

Invitro Evaluation Of *Citrus Limon* Juice Against Fungi Of Bread Mould

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Abstract: The objective of the present study is to evaluate the antifungal activity of *Citrus limon* juice against bread mould. Moulds are able to grow commonly on bread. It is well known that citric acid has a potential as antifungal agent. As *Citrus limon* juice is a rich source of citric acid and despite of its medicinal property not much work has been done on *Citrus limon* juice. Hence a protocol was prepared to study the effect of the different concentrations of citrus limon juice on the growth of moulds commonly associated with bread using potato agar media.

Key words: *Citrus limon* juice, antifungal activity, bread mould, potato agar media.

INTRODUCTION

The woolly growth that occurs on damp and decaying organic matter caused from the growth of fungi is termed as mold/mould. Fungi (plant like organism) lack chlorophyll, so they cannot prepare food by their own. It must absorb food from other sources and are able to grow in dark and damp places. [1] Moulds are able to grown on all kinds of foods like cereals, meat, milk, vegetables, nuts, fruits, fats and product of these. The mould growth may result in discoloration, rotting, spoilage etc. [2] Commonly present in air, water and soil. Enzymes that cause undesirable changes in colour, flavour and texture are present in bakery products and are subjected to physical, chemical and microbiological spoilage [3]. The major problem for long term shelf life of baked goods is contamination with fungi. Mycotoxins which are dangerous to health are produced from moulds. [4] The most common source of microbial spoilage of bread is mould growth.

It was evaluated that citric acid has fungistatic and fungicidal activity [5]. *Citrus limon*, belonging to Rutaceae is well known for its chemical components like citric acid, ascorbic acid, flavonoids and minerals [6]. As *Citrus limon* juice is a rich source of citric acid and despite of its medicinal property not much work has been done on *Citrus limon* juice. Hence the objective of the present study is to evaluate the inhibitory effect of different concentrations of citrus limon juice on the growth of moulds commonly associated with bread.

MATERIALS AND METHOD

1. Fresh fruits of *Citrus limon* were obtained from local farms of Anantapur. The fruits are washed and the juice was expressed from the halved fruits into a glass beaker, followed by filtration.
2. Potato dextrose agar was prepared using potato infusion [7].
3. Bread mould was prepared by sprinkling was on fresh bread and stored in air tight container until proper mould has grown on the bread. [8]
Method [9] [10]
4. Swap the mould on the potato dextrose agar medium.
5. Then, a well with a diameter of 8mm is punched aseptically with a sterile cork tip. on the potato agar medium.
6. Different concentrations (volume of 50µl) of *Citrus limon* juice were added on to the wells followed by incubation.
7. Next day zone of inhibition was measured.

RESULT

S.NO	CONCENTRATION	ZONE OF INHIBITION (mm)
1	100%	10
2	75%	9.2
3	50%	8.7
4	25%	7.9

CONCLUSION

From the result we can conclude that *Citrus limon* juice possess antifungal activity against bread mould. As the concentration is increasing its activity also increases.

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