Proposed Area and Topic of Research

Name of the Candidate **:** ASHA V

Field of Research **:** Food Chemistry

Proposed title of the work:

Food preservative action of antimicrobials from Ginger, Pepper, Drumstick leaves, Indian Borage and Clove Basil.

Research problem:

Compare the food preservative action of extracts from Ginger, Pepper, Indian Borage, Drumstick leaves and Clove Basil. Identify which extract can more effectively work as a food preservative without much chemical modification.

Scientific background:

Food preservatives play a vital role in preventing deterioration of food, protecting against spoilage from mold, yeast, life-threatening botulism and other organisms that can cause food poisoning. Food preservatives derived from plants are being100 per cent natural. It is also more effective than artificial preservatives and does not require any further processing to keep food fresh. This may open new doors in food preservation technologies, providing a low-cost solution for industries, which will in turn encourage a sustainable food production system that can produce healthier food that stay fresh longer.

Novelty:

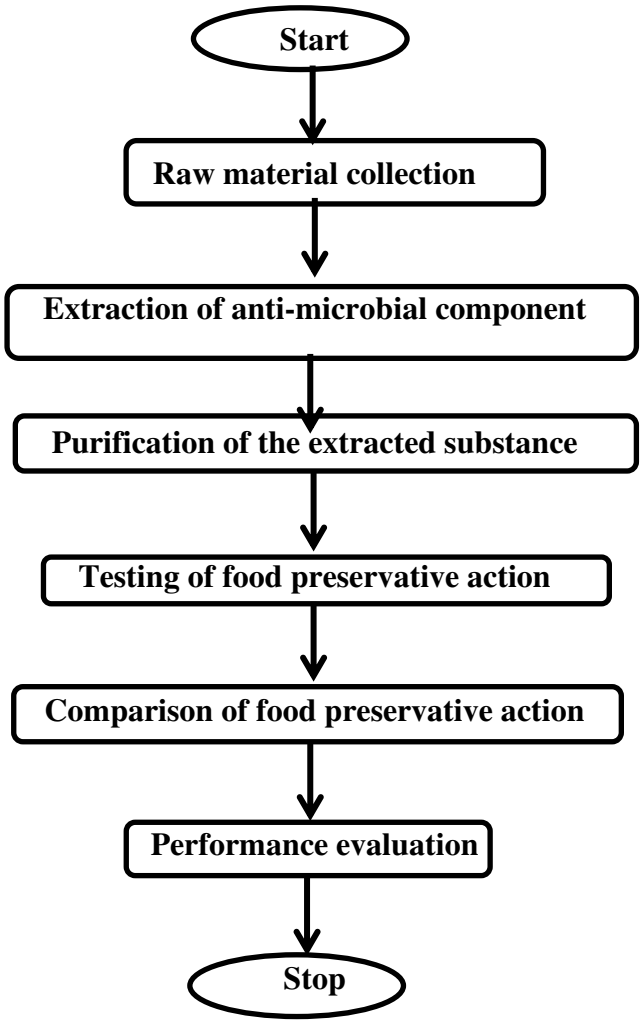
The demand of the consumers for increasingly healthy and shelf-stable food has prompted the search for food preservatives with low potential health risks. Plants and their derivatives are viable alternatives in the process of preserving food.

Objectives:

The main objective is to detect the effective food preservative action of antimicrobial extracts from Ginger, Pepper, Drumstick leaves, Indian Borage and Clove Basil.

Methodology:

After extracting and purifying antimicrobial components present in Ginger, Pepper, Drumstick leaves, Indian Borage and Clove Basil will test for food preservative action in various food samples. The flow chart of the proposed method is shown in following Figure.



Research time plan(Chart):

Stages of Research	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30-36 months
Selection of topic						
Literature Review						
Research methodology plan						
Selection of appropriate research techniques						
Analysis						
Findings and recommendations						
Data Compilation, Publications and Final Report						

Possible outcome:

Safe and hygienic food is a requirement for a healthy society. Chemical preservative has created some health problems in foods, so the recent trend is towards the use of natural antimicrobials in foods. Many plant antimicrobials possess antimicrobial activity against pathogens and spoilage microorganisms. But variation in effectiveness of these compounds against microorganisms in real food systems is a major determinant in their food use. So the improvement in cost-effective isolation and toxicological information about these compounds is helpful in their use as a bio preservative in foods. Development of cost-effective methods for the extraction of plant antimicrobials should be searched out.

References:

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