Influence of garlic, synthetic 1,2,4-triasole derivative and herbal preparation Echinovit C on selected indices of turkey-hens non-specific immunity

J. Truchliński¹, M. Krauze¹, M. Cendrowska-Pinkosz², B. Modzelewska-Banachiewicz³

¹ Department of Biochemistry and Toxicology, Faculty of Animal Biology and Breeding, University of Agriculture, Akademicka 13, 20-950 Lublin, Poland
² Department and Division of Human Proper Anatomy, Medical Faculty, Medical University, Jaczewskiego 4, 20-950 Lublin, Poland
³ Department of Organic Chemistry, Pharmaceutical Faculty, Medical University, Staszica 6, 20-081 Lublin, Poland

Abstract

Successful results of earlier studies on testing the immune-modulating and anti-microbial properties of 1,2,4-triasole derivative as well as beneficial application of natural bio-stimulators in animal’s prophylaxis and treatment inspired us to undertake further investigations. The aim of the present study was to evaluate and compare the prophylaxis effects of two natural immune-modulating agents, garlic (Allium sativum) extract and Echinovit C preparation and synthetic derivative of 1,2,4-triasole on non-specific immunity indices in slaughter turkey-hens. The results obtained suggest that the strongest stimulatory effect is exerted by garlic followed by 1,2,4-triasole derivative and Echinacea juice. Immune-modulating action of the substances applied was manifested by an increase in cellular immune parameters: the percentage of phagocytising cells, NBT-positive granulocytes and lysozyme level.

Key words: 1,2,4-triasole derivative, garlic, Echinacea, Big-6 turkey-hens, non-specific immunity

Introduction

In poultry breeding, new additives that stimulate the organism’s immune response and thus improving the production efficiency, are still searched for. Due to multi-directional pharmacological activity of amidrasones, e.g. 1,2,4-triasole derivative, the possibility to use the compound as an additive stimulating the animal’s immunity has gained some interest. Recent studies have revealed that this synthetic compound stimulates the immune reactions and thus possesses antiviral, antifungal, anti-infections and analgesic properties (Truchliński et al. 2000, Modzelewska et al. 2001, Modzelewska-Banachiewicz et al. 2001). Immune-modulating and antisepptic properties of extracts from such plants as garlic or Echinacea are