

## **Formulation and Technology of the Composition of Essential Oils as a Feed Additive in Poultry with Antibacterial Action**

**Authors :** S. Barbaqadze, M. Goderdzishvili, E. Mosidze, L. Lomtadze, V. Mshvildadze, L. Bakuridze, D. Berashvili, A. Bakuridze

**Abstract :** This paper focuses on the formulation of phytobiotic designated for further implantation in poultry farming. Composition was meant to be water-soluble powder containing antibacterial essential oils. The development process involved Thyme, Monarda and Clary sage essential oils. The antimicrobial activity of essential oils composite was meant to be tested against gram-negative and gram-positive bacterial strains. The results are processed using the statistical program Sigma STAT. To make essential oils composition water soluble surfactants were added to them. At the first stage of the study, nine options for the optimal composition of essential oils and surfactants were developed. The effect of the amount of surfactants on the essential oils composition solubility in water has been investigated. On the basis of biopharmaceutical studies, the formulation of phytobiotic has been determined: Thyme, monarda and clary sage essential oils 2:1:1 - 100 parts; Licorice extract 5.25 parts and inhalation lactose 300 parts. A technology for the preparation of phytobiotic has been developed and a technological scheme for the preparation of phytobiotic has been made up. The research was performed within the framework of the grant project CARYS-19-363 funded by the Shota Rustaveli National Science Foundation of Georgia.

**Keywords :** clary, essential oils, monarda, phytobiotics, poultry, thyme

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