protein premix for domestic birds attracts the attention of farmers and agricultural specialists.

Because of the availability of salt lakes in the steppe ecosystems containing large biomass of brine shrimps, in most regions of Kazakhstan, the explorative works of the brine shrimps are important perspective for the poultry farming. Low production cost, simple methods for keeping and collecting of the brine shrimps are also additional advantages of their use for feeding domestic birds.

However, in using of these shrimps as food supply in the poultry farming, it is necessary to foresee the potential danger of infectious and parasitic diseases.

Until the present time, in the course of using brine shrimps and their eggs as the bird food, there have not been registered outbreaks of the infectious diseases connected with the crustacean premix. However, specialists should examine the potential epizootic dangers of the bacterial and viral infections, protozoan and helminth parasites for the domestic birds.

Results

On the bases of our observations during the field survey in the Pavlodar region of Kazakhstan, we observed 45 bird species in the study area, which live in the basins of salt lakes with different degrees of occurrences.

Among them numerous species of the order Anseriformes are found, including the species of the same families and genera with domestic birds (e.g. quack-duck and wild grey goose are the same species with domestic duck and goose, respectively). Based on this fact, we must take into our consideration the analysis of the potential of transmission of specific parasites from wild aquatic birds to domestic ducks and geese (Beme & Kuznetsov, 1983; Kovshar, 1988; Solomatin & Shaimardanov, 2005).

For domestic galliform birds, the infectious dangers are the bird flu virus, which specific for certain bird species, and tuberculosis bacteria,