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INHIBITORY EFFECT OF ANTIFUNGAL ACTIVITY OF GROUND NUT OIL AGENT'S FUNGI

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ABSTRACT
Ground nut (Arachis hypogaea) oil is essential component of our food and it can inhibit the spore germination of Aspergillus sp. The development of protectivecomponents with natural origin as alternatives to synthetic fungicides is currently in the spotlight. This oil is known for their broad spectrum of antifungal activity againstplant pathogen and human both. The essential oils reduce hyphal growth and induce cell lysis and cytoplasmic evacuation in fungi.

Keywords: *Aspergillus, Fungus, Ground nut, Oil.*

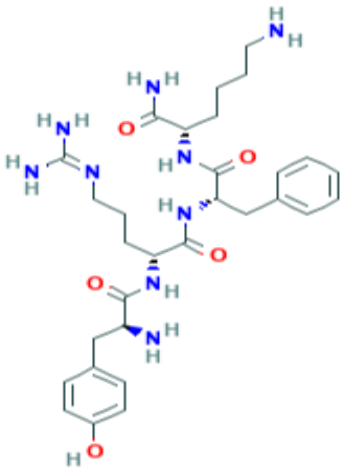
INTRODUCTION
Peanut oil, also known as groundnut oil or arachis oil, is a vegetable oil derived from peanuts. Scientific name of Ground nut is *Arachis hypogaea* belongs to family *Fabaceae*. The oil has a strong peanut flavor and aroma. It is often used in American, Chinese, South Asian and SoutheastAsian cuisine, both for general cooking, and in the case of roasted oil, for added flavor (Agarwal,2010).

Fungi could be defined as non- green, nucleated thallophytes. Mycologists can define fungi more scientifically. According to Alexopoulos (1962), fungi are including nucleated spore bearing achlorophyllous organism they can reproduce, and filamentous branched somatic structures are present with surrounded by cell walls containing chitin. These fungal species growing on fruits and vegetables showing their impact on human health and businessman with reference to post harvest losses (Jungharea, 2015). At present there are range of preservation techniques available but food poisoning and spolage by microorganisms continue to be major concerns in food industry. Naturally occurring compounds and synthetic compounds derived substances such as antibioticsthey mostly used to control or to inhibit the growth of microorganisms (Joe,2012).

Chemical composition: Oil has major component fatty acids are oleic acid (46.8% as olein), linoleicacid (33.4% as linolein), and palmitic acid (10.0% as palmitin) (Kishor, 2007). Groud nut oil alsocontains some stearic acid, arachidic acid, behenic acid, lignoceric acid and other fatty acids (Mital,2011).

Chemical formula: $C_{30}H_{45}N_9O_5$

Chemical structure:



According to the USDA data, main contain of 100 g peanut oil is 17.7 g of saturated fat, 48.3 g ofmonounsaturated fat, and 33.4 g of polyunsaturated fat (Kurita, 1981).

Methodology of Antifungal activity

From the 48 old culture of the test organisms, 0.5 ml of each of the test organisms was inoculatedinto a sterile petri dish. About 20 ml of sterile media was aseptically poured into the dish. The dishes were gently rocked for proper mixture and the nutrient agar could solidify Afterwards; wellswere dug in the plates. With the aid of a sterilized cork borer of 2mm diameter. Only one well wasbored on the plate. Methanol was used as the control. With the proper labeling of wells 0.5 ml of the extract was introduced into the well. While 0.5 ml of Methanol was introduced into the anotherwell as the control. They allowed to stand for one hour for proper diffusion and then incubated at 37˚C for 24 hours. The sensitivity of the test organisms to extracts of the oil was indicated by a clear zone of inhibition around the wells. The diameter of the clear zone was measured to the nearest millimeter using a transparent ruler. This was taken as an index of the degree of sensitivityof the test organisms to the extract (Vaijayanthimala,2001).

RESULT

The results obtained shows that 2ml concentration of oil result in 5.0 mm zone of inhibition, wherewell size was 2mm and zone of inhibition was 7mm. result shows in figure 1 and table 1.

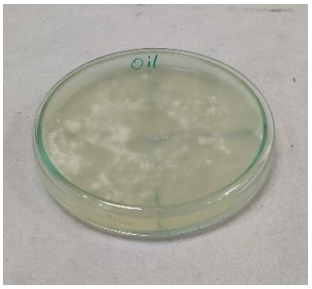


Figure 1: Shows zone of inhibition of Peanut oil.

Table 1: Shows zone of inhibition of Peanut Oil (Ground nut).

Extract	Control	Concentration of oil (ml)	result

Methanol	0.0 mm	2.0	5.0 mm

CONCLUSION

Arachis hypogaea oil had an antifungal activity also inhibited the germination of fungal spores. This can be useful for applications in the food and pharmaceutical industries. Biosurfactant showed antifungal activity and inhibited the fungal spore germination on medium. Antifungal activity with alcohols results very sharp. Oil having more antifungal potential as compare to others.

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