EVALUATION ROSEMARY ESSENTIAL OIL IN THE CONTROL OF MULTIDRUG-RESISTANT *Escherichia coli* IN COALHO CHEESE.

Graduate Program in Food Science, Faculty of Pharmacy, Federal University of Bahia – UFBA, Rua Barão do Jeremoabo, 147, 40170-175, Ondina, Salvador – BA, Brazil.

The use of essential oils from plants with known antimicrobial potential is a promising alternative to prevent the proliferation of microorganisms carried by food. We aimed to evaluate the antimicrobial potential of rosemary essential oil in the control of a strain of multidrug-resistant *Escherichia coli* that was used to inoculate coalho cheese. The rosemary essential oil (REO) was obtained by hydro-distillation, and its minimum inhibitory concentration (MIC) against the test strain was determined by the agar diffusion method, yielding a MIC of 20% (v/v). The *E. coli* strain EC16 was used to inoculate two samples of commercial cheese. One sample, designated as the test sample, was inoculated with 20% (v/v) REO, and another sample was used without the addition of REO as a control. Both samples were the same size and were refrigerated. During seven days of refrigeration, the number of *E. coli* present in each sample was determined. There was a 2.3-log reduction in the first 24 hours in the test sample. The results showed that the rosemary essential oil has inhibitory activity against the *E. coli* strain EC16 within a food matrix. Thus, rosemary essential oil could be used in the control of pathogenic bacteria. However, its use as a preservative in food should also be based on sensory characteristics.

**Keywords:** rosemary essential oil, natural antimicrobial, bacterial control, coalho cheese.