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File name: Curcuminrich\_Turmeric\_Powder\_for\_its\_use\_in\_Infusion\_Drin...  
File size: 5.32M  
Page count: 111  
Word count: 27,880  
Character count: 155,778  
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### Introduction

#### 1.1 Preamble

Turmeric (*Curcuma longa* L.) is one of the major crops in India, and India has the largest share in the world in terms of its production, consumption and export. In the year 2022-23, India produced 11.61 lakh tons (over 75% of global turmeric production) of turmeric grown across more than 20 states. More than 30 varieties of turmeric are grown in these states. In the year 2022-23, India exported 1.534 lakh tons of turmeric worth 207.45 million USD, which constitutes over 62 per cent of the world's turmeric exports. Depending on the consumer requirement, turmeric is commercialized as a whole, as a ground powder, or in extracted forms such as curcumin. While consumers in poor nations prefer whole turmeric and those in urban areas prefer powdered forms, Western consumers prefer finely ground turmeric. Additionally, oleoresins and ground turmeric are used in the Western institutional sector. No extra attention is required when producing ground turmeric because it is quite stable at mild temperatures. Bulk turmeric powder is kept out of the elements and in containers that don't absorb moisture. For up to six months, these products remain stable [3].

Turmeric has various uses. In India it is mostly used as a culinary ingredient of daily diet for imparting color and utilize its medicinal properties. In addition, turmeric constitutes an important ingredient of various medicinal products in Asian countries viz., Ayurveda, Siddha medicine, Unani, and traditional Chinese medicines [23]. Considering the medicinal benefits from turmeric powder, its utility as an ingredient in drink is explored in this work.

Turmeric rhizomes contain color-enhancing pigments, as well as essential and fixed oils, flavonoids, bitter principles, carbohydrates, protein, minerals, and vitamins [5]. Major components of the spice is carbohydrate. Table 1.1[6] shows the near chemical makeup.

Table 1.1 Chemical Composition of Turmeric

6-13% moisture
60-70% carbohydrates
6-8% protein
2-7% fiber
3-7% mineral matter
5-10% fat
3-7% volatile oil
2-6% curcuminoids

# Instant Controlled Pressure Drop Assisted Production of Curcuminrich Turmeric Powder for its use in Infusion Drink

*by Swapnil Prashant Gautam*

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