RESURGENT AGRIC

Turmeric Report

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2.Agricultural and Botanical details of Turmeric

Turmeric is a plant that has a very long history of medicinal use, dating back nearly 4000 years. In Southeast Asia, turmeric is used not only as a principal spice but also as a component in religious ceremonies. Because of its brilliant yellow color, turmeric is also known as “Indian saffron.” Modern medicine has begun to recognize its importance, as indicated by the over 3000 publications dealing with turmeric that came out within the last 25 years. This review first discusses in vitro studies with turmeric, followed by animal studies, and finally studies carried out on humans; the safety and efficacy of turmeric are further addressed.

Turmeric is a product of Curcuma longa, a rhizomatous herbaceous perennial plant belonging to the ginger family Zingiberaceae, which is native to tropical South Asia. As many as 133 species of Curcuma have been identified worldwide.Most of them have common local names and are used for various medicinal formulationsThe turmeric plant needs temperatures between 20°C and 30°C and a considerable amount of annual rainfall to thrive. Individual plants grow to a height of 1 m, and have long, oblong leaves. Plants are gathered annually for their rhizomes, and are reseeded from some of those rhizomes in the following season. The rhizome, from which the turmeric is derived, is tuberous, with a rough and segmented skin. The rhizomes mature beneath the foliage in the ground. They are yellowish brown with a dull orange interior. The main rhizome is pointed or tapered at the distal end and measures 2.5–7.0 cm (1–3 inches) in length and 2.5 cm (1 inch) in diameter, with smaller tubers branching off. When the turmeric rhizome is dried, it can be ground to a yellow powder with a bitter, slightly acrid, yet sweet, taste. The plant is a perennial, rhizomatous, herbaceous plant native to the Indian subcontinent and Southeast Asia, that requires temperatures between 20 and 30 °C (68 and 86 °F) and a considerable amount of annual rainfall to thrive. Plants are gathered each year for their rhizomes, some for propagation in the following season and some for consumption.

Turmeric is a perennial herbaceous plant that reaches up to 1 m (3 ft 3 in) tall. Highly branched, yellow to orange, cylindrical, aromatic rhizomes are found.The leaves are alternate and arranged in two rows. They are divided into leaf sheath, petiole, and leaf blade. From the leaf sheaths, a false stem is formed. The petiole is 50 to 115 cm (20–45 in) long. The simple leaf blades are usually 76 to 115 cm (30–45 in) long and rarely up to 230 cm (91 in). They have a width of 38 to 45 cm (15 to 18 in) and are oblong to elliptical, narrowing at the tip.

Inflorescence, flower, and fruit

At the top of the inflorescence, stem bracts are present on which no flowers occur; these are white to green and sometimes tinged reddish-purple, and the upper ends are tapered.

The hermaphrodite flowers are zygomorphic and threefold. The three sepals are 0.8 to 1.2 cm (0.3 to 0.5 in) long, fused, and white, and have fluffy hairs; the three calyx teeth are unequal. The three bright-yellow petals are fused into a corolla tube up to 3 cm (1.2 in) long. The three corolla lobes have a length of 1.0 to 1.5 cm (0.4–0.6 in) and are triangular with soft-spiny upper ends. While the average corolla lobe is larger than the two lateral, only the median stamen of the inner circle is fertile. The dust bag is spurred at its base. All other stamens are converted to staminodes. The outer staminodes are shorter than the labellum. The labellum is yellowish, with a yellow ribbon in its center and it is obovate, with a length from 1.2 to 2.0 cm (0.5 to 0.8 in). Three carpels are under a constant, trilobed ovary adherent, which is sparsely hairy. The fruit capsule opens with three compartments.In East Asia, the flowering time is usually in August. Terminally on the false stem is an inflorescence stem, 12 to 20 cm (5 to 8 in) long, containing many flowers. The bracts are light green and ovate to oblong with a blunt upper end with a length of 3 to 5 cm (1.2 to 2.0 in

3.Uses of the Turmeric

Dye: The golden yellow color of turmeric is due to curcumin.It also contains an orange-colored volatile oil. Turmeric makes a poor fabric dye, as it is not light fast, but is commonly used in Indian clothing, such as saris and Buddhist monks' robes.It is used to protect food products from sunlight, coded as E100 when used as a food additive.The oleoresin is used for oil-containing products.In combination with annatto (E160b), turmeric has been used to color numerous food products.Turmeric is used to give a yellow color to some prepared mustards, canned chicken broths, and other foods—often as a much cheaper replacement for saffron.

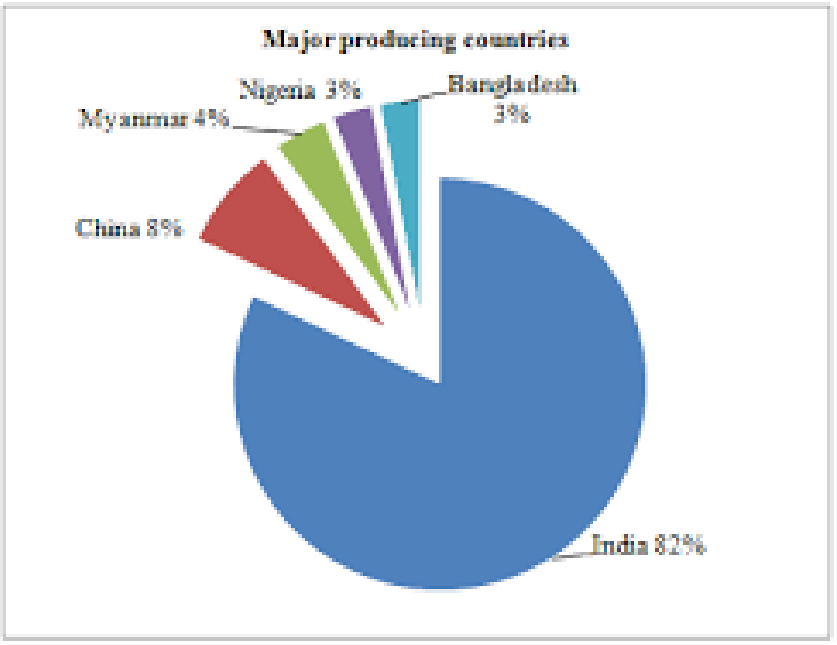
Indicator:Turmeric paper, also called curcuma paper or in German literature, Curcumapapier, is paper steeped in a tincture of turmeric and allowed to dry. It is used in chemical analysis as an indicator for acidity and alkalinity.The paper is yellow in acidic and neutral solutions and turns brown to reddish-brown in alkaline solutions, with transition between pH of 7.4 and 9.2.

Adulteration :As turmeric and other spices are commonly sold by weight, the potential exists for powders of toxic, cheaper agents with a similar color to be added, such as lead(II,IV) oxide ("red lead"). These additives give turmeric an orange-red color instead of its native gold-yellow, and such conditions led the US Food and Drug Administration (FDA) to issue import alerts from 2013 to 2019 on turmeric originating in India and .Imported into the United States in 2014 were approximately 5.4 million kilograms (12 million pounds) of turmeric, some of which was used for food coloring, traditional medicine, or dietary supplement.Lead detection in turmeric products led to recalls across the United States, Canada, Japan, Korea, and the United Kingdom through 2016.Lead chromate, a bright yellow chemical compound, was found as an adulterant of turmeric in Bangladesh, where turmeric is used commonly in foods and the contamination levels were up to 500 times higher than the national limit. Researchers identified a chain of sources adulterating the turmeric with lead chromate: from farmers to merchants selling low-grade turmeric roots to "polishers" who added lead chromate for yellow color enhancement, to wholesalers for market distribution, all unaware of the potential consequences of lead toxicity.Another common adulterant in turmeric, metanil yellow (also known as acid yellow 36), is considered by the British Food Standards Agency as an illegal dye for use in foods.

Culinary:Turmeric is one of the key ingredients in many Asian dishes, imparting a mustard-like, earthy aroma and pungent, slightly bitter flavor to foods.It is used mostly in savory dishes, but also is used in some sweet dishes, such as the cake sfouf. In India, turmeric leaf is used to prepare special sweet dishes, patoleo, by layering rice flour and coconut-jaggery mixture on the leaf, then closing and steaming it in a special utensil (chondrõ).Most turmeric is used in the form of rhizome powder to impart a golden yellow

color.It is used in many products such as canned beverages, baked products, dairy products, ice cream, yogurt, yellow cakes, orange juice, biscuits, popcorn color, cereals, sauces, and gelatin. It is a principal ingredient in curry powders.Although typically used in its dried, powdered form, turmeric also is used fresh, like ginger.It has numerous uses in East Asian recipes, such as a pickle that contains large chunks of fresh soft turmeric.Turmeric is commonly used for conditions involving pain and inflammation, such as osteoarthritis. It is also used for hay fever, depression, high cholesterol, a type of liver disease, and itching. But the root of turmeric is also used widely to make medicine. It contains a yellow-colored chemical called curcumin, which is often used to color foods and cosmetics.

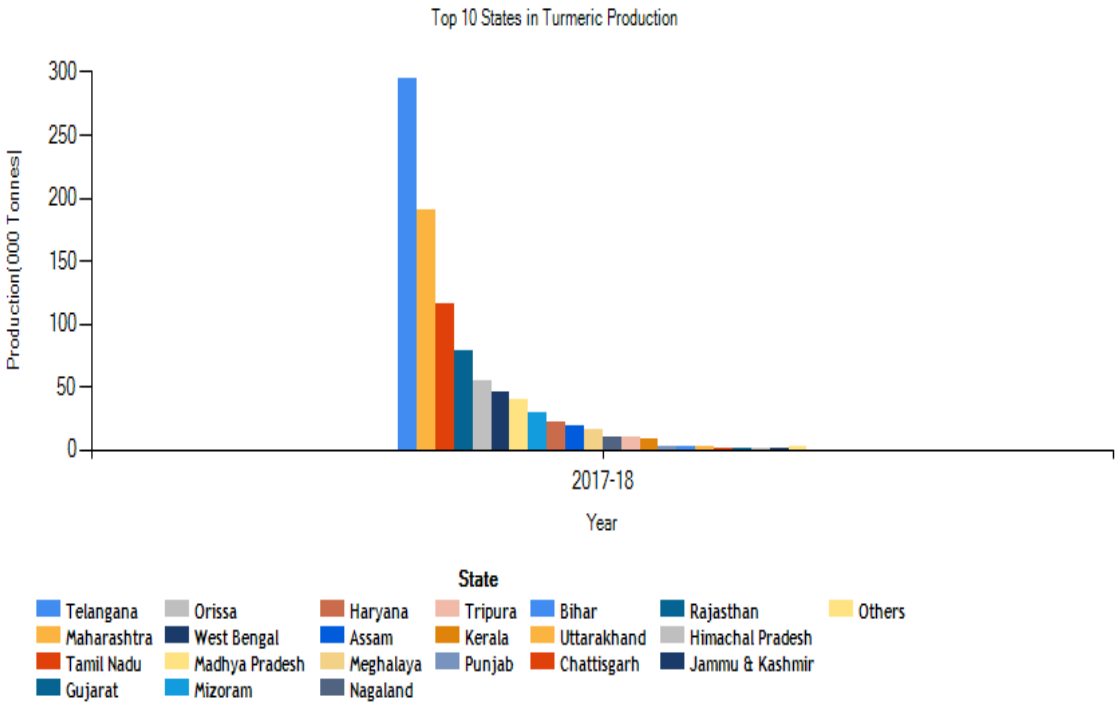
4.Production -Geographical locations Countries in world (Top10)



Source: APEDA

India is by far the largest producer and exporter of turmeric in the world. Turmeric occupies about 6% of the total area under spices and condiments in India. Turmeric is also cultivated in China, Myanmar, Nigeria and Bangladesh. However, authentic figures about area and production are not available. Major area is in India which constitutes 82% followed by China (8%), Myanmar (4%), Nigeria (3%) and Bangladesh (3%)

5.Production - States and districts in India (Top10)



Sr No.	State	Production	Share(%)
1	Telangana	294.56	31.12
2	Maharashtra	190.09	20.08
3	Tamil Nadu	116.00	12.25
4	Gujarat	78.91	8.34
5	Orissa	54.50	5.76
6	West Bengal	45.50	4.81
7	Madhya Pradesh	39.05	4.13
8	Mizoram	29.82	3.15
9	Haryana	22.00	2.32
10	Assam	19.17	2.03
	Page Total	**889.60**	

In Telangana, the four districts (erstwhile) viz. Nizamabad, Karimnagar, Warangal and Adilabad account for around 90% of the production of turmeric in the State and this area houses the important turmeric markets in the country.

In Maharashtra Sangali, Satara, Hingoli, Nanded, Parbhani are the major turmeric growing districts. It is one of the major crop in Sangali district. In Sangali the area under turmeric is 1500 hectares, whereas production and productivity is 13000 tonnes and 8.6 tonnes/hectare, respectively in 2015- 16.

Erode, Coimbatore, Salem, Namakkal and Dharmapuri are the major turmeric growing districts which account for 90 per cent production in Tamil Nadu.

In the state of Gujarat, mainly Valsad, Navsari, Surat, Panch hai. Turmeric is cultivated in Mahal, Sabarkantha, Anand and Nadiad districts. Mango Chikuni is grown in South Gujarat as a mixed crop and intercrop. However, turmeric is now being cultivated in Saurashtra as well.

Turmeric is one of the major spices grown in Assam and is cultivated on more than 16,800 hectors in the state with predominant commercial cultivation pockets in Karbi Anglong, Golaghat, Lakhimpur, Nagaon and Sonitpur. Scientists said conducive soil and climatic conditions aid turmeric production in the state.

6.Varities of commodity grown in india - location and qty .Metrics of Quality Parameters and Indian produce range of parameters

Famous varieties of Turmeric

Local Haldi, China scented, Thodopuza, Red streaked ,Alleppey

Major varieties of Turmeric in India

'Alleppey Finger' (Kerala) ,'Erode and Salem turmeric' (Tamil Nadu),'Rajapore' and 'Sangli turmeric' (Maharashtra),'Nizamabad Bulb' (Andhra Pradesh)

In Tamilnadu, the important varieties cultivated are Erode local, BSR-1, PTS-10, Roma, Suguna, Sudarsana and Salem local. Among these varieties, 70-75% is occupied by the local varieties.Alleppey Finger Turmeric, Rajapuri, Madras and Erode are some of important exported varieties. Turmeric exported in the processed form is dry turmeric, fresh turmeric, turmeric powder and oleoresin. Alleppey finger turmeric is known for its high content of curcumin - a yellow colouring substance. Its bright yellow colour has been preferred by spices importers in Europe and other continents. In Middle East, the UK, USA and Japan, some of the well-accepted varieties are: 'Alleppey Finger' and 'Erode turmeric', 'Rajapore' and 'Sangli turmeric' and 'Nizamabad Bulb'India also exports turmeric in powder form and as oleoresin.

Some of the important high yielding varieties of Turmeric in India.

Andhra Pradesh:Amruthapani: Medium duration crop (8 months) highly resistant to leaf-spot but susceptible to leaf-blotch.

Armoor: Long duration crop (9 months), resistant to leaf-blotch: popular variety.

Duggirala: Long duration crop (9 months); tolerant to leaf-blotch; major regional variety.

Tekurpeta: Long duration crop (9 months); resistant to leaf-blotch, popular variety.

West Bengal and Assam

Pattant: Reportedly better colour and aroma of varieties grown in region.

Kerala:Alleppey: High colour variety; generally marketed as Allepey turmeric.

Wynad: Marketed as Alleppey turmeric.

Maharashtra :Rajapore, Karhadi

Waigon:Major regional variety.

Tamilnadu :Chinnanadan: Popular variety.

Perianadan: Major regional variety; generally marketed as Madras type.

The standards of Turmeric (Haldi) whole:

1.	Extraneous matter	Not more than 1.0% by weight
2.	Defective rhizomes	Not more than 5.0 % by weight
3.	Moisture	Not more than 12.0% by weight
4.	Insect damaged matter	Not more than 1.0 % by weight
5.	Test for lead chromate	Negative

According to the standards, Turmeric (Haldi) powder means the powder made by grinding dried rhizomes or bulbous roots of Curcuma Longa L. The powder shall have characteristic odor and flavor of Turmeric.

The standards of Turmeric (Haldi) powder:

1.	Moisture	Not more than 10.0 % by weight
2.	Total ash on a dry basis	Not more than 9.0% by weight
3.	Ash insoluble in dil.HCL on a dry basis	Not more than 1.5 % by weight
4.	Colouring powder expressed as curcuminoid content on a dry basis	Not less than 2.0 % by weight
5.	Total starch	Not more than 60.0 percent by weight.
6.	Test for lead chromate	Negative

7.Exports- qty and value

Domestic and export demand for turmeric is rising because it is seen as an immunity-boosting product. With orders pouring in from the Middle East, the US, Europe and Southeast Asia, prices have risen 4% to Rs 60-62 a kg in the past week, and may increase another 10% by September, said Rajesh Daliya, president of Nizamabad Merchants Association in Telangana.

Out of the estimated total production of 938,955 tonnes in 2019-20, annual exports till December 2019 were tentatively 101,500 tonnes, said traders. India is the world's largest producer of turmeric and produces 70-75% of world's total production, they added. Right after the covid outbreak, turmeric sales was continuously increasing and overall in 2020-21 , we are expecting the sales to go up by 25% to 30%, said U Karthik, general secretary at Federation of India Spices Stakeholders. Contracts for both dry and fresh turmeric were being met by exporters. “Demand has increased strongly since April for fresh turmeric in retail chains in the UK, Germany and Holland. With Starbucks selling turmeric milk, the trend has caught up globally and we saw a five-fold increase in our exports of fresh turmeric,” said Kaushal Khakhar, CEO of Kay Bee Exports, which exports 5 tonnes of turmeric every week to the European market. United Arab Emirates is the largest market for Indian turmeric. It is followed by Iran, Malaysia, Japan and US. Interestingly, India imports turmeric from other origins for its processing industry. India mostly imports turmeric from Indonesia and Vietnam.

Year	Import of turmeric of India in tonnes	Export of turmeric from India in tonnes	Production of turmeric in India in tonnes
2013-14	7,284.02	78,360.18	1092630
2014-15	9,654.21	90,738.10	846250
2015-16	15,922.27	88,465.87	967060
2016-17	14,466.69	1,25,116.19	925270
2017-18	17,126.67	1,11,774.77	863460
2018-19	31,039.84	1,38,920.39	929967
2019-20 (Apr-Oct)	20,534.01	75,225.57	-

8.Major production organisations-address /email/mob/.websites

https://www.fieo.org/searchItcHcCode_fieo.php?stype=Like&searchStringProducts=9103

9.Major Domestic sales organisations in india .address/email/mob/website .special reference to top brands of online sales B to C

Lakadong turmeric(https://www.zizira.com/collections/zizira-lakadong-turmeric-products?utm_source=Google&utm_medium=Cpc&utm_campaign=Search&gclid=Cj0KCQjw9YWDBhDyARIsADt6sGYxn9ErfJ8XL5jZTfLY29N7H5Loe4iCPValywmSuauCw3A0PmqETcAaApeuEALw_wcB)

Himalayan Turmeric Powder(https://himalayawellness.in/?gclid=Cj0KCQjw9YWDBhDyARIsADt6sGbY5bqSYzfpgX1mPJI54jIVyV4BML6miIpWuc_7NfN-mWsWqFZCSbkaAgr4EALw_wcB)

Tata Sampann Turmeric Powder Masala(https://www.tataconsumer.com/brands/foods/tata-sampann/spices#:~:text=Our%20complete%20range%20of%20blended,Dal%20Tadka%20Masala%20%7C%20Chaat%20Masala)

Catch(http://www.catchfoods.com/)

Fast&Up Terra – Curcumin(https://www.fastandup.in/product/curcumin-supplement-combo-of-3tubes?gclid=Cj0KCQjw9YWDBhDyARIsADt6sGafPlfgii7rTaSgMTEfsD8v6nAaW-z-JBJlsYXdiUrLBjhDWiFIcmgaAjBMEALw_wcB)

Curcumin Imbued Honey(https://www.sprig.co.in/products/curcumin-imbued-honey-325-g?variant=37498056933529&currency=INR&utm_medium=product_sync&utm_source=google&utm_content=sag_organic&utm_campaign=sag_organic&gclid=Cj0KCQjw9YWDBhDyARIsADt6sGag5G68Ozxld01fBaWBMRdbtI9L_8crQHr90ARgyTcNRaCxCFKf3OkaAmh_EALw_wcB)

Bipha Ayurvedic Turmeric(https://www.biphaayurveda.com/products/turmeric-capsules?_pos=1&_sid=ce6d8ab60&_ss=r)

Green Sense(https://www.greensense.in/shop/green-sense-organic-feel-good-mix-turmeric/?utm_source=adyogi&utm_medium=google-ssc&utm_campaign=GREE_5508_adyogi_SmartShopping_Prospect)

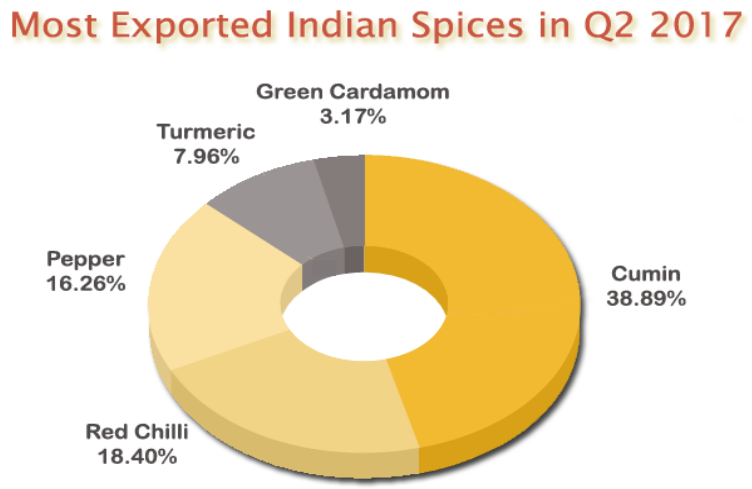
Vico Cosmetics

10. Major Export organisations in india address/email/mob/website

https://www.fieo.org/searchItcHcCode_fieo.php?stype=Like&searchStringProducts=9103

11.Major importing countries of Indian produce of Turmeric

India leads the way in turmeric export in the world. In FY 2016-17, India exported a total of 116500 tons of turmeric to the world at Rs 124189 lakhs. In FY 2015-16, India exported 88500 tons of turmeric at Rs 92165 lakhs. Iran, USA, Bangladesh, UAE and Malaysia are the leading importers of Indian turmeric. India exported the largest to Iran 14862.40 tons of turmeric at Rs 13575.50 lakhs.



Top Spices Exporters in India

There are more than 1300 active spices exporters in India. As we know, USA is the largest in Indian spices importers. Around 200 Indian spices exporters did spice export business from United States. Nedspice Processing India Private Limited is the largest in Indian spices exporters which did 15.68% of total exports. It recorded USD 85.68 million from spices exports in the period of April-June 2017. Here, we are providing some spices exporters in India.

Nandyala Satyanarayana ,Sidhhartha Corporation Pvt.Ltd ,Asian Food Industries,Laxmi Enterprises,Bright Fame International.

India did spice export business from 56 ports during the second quarter of year 2017. More than half of shipments of Indian spices has received from mainly three Indian port namely Mundra Sea, JNPT and Kattupalli Port Sea. As per the Indian spices export statistics, India has departed maximum shipments from Mundra Sea and recorded USD 182 million which is

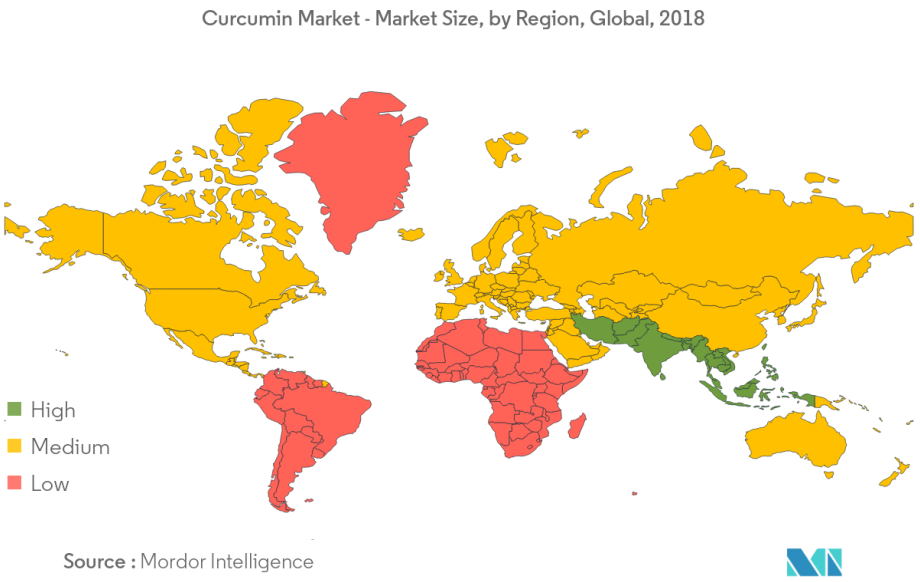
33.45% of total exports. More than 40 varieties of spices have departed from this port from April-June 2017.

JNPT(Jawaharlal Nehru Portrecorded second highest shipments of Indian Spices. India did spices exports of USD 82 million during Q2 of 2017 which represents 15.18% of total's output. Turmeric and Red Chilli are the most exported Indian Spices from JNPT with the value of USD 25 million and USD 19 million respectively. Go through the following table to check the biggest Indian ports which have departed maximum shipments.

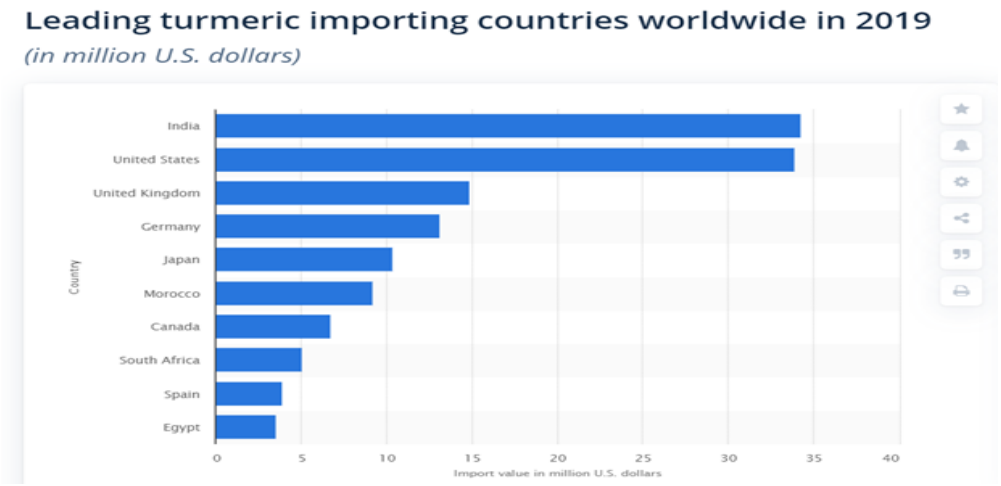
https://www.cybex.in/custom-data/export/india/product-turmeric-powder/

12.Network of origin countries and importing countries other than india of Turmeric

There has been a continuous uptrend in the demand for turmeric, turmeric powder and other related products in the entire world. According to Mordor Intelligence, the market segment of Asia Pacific is showing the highest demand and is embracing the traders of turmeric. Among the importers of turmeric, United States, Iran and Germany secure the topmost position in the entire world.



As seen from the data provided by Mordor Intelligence, India, Pakistan, Afghanistan, Myannmar, Thailand and the entire Asia Pacific zone is the largest consumer of Turmeric in the entire world. Russia, China, United States, Mexico, Australia and New Zealand seem to produce a moderate to high demand of turmeric and it's related products.



Please follow the following for the detailed statistics of turmeric:

https://oec.world/en/profile/hs92/turmeric-curcuma

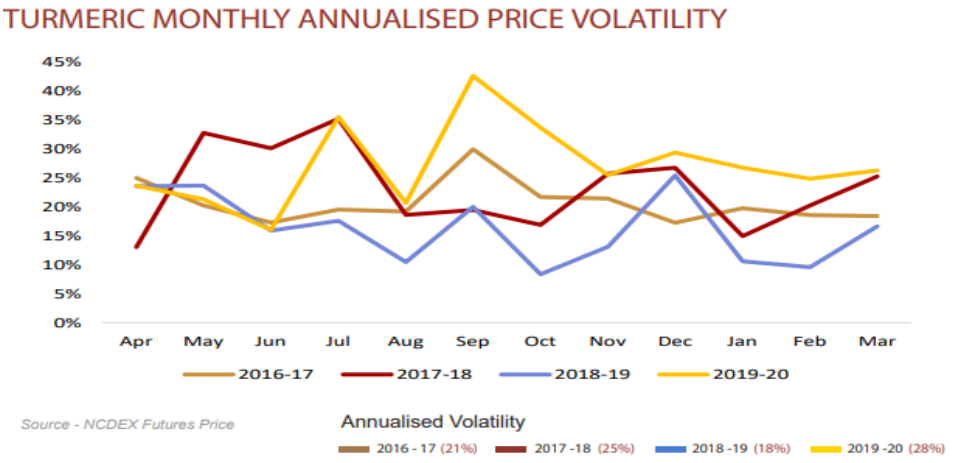
13. Apex bodies /Associations of Turmeric in the world and in India

ICAR- Indian Institute of Spices Research(http://www.spices.res.in/)

Spice Board of India(https://www.indianspices.com/spice-catalog/turmeric-1.html)

14.Commodity Exchanges of Turmeric in the world and india

National Commodity & Derivatives Exchange Limited (Ncdex):https: (//ncdex.com/products/TMCFGRNZM)



Multi Commodity Exchange of India Limited (MCX), ICEX.

15.Major challenges in the domestic trade of Turmeric

The Indian spice industry has made some progress towards a more sustainable future in recent years, especially in integrated pest management (IPM) and maximum residue limit (MRL) compliance focused on the export market, but there is still much to be done.

One of the key issues affecting sustainability in the sector includes the overuse of agrochemicals, which has an environmental as well as a social impact.

The challenges with respect to these include the irresponsible use of pesticides, the use of illegal substances, a lack of protective equipment leading to human health hazards, the improper disposal of chemicals and water contamination.

The overuse of agrochemicals leads to high residue levels which, in turn, lead to the rejection of products and high costs for importers.

Besides, improving farmer livelihoods is also a major issue in the agricultural sector, including spices.In India, the spice sector makes a vital contribution to the economy and to the livelihoods of millions of small-scale farmers.About 98 per cent of the spice production in India is by small-scale farmers, who typically farm less than two hectare and seasonally rotate the growing of spices alongside other crops.Low and insecure farmer incomes, difficulties in accessing markets, limited access to health care and education and limited collective bargaining power are some of the social and economic challenges faced by small-scale farmers in the sector.Further, it also faces labour challenges such as child labour, poor working conditions and a lack of written agreements with the workers.

16.Major Challenges in the export trade of Turmeric

Indian spice traders and producers are facing challenges like food safety, sustainability and traceability. Food safety regulations are affecting spice exports especially to the countries like Germany, France, England, Japan and Australia. India is biggest producer and exporter of spices in the world. As the regulations varies from country-to-country, it is becoming hard to maintain all the required standards.According to reports, the total export of spices from India during the current financial year, up to November 2011, is 351,900 tonnes valued at Rs 6,209.08 crore.But considering the volumes, the export shows a decline of five per cent in the current year as compared to the previous year. The spices exports for the financial year 2011-12 is fixed at 500,000 tonnes valuing Rs 6,500 crore.The countries that import the maximum of spice products from India are Malaysia for chilli and coriander, USA for pepper, celery, spice oils and oleo resins, China for mint products, Saudi Arabia for cardamom, UAE for turmeric, Bangladesh for ginger and garlic, Pakistan for cardamom large and fennel, UK for cumin, Japan for fenugreek, Nigeria for curry powders and Nepal for other seed spices.

Geemon Korah, CEO, Kancor Ingredients Ltd said, "These regulations are badly hitting our export markets. Therefore sustainability is a major issue.The maximum containers are rejected from European countries, Japan and Australia. We are largest exporter of chilli and ginger to these countries."India is the largest producer, consumer and exporter of spices in the world today, contributing about 48 per cent of the world's requirement of spices. As the global demand for spices is spurring up, it throws up several challenges, mainly for food sustainability, traceability and safety standards. These are not just issues, but threats that can affect the very existence of the spice industry in the country," said A Jayathilak, chairman, Spices Board of India,He added, "Food safety problems could be managed through modern processing technology, but contaminants, pesticide residues and toxins remained important issues."As an initiative, to ensure traceability the board has established quality evaluation labs in major centres like Cochin, Chennai, Mumbai, Guntur in Andhra Pradesh and Tuticorin in Tamil Nadu. These labs service testing of spices specifically chilli and turmeric to match international requirements. New labs are under construction in Kandla in Gujarat, Delhi and Kolkata.P M Sureshkumar, secretary and director, marketing Spice Board said, "To cater to the fast developing international requirements, India is focusing on development of infrastructure facilities. The Board has set up spices parks which offers common facilities to cleaning, grading, value addition, storage and marketing in major spices growing states. Spices Parks are established in Chhindwara in Madhya Pradesh and in Puttady in Kerala focusing on garlic in the former and on pepper and cardamom."Among the major spices exported from India, chilli contributes 132,500 tonnes occupies the first place. Other major spices that are exported from India include turmeric (58,000 tonnes), Cumin (26,500 tonnes), Coriander (18,200 tonnes), Pepper (17,000) , Fenugreek (14,700 tonnes), Ginger (11, 250 tonnes) , Fennel (5,100 tonnes), Nutmeg & mace (2,550 tonnes), celery

(2,450 tonnes) , Cardamom small (3,100 tonnes) and Cardamom Large (475 tonnes), Garlic (1075 tonnes). The Indian spice industry has increased some ground towards a more sensible future starting late, especially in Integrated Pest Management (IPM) and Maximum Residue Limit (MRL) consistence focused on the passage grandstand, yet there is still much to be done. One of the key issues impacting viability in the fragment fuses the excess use of agrochemicals, which has an environmental and moreover a social impact. The troubles with respect to these join the problematic use of pesticides, the usage of unlawful substances, a nonattendance of cautious equipment provoking human prosperity hazards, the improper exchange of engineered substances and water spoiling. The mishandling of agrochemicals prompts high development levels which, hence, provoke the expulsion of things and high costs for shippers. Moreover, improving farmer occupations is in like manner a vital issue in the cultivating division, including spices.

Major Challenges impacting future growth

- Huge price volatility impacting buyer confidence and farmer returns
- Stringency of Food Safety laws across producing and importing countries
- Limited supply of High Curcumin Turmeric

17. Government incentives and policies to promote the production and exports of Turmeric

Govt of Andhra Pradesh has sanctioned a sum of R**s. 365 lakhs** for implementing the post harvest schemes of the Integrated Project during 2014-15 and the schemes are being continued during 2015-16.

a) Supply of Silpauline sheets to chilli growers

The Board is supplying silpauline sheets of size 18m x12 m to chilli growers at 50% subsidy to encourage growers to dry chilli under hygienic conditions.

b) Supply of HDPE sheets to chilli / turmeric growers

The Board is supplying HDPE sheets of size 8m x 6m to turmeric growers at 50% subsidy to encourage growers to dry chilli and turmericunder hygienic conditions.

c) Supply of PP equipments to chilli growers

The objective is to facilitate the growers to take up timely and effective and need based spraying of pp chemicals and bio-agents to manage pest and diseases.

d) Supply of Turmeric boilers

The objective of the programme is to motivate growers / growers groups to take up boiling of turmeric on scientific basis by supplying at 50% subsidy.

e) Supply of Turmeric polishers

The objective of the programme is to motivate the growers / growers groups to polish the turmeric before marketing to enhancing the quality of dried turmeric by supplying mechanically operated turmeric polishers at 50% subsidy.

f) Turmeric seed material

The objective of the scheme is to supply quality turmeric seed materials to the growers at for improving the production and quality of turmeric at 40% subsidy.

g) Quality Improvement Training

The main objective is for capacity building of the growers and officials, to provide hands on training on the improved cultivation and post harvest management practices of spices particularly chilli and turmeric Trainings to the growers and officials within and outsides the states; exposure visits for growers; District and State level seminars for the stake holders viz growers, officials NGOs, exporters etc. are being organized under the project. The total cost is fully met under the project.

Integrated Development Project for Turmeric

a) Supply of HDPE sheets to turmeric growers

The Board is supplying HDPE sheets of size 8m x 6 m to turmeric growers at 50% subsidy to encourage growers to dry turmeric under hygienic conditions.

b)Poly house drier

The objective of the scheme is to dry turmeric under controlled conditions by establishing poly house solar driers at 50 % subsidy in the growers' field to prevent microbial growth thereby avoid aflatoxin problem.

c)Supply of IPM kits

The objective is to motivate the growers to adopt Integrated Pest Management practices to manage the pest & diseases in an economical way through integrated approach employing minimum use of pesticides and biological measures and a range of measures in the management system by supplying IPM kits at 30% subsidy.

d) Supply of Turmeric boilers

The objective of the programme is to motivate growers / growers groups to take up boiling of turmeric on scientific basis by supplying at 50% subsidy.

e) Supply of Turmeric polishers

The objective of the programme is to motivate the growers / growers groups to polish the turmeric before marketing to enhancing the quality of dried turmeric by supplying mechanically operated turmeric polishers at 50% subsidy.

f) Market linkage / State holders Meet

The main objective is to establish linkage between farmers' groups and the institutional buyers, processors, exporters etc. by organizing buyer-sellers meets to market the quality produce directly so that better prices will be realized by the farmers. The total cost will be met under the project.

g)QIT Training Programmes

The main objective is for capacity building of the growers to provide hands on training on the improved cultivation and post harvest management practices of turemric by training the growers within and outside the states; exposure visits for growers, etc. The total cost is fully met under the project.

18.References

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