

## ANTIMICROBIAL EFFECT OF BASIL, THYME AND TARRAGON AGAINST *S. ABONY*

Daniela COJOCARI<sup>1\*</sup>, ORCID: 0000-0003-0445-2883,  
Artur MACARI<sup>1</sup>, ORCID: 0000-0003-4163-3771,  
Elisaveta SANDULACHI<sup>1</sup>, ORCID: 0000-0003-3017-9008

<sup>1</sup>Technical University of Moldova, 168 Ștefan cel Mare Street, MD 2004, Chișinău, Republic of Moldova

\*Corresponding author, email: [cojocari.daniela@yahoo.com](mailto:cojocari.daniela@yahoo.com)

New advances and techniques in food technology have facilitated efficient identification, processing and extraction of bioactive compounds from herbs and spices in order to include them in functional foods and nutritional supplements. Plants, due to the large biological and structural diversity of their components, constitute a unique and renewable source for the discovery of new antibacterial, antifungal and antiparasitic compounds. The majority of natural antioxidants are phenolic compounds, and the most important are the tocopherols, flavonoids, and phenolic acids.

The research focuses particularly on basil, thyme and tarragon as an alternative natural antioxidants and antimicrobials with potential use in the meat industry. Use of herbs and spices essential oils in meat products may be interesting to food processors due to their antimicrobial characteristics. This paper provides an overview of the most important information on the positive effect of the bioactive compounds of basil, thyme and tarragon and its uses as a preservative in foods.

Sausages was obtained by the classical method (control test) and with the addition of extracts of basil, thyme and tarragon in concentrations of 0.1; 0.2 and 0.3%. Sausages previously infected with reference strains: *S. Abony* were investigated for the growth rate of pathogenic microorganisms within 24 and 48 h. The bacterial cell suspensions were adjusted with sterile saline to a concentration of approximately  $2 \times 10^5$  CFU/mL. All assays were performed in triplicate. The differences were considered statistically significant if p-value <0.05.

The experimental results confirm the antimicrobial properties of *ttymus* basils and tarrogon. The most effective in reducing *S. Abony* was basil, in the samples with an addition of 0.2%, the decrease in bacterial growth was 77.2%, and in those with an addition of 0.3% the decrease in infestation was 84.4%. Approximately these values were also maintained in the samples with the addition of 3% tarragon (76.7%) and thyme (61.6%). The interdependence between the percentage reduction of *S. Abony* infestation and the concentration of basil, mushrooms and tarragon was respectively: basil ( $R^2 = 0.7495 \dots 0.8236$ ), thyme ( $R^2 = 0.7536 \dots 0.7681$ ), tarragon ( $R^2 = 0.7689 \dots 0.8137$ ).

**Keywords:** basil, tarragon, thyme, antimicrobial activity, antioxidant activity, meat products

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