MGM COLLOEGE OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY AND BIOINFORMATICS
NANDED-431605

NARESH DILIP JOSHI (yashj3694@gmail.com) ,
KULKARNI ADITYA ARVINDRAO (adityakulkarni88561@gmail.com)

EXTRACTION OF CURCUMIN

(from turmeric by soxhlet method)

Introduction

- Turmeric plant is perennial herb cultivated extensively in South East Asia
- Economic part of turmeric is rhizomes
- Rhizomes are horizontal underground stems
- Bright yellow colour of turmeric comes mainly from fat soluble, polyphenolic pigments known as curcuminoid
- Curcuminoid contains:

1. Curcumin (77 %)
2. Demethoxy-curcumin (17 %)
3. Bis-desmethoxy-curcumin (03 %)

Turmeric varieties

1) Selam

Highest area in Nanded, Nizamabad & Karimnagar

2) Desi Kadppa

Highest area in Erode

3) Pratibha

Highest area in Nanded, Sangli, Satara

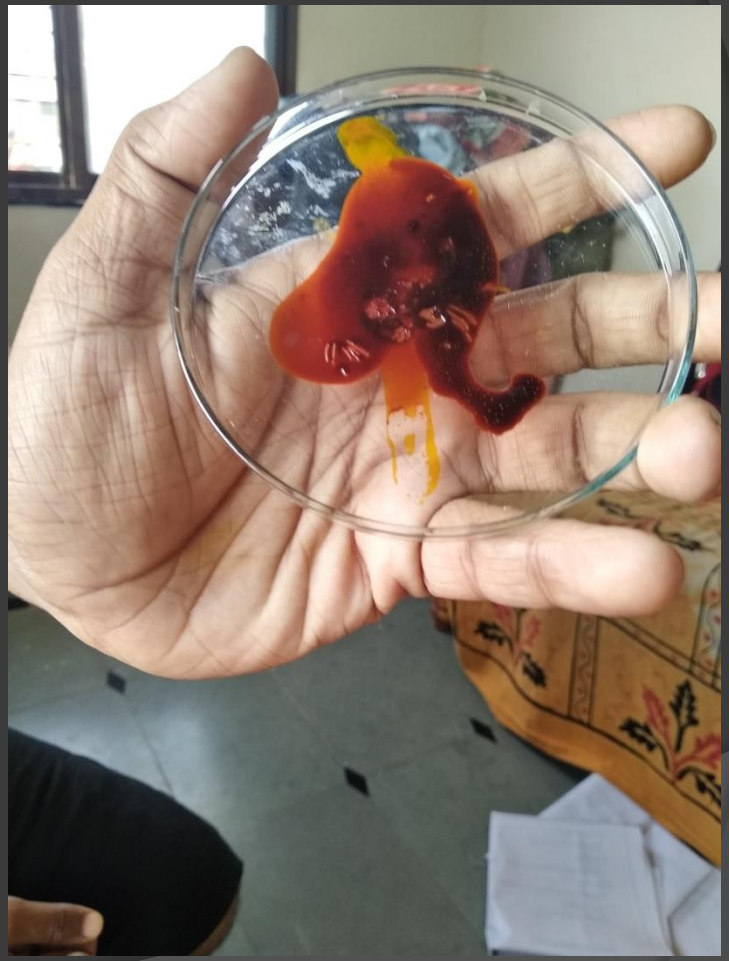
4) Krishna

Highest area in Dharwad, Bellari

5) China Selam

Highest area in nanded

Curcumin extraction using Soxhlet

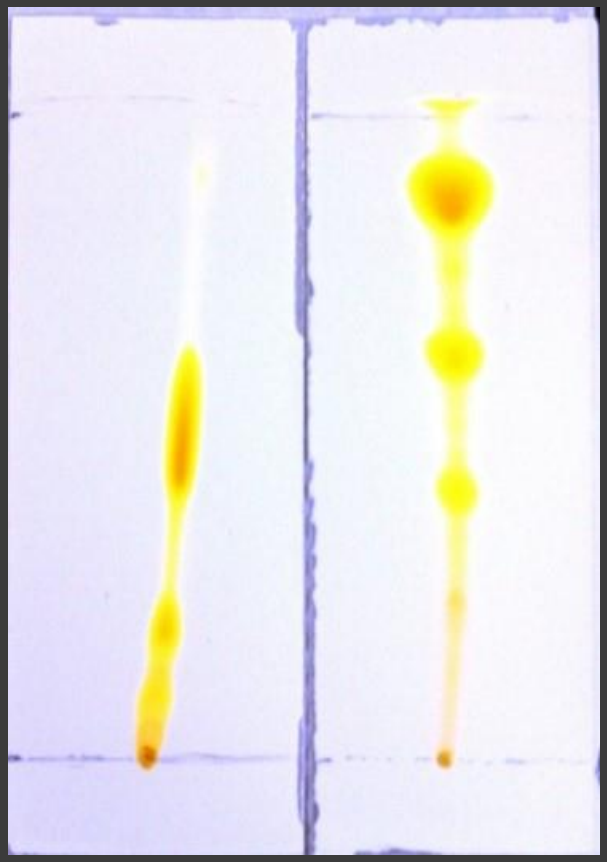


Method for Extraction of Curcumin Byy Using Soxhlet Unit

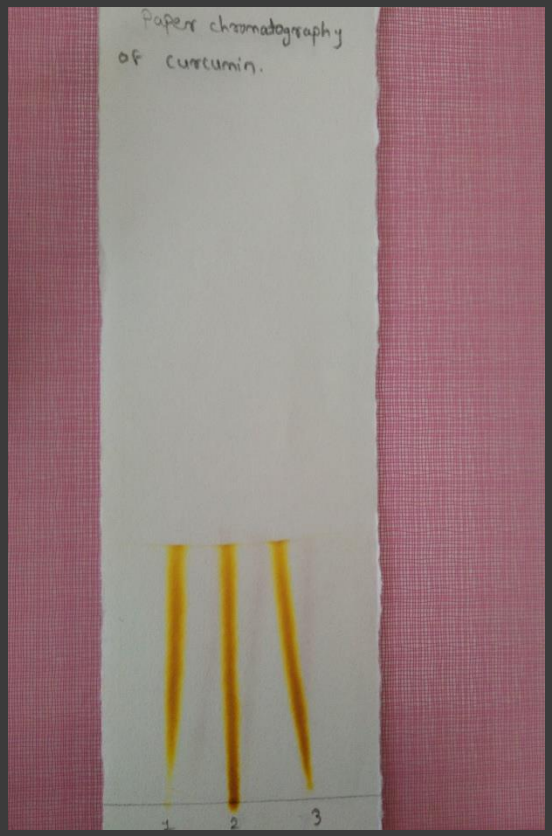
Take fleshy rhizomes of turmeric. The rhizomes of turmeric were dried in oven at 105 °C for 3 h. Dried rhizome were grinded and obtained uniform powder. The turmeric powder was stored in refrigerator to prevent moisture uptake. 10 g turmeric powder was weighed and embedded in a thimble and kept in the Soxhlet apparatus which was gradually filled with acetone as the extraction solvent. The extraction was carried out at 60 °C within 8 h. After the extraction, the acetone was separated from the extract using rotary evaporator under vacuum at 35°C. The residue was dried and weighed. Presence of Curcumin content was checked by using TLC.

Paper chromatography for curcumin detection

Standard curcurmin



Extracted curcumin by soxhle



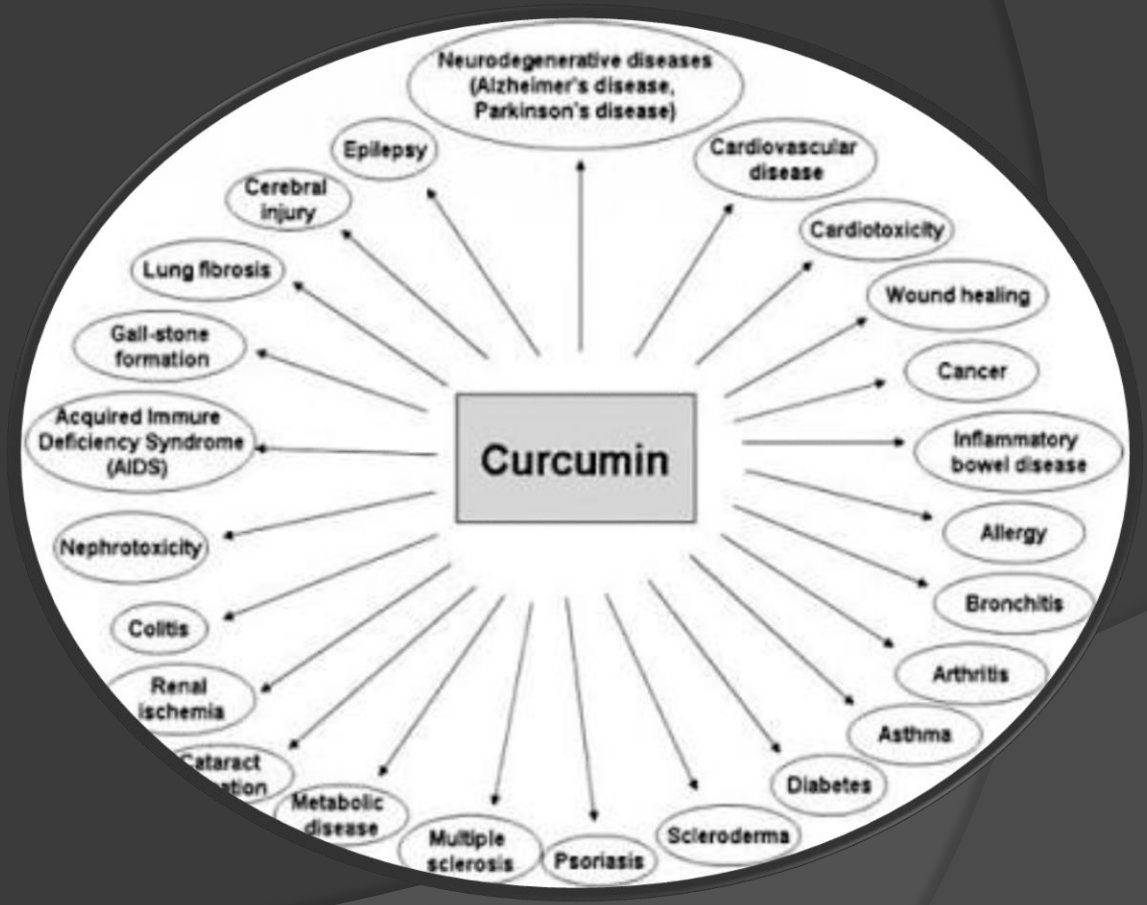
Results

- Extraction of curcuminoid using Soxhlet method

Variety	Solvent	Curcuminoid (Gm)
Selam (10 gm)	Ethanol	3.6
	Methanol	3.4
	Acetone	3.9
Kadappa (10 gm)	Ethanol	3.1
	Methanol	3.7
	Acetone	3.8
China selam (10gm)	Ethanol	3.3
	Methanol	4.0
	Acetone	4.2

Pharmacological Role

- Anti-inflammatory
- Anti-oxidant
- Anti-cancerous
- Anti-viral
- Anti-tumor
- Anti-venom
- Anti-ulcer



REFRENCE

L.Almeida, Cherubino, Alves R.J . “Separation and determination of the Physico-chemical characteristics of curcumin, demethoxycurcumin, bisdemethoxycurcumin.”Food Research International ,2005,38,1039-1044.

THANK YOU.....