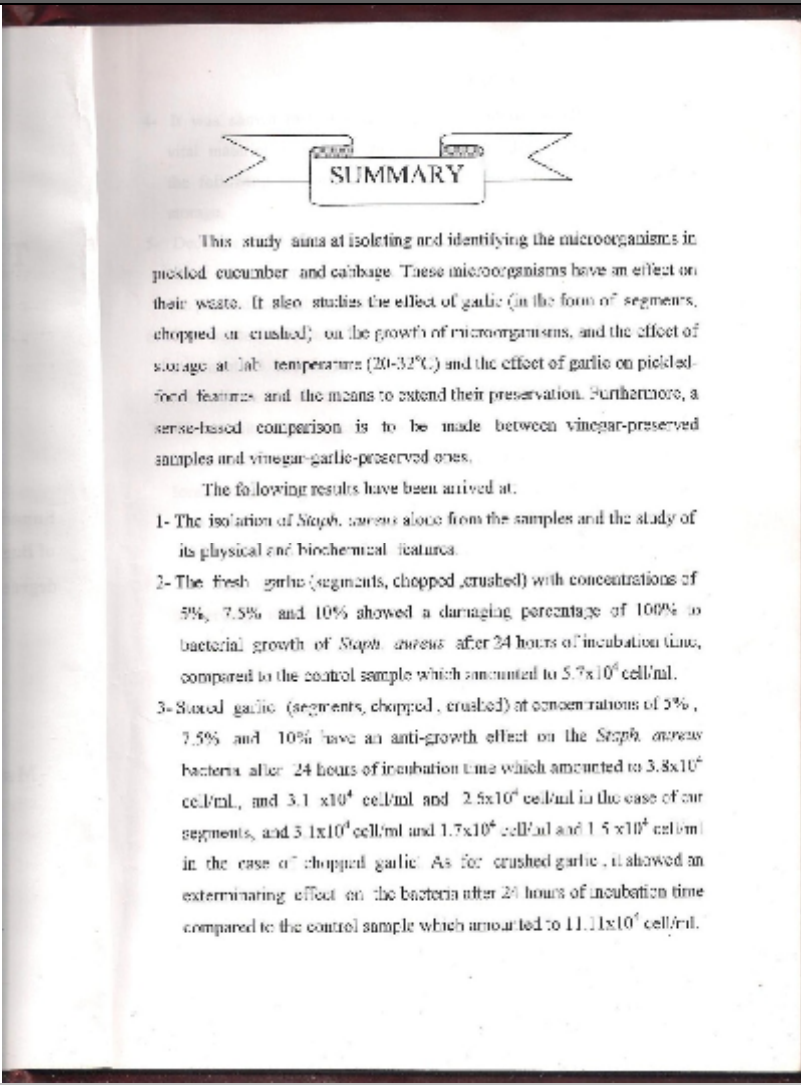


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Thesis Title	THE Effect of Garlic on the Shelf Life of Pickled Cucumber and Cabbage		
Year	2001		
Abstract	 <p>SUMMARY</p> <p>This study aims at isolating and identifying the microorganisms in pickled cucumber and cabbage. These microorganisms have an effect on their waste. It also studies the effect of garlic (in the form of segments, chopped or crushed) on the growth of microorganisms, and the effect of storage at different temperatures (20-32°C) and the effect of garlic on pickled food features and the means to extend their preservation. Furthermore, a sense-based comparison is to be made between vinegar-preserved samples and vinegar-garlic-preserved ones.</p> <p>The following results have been arrived at:</p> <ol style="list-style-type: none"> 1- The isolation of <i>Staph. aureus</i> alone from the samples and the study of its physical and biochemical features. 2- The fresh garlic (segments, chopped, crushed) with concentrations of 5%, 7.5% and 10% showed a damaging percentage of 100% to bacterial growth of <i>Staph. aureus</i> after 24 hours of incubation time, compared to the control sample which amounted to 5.7×10^6 cell/ml. 3- Stored garlic (segments, chopped, crushed) at concentrations of 5%, 7.5% and 10% have an anti-growth effect on the <i>Staph. aureus</i> bacteria after 24 hours of incubation time which amounted to 3.8×10^6 cell/ml, and 3.1×10^4 cell/ml and 2.5×10^4 cell/ml in the case of our segments, and 3.1×10^3 cell/ml and 1.7×10^4 cell/ml and 1.5×10^4 cell/ml in the case of chopped garlic. As for crushed garlic, it showed an exterminating effect on the bacteria after 24 hours of incubation time compared to the control sample which amounted to 11.1×10^6 cell/ml. 		

- 4- It was shown that storage at lab. Temperature (20-32°C) affects the vital material in garlic with significance to the growth of bacteria at the following concentrations: 5%, 7.5% and 10% after six months of storage.
- 5- Decrease in pH values in pickled cucumber and cabbage sample as a result of acid production by lactic-acid bacteria. The final values for the pickled cucumber were 5.2 and for the pickled cabbage 3.4.
- 6- The sensory-evaluation results have shown the advantage of treatments 3 and 2 over the standard treatment in terms of shape and color which characterized the sample.
- 7- The results also indicate that the pickled cucumber and cabbage treated with garlic at various concentration levels and in their three forms (segments, chopped, crushed) did not show any signs of waste after storage, whereas such signs appeared in pickled cucumber and cabbage not treated with garlic after two months of storage. This confirms that garlic has an active and positive effect as a food-preserving material on account of the vital and anti-bacterial compounds it contains.