



Coriander

(HS Code: 090921, 090922)
(FAO Code: 0711)



on behalf of the German project implementation consortium of



January 2, 2022

Product description

Coriandrum sativum is an important spice crop with a critical role in flavouring food in South Asian, Middle East and North African cuisines. Coriander seeds are widely used in whole, crushed or ground forms. Coriander powder is used in a variety of spice mixtures. Coriander seeds are also used as a flavouring agent in producing alcoholic drinks, such as gin, and as raw material in the production of essential oils and oleoresins. Coriander leaves, also known as cilantro, are available both fresh and dried, but they have a completely different flavour profile from coriander seeds. This product factsheet focuses primarily on seeds of coriander, for which export and import data are obtained from a harmonised code (HS) nomenclature and production data from FAOSTAT Code (0711).

HS Code	Description
090921	Neither crushed nor ground
090922	Crushed or ground

Global Trade – India’s Role

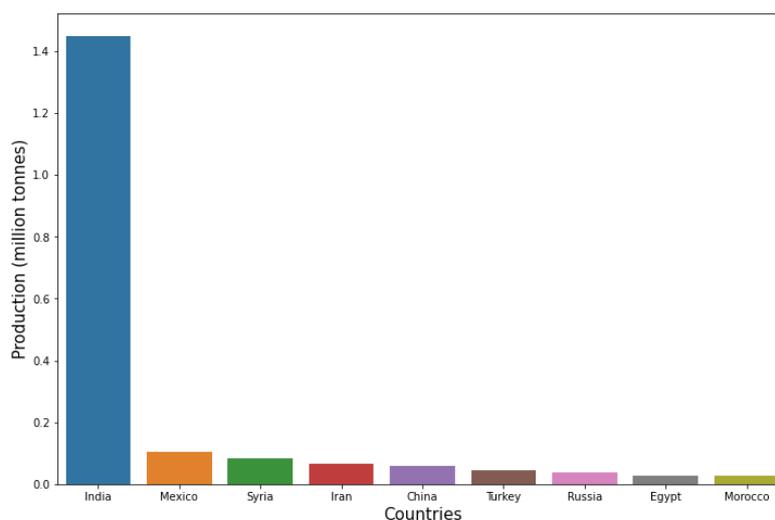


Figure 1. Top 10 coriander producing countries (Tridge 2021¹)

- In 2019, India was the world's largest coriander producing country contributing more than 73.4% of total world production, followed by Mexico (5.1%), Syria (4.1%), Iran (3.4%) and others (Tridge 2021).
- The global coriander market surged to US \$ 192 million in 2019, increasing 14.3% against the previous year (OECD 2021).
- In 2020, India was the top exporter of coriander seed with a value of US\$ 45.02 million. Indonesia was the leading importer with a value of US\$ 18.6 million.

Table 1. Top five Coriander exporters in 2020 (Tridge 2021)

Country	Export Share 2020 (%)	Export Value in 2020 (US\$ million)	Export Growth Value from 2017-20 (%)
India	24.97	45.02	+51.14
Italy	13.48	24.03	+63.15
Russia	11.92	21.49	+25.26
Bulgaria	9.43	17.01	+4.54
Syria	48.44	15.22	-3.32

Table 2. Top five Coriander importers in 2020 (Tridge 2021)

Country	Import Share 2020 (%)	Import Value in 2020 (US\$ million)	Import Growth Value from 2017-20 (%)
Indonesia	10.71	18.60	+124.86
Sri Lanka	10.10	17.54	+182.86
Malaysia	9.53	16.55	-15.74
India	7.56	13.13	-37.07
Egypt	5.71	9.91	+55.27

- From 2014 to 2017, the exported value of coriander declined significantly from 50.63 million to 29.79 million US\$ (Tridge 2021). Unseasonal rains had damaged the crop by approximately 30%, and 10% were damaged due to pests and diseases (Thornton 2016).
- From 2017 to 2020, India's coriander export growth value increased exponentially; its export growth value increased by 51% during the last three years.
- South Asia and the Middle East countries imported coriander seed from India. In 2020, Malaysia imported with a value of US\$ 12.8 million.

- India is also one of the top importers of coriander seeds, with a value of US\$ 13 million. Italy was a major exporter of coriander seed to India with a value of US\$ 6 million.

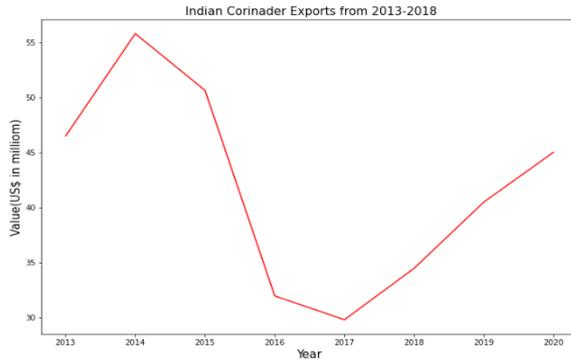


Figure 2. Indian Coriander export trends from 2013 to 2020 (Tridge 2021)

Table 3. Top five importing countries from India in 2020 (Tridge 2021)

Trade flow	Export Share in 2020 (%)	Import Value In 2020 (US\$ million)	Export Growth va 2019-20 (
India to Malaysia	28.56	12.87	-5.16
India to Nepal	12.22	5.50	+246.27
India to UAE	10.86	4.89	+50.69
India to UK	5.33	2.40	+48.91
India to Saudi Arabia	5.32	2.39	+14.78

Coriander Import Trends in European Union

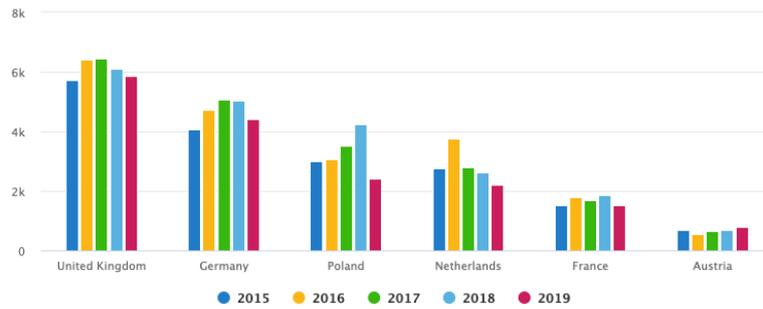


Figure 3. Leading importers of Coriander in the EU (CBI 2021ⁱⁱ)

- Europe accounts for approximately 15% of the world's total coriander seed imports.
- European coriander seed imports grew to more than 24 thousand tonnes between 2015 and 2018, but in 2019, imports dropped to 20 thousand tonnes, worth € 26 million.
- Imports from non-European countries and internal European trade have equal shares. Whole coriander seeds accounted for 68% of imports, while the 32% remaining were imported in crushed or ground form.

Coriander Import Trends in Germany

- The Russian Federation is the leading supplier of coriander seeds to Germany with a 35% import share, followed by Ukraine (20%), Romania (10%), Italy (8%) and Bulgaria (8%).
- Despite being the world's leading producer, India has a meagre 4% share of Germany's coriander seed imports.
- The Russian Federation gained the most market share recently, increasing its exports of coriander seeds to Germany from 465 tonnes in 2015 to 1.5 thousand tonnes in 2019

Table 4. Top coriander exporting countries to Germany in 2020 (Tridge 2021)

Partner	Import Share in 2020 (%)	Import Value In 2020 (US\$ million)
Russia	24.1	1.39
Ukraine	21.7	1.25
Romania	9.52	0.54
Spain	7.74	0.44
Italy	6.62	0.38
Bulgaria	4.9	0.28
India	4.7	0.27
Egypt	4.3	0.24
Austria	4.1	0.23

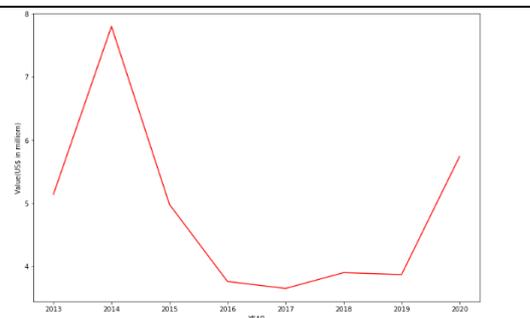


Figure 4. German coriander imports trend (Tridge 2021)

Coriander exports and imports tend from India to EU27

India to Germany

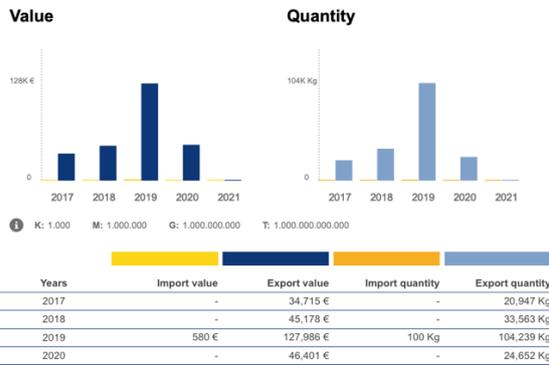


Figure 5. Crushed or ground coriander import & exports India to Germany (Access2Markets 2021ⁱⁱⁱ)

India to EU27

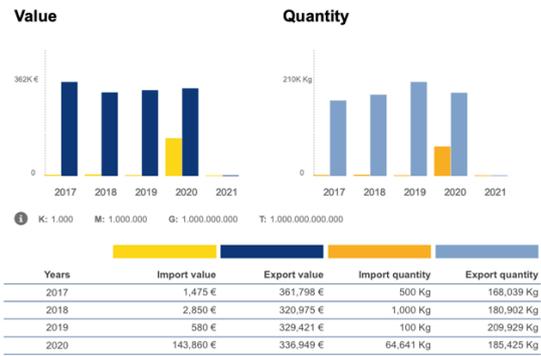


Figure 6. Crushed or ground coriander import & exports India to EU27 (Access2Markets 2021)

- From 2017-2020, Indian imports of coriander seeds from EU27 have increased steadily. Italy is the leading exporter with a value of US\$ 6 million (Tridge 2021)

India to Germany



Figure 7. Coriander seed import & exports India to Germany (Access2Markets 2021)

India to EU27



Figure 8. Coriander seed import & exports India to EU27 (Access2Markets 2021)

Coriander Market Segmentation in Europe

Coriander seeds are sold through different channels to reach end segments of retail (home consumption), food service (out-of-home consumption) and ingredient segments (such as spice manufacturers and the food industry). Whole coriander seeds are used in all parts. In contrast, ground coriander seeds are used mainly by spice manufacturers to create specific spice mixes (such as curry) or to create customised spice solutions for the food industry, for example, in the production of sauces, sausages, soups, and ready meals. Most coriander seeds are imported whole and crushed after import. The curry industry in the United Kingdom imports a large share of coriander powder (CBI 2021^{iv}).

Retail segment

- The retail sector is segmented into supermarkets, independent grocers, and speciality shops, such as health, organic and spice shops.
- Companies that hold the largest market shares in Europe are Schwartz Gruppe (Lidl and Kaufland brands), Carrefour, Tesco, Aldi, Edeka, Leclerc, Metro Group, Rewe Group, Auchan, Intermarché, and Ahold (Delhaize, Albert Heijn and several other brands).
- Leading brands in Europe include Schwartz (United Kingdom), TRS (United Kingdom), Fuchs (Germany), Ostmann (Germany), Ducros (Spain, France, Belgium, Portugal), Euroma (Netherlands), Verstegen (Netherlands), Cannamela (Italy), Santa Maria (Scandinavia), and Prymat Group (Poland).
- Ethnic retailers selling coriander seeds are Loong Fung (United Kingdom), Wah Nam Hong (Netherlands) and Go Asia (Germany).

Table 5. The consumer price of various EU-coriander brands	
Brand	Coriander seed or powder (€)
Fuchs (50 gm)	2.99
Ostmann	1.99
Bio (100 gm)	3.90
Organic	4.60
TRS 100 gm (seed)	0.76
TRS 100 gm (powder)	1.49

Importers and wholesalers

Bulk spice importers: Bulk importers and wholesalers include Barnes Williams (United Kingdom), AKO (Germany), Husarich (Germany), Nedspice (Netherlands), Euroma (Netherlands), European Spice Services (Netherlands), Saran Enterprises (Poland), and ISFI Spices (Belgium).

Ethnic food importers specialise in supplying ethnic foodservice segments and ethnic shops. These traders often import branded products or packs that are smaller than typical bulk packs, such as 1 kg–5 kg. Examples include Fudco (United Kingdom), Ahmed Bros (United Kingdom), and Kreyenhop & Kluge (Germany).

Spice mixes and ingredient suppliers: Traders specialise in supplying to a wide range of food industries such as Kerry Ingredients (Ireland), Worlée (Germany), Culinar (Sweden), Epos (Netherlands), and Colin Ingredients (France).

Flavour and fragrances suppliers: These companies import and process coriander seeds for the food and non-food industries, such as cosmetics. Sometimes they also import coriander seed essential oil in bulk. Examples include IFF and Kerry Ingredients & Flavours.

Suppliers to the food supplements industry: This segment includes companies that source raw materials to produce extracts, capsules, pills, etc. Some examples include Buckton Scott, Capsumed (Germany) and Evolution.

Suppliers of botanicals for alcoholic drinks: This industry includes Beacon Commodities, Star Spice, and Seasoned Pioneers.

EU Regulatory Requirements

The most common requirements regarding contaminants in coriander are related to the presence of pesticides residues, mycotoxins, heavy metals, microbiological organisms, odour and flavour. In addition to the mandatory requirements, there are many other specific buyers requests. European Spice Association published Quality Minima Document specifications. These include compliance with additional food safety, quality and sustainability standards.

Mycotoxins	The presence of mycotoxins (aflatoxins and ochratoxin A) is frequent in dried spices and herbs. Coriander seeds, especially in powdered form, very easily absorb water from the environment making them susceptible to developing moulds and mycotoxins.
Microbiological contaminants	Salmonella spp.: absence in 25 g E. coli: < 10 cfu/g Enterobacteriaceae: < 1000 cfu/g Moulds: < 1000 cfu/g
Pesticides residues	The European Commission has set maximum residue levels (MRLs) for pesticides in and on food products. Products containing more pesticide residues than allowed will be withdrawn from the European market.
Irradiation	Irradiation of coriander seeds is not often used but it is authorised by the European Union as a way of sterilisation. Irradiation must take place in approved facilities, and irradiated foods must be labelled.
Food additives	There is specific legislation for additives (like colours, thickeners) and flavourings that list what E-numbers and substances are allowed for use. Additives that are authorised are listed in Annex II to the Food Additives Regulation ¹ .

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1478597149803&uri=CELEX:02008R1333-20160525>

Ash content	- maximum 7%
Acid insoluble ash	- maximum 1.5%
Moisture	- 12% (Still, buyers may request a different moisture content, usually between 9% & 14%)
Mesh or particle size	- Sieves are often specified in micron sizes and typical requirements demand 95% to 99.5% of ground coriander seeds to pass through the specific size of the sieve, usually 500 microns
Volatile oils	- Minimum 1.5 ml/100 gr
Sulphur dioxide (SO ₂)	- maximum 150 ppm
Odour and flavour	- Coriander seeds must have a characteristic odour and flavour. The flavour profile of coriander seeds mostly depends on the chemical components of the essential oil, such as d-linalool or coriandrol, alpha-pinene, terpinene, geranyl acetate, camphor, and geraniol. The flavour profile varies depending on the variety, cultivar, geographic, climatic, and growth conditions. For example, Indian coriander seeds have less citric taste profiles than Eastern European coriander seeds.
Packaging requirements	- The size of the bulk packaging varies depending on the buyer's requirements, but it is often 25 kg. The dimensions of the selected packaging size should conform to the conventional pallet sizes (800 mm x 1,200 mm and 1,000 mm x 1,200 mm). Please note that in some European countries, labour health and safety legislation allows workers to lift a maximum of 20 kg, so smaller weights of packaging are increasingly used, such as 10 kg-20 kg. - exporting and importing countries may require include the bar, producer and/or packager code, as well as any extra information that can be used in order to trace the product back to its origin.
Labelling requirements	- name of the product - details of the manufacturer (name and address) batch number - date of manufacture - product grade - producing country - harvest date (month-year) - net weigh
Food safety certification	- Many EU buyers require implementing a (HACCP-based) food safety management system. - Certification. International Featured Standards ² (IFS) - British Retail Consortium Global Standards ³ (BRCGS) - Food Safety System Certification ⁴ (FSSC 22000)

EU requirements for Organic Coriander

Organic certification schemes are becoming increasingly popular in Europe. According to European legislation, organic production methods must be followed to market coriander organic in Europe. An accredited certifier must audit growing and processing facilities before one may put the European Union's organic logo on your products and the symbol of the standard's holder, for example, Soil Association in the United Kingdom, Naturland in Germany or Agriculture Biologique in France. Importing organic products into Europe is only possible with an electronic inspection certificate (e-COI). Each batch of organic products imported into the European Union has to be accompanied by an electronic inspection certificate as defined in Annex V of the Regulation restricting the imports of organic products from third countries. This electronic inspection certificate must be generated via the Trade Control and Expert System (TRACES).

Sustainability Certification

To improve sustainable production and sourcing of spices and herbs, mainly European companies and organisations formed the *Sustainable Spice Initiative* in 2012. The primary objective of this initiative is to strive for fully sustainable spice production and trade in the sector. The most famous sustainability certification schemes are Fairtrade, which focuses on ethical practices, and Rainforest Alliance, which focuses on environmental impacts. Fairtrade International developed a specific standard for herbs, herbal teas and spices for small-scale producing organisations. This standard defines issues related to traceability, management and production practices and labour conditions. According to this standard, a premium price of 15% over and above the negotiated price between producer and seller must be established. There are currently two Fairtrade certified coriander seed producers in India, one in Sri Lanka and one in Egypt.

² <https://www.ifs-certification.com/index.php/en/>

³ <https://www.brcgs.com>

⁴ <https://www.fssc22000.com/?lang=en>

Coriander Production in India

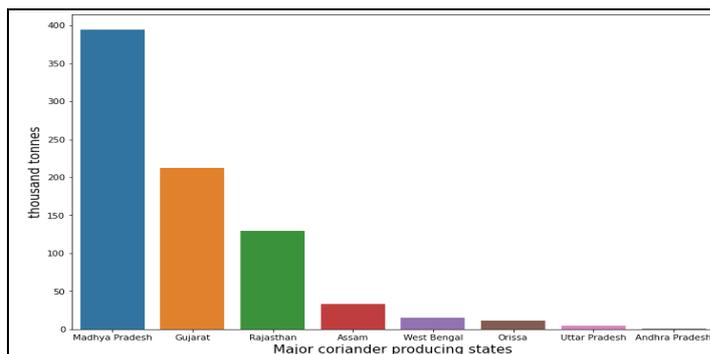


Figure 9. Major coriander producing states in 2020^v

- In 2019-2020, the coriander production was 0.7 million tonnes, cultivated in 0.58 million hectares. The average yield was 1325 kilograms per hectare.
- Madhya Pradesh was India's largest coriander producing state, contributing more than 48% of the total output, followed by Gujarat (25.85%), Rajasthan (15.69%), Assam (3.9%) and others.
- Coriander is an essential ingredient in Indian cuisine. It can be used as fresh leaves, seeds, powder, vinegar, necessary oil and coriander paste.

Popular varieties and seasonality

- Coriander is mainly a Rabi crop in India. Sowing starts in the middle of October and extends until the end of November in most states. Parts of Madhya Pradesh and Tamil Nadu grow coriander in the Kharif season (mid of August).
- Figure 10 summarizes the popular cultivars based on product segmentation (fresh leaves, power or oils purpose): Badami, Eagle, Scooter, Double Parrot, Single Parrot, and Super Green. Badami is the most prominent variety.
- The crop duration of coriander is about 110-140 days and harvest time is in February-March
- Coriander yields about 500-600 kg/ha under rain-fed conditions and about 1200-2000 kg/ha through irrigation.

A. Plant type		
Leafy type	Seed type	Dual purpose
RCr-1, Azad Dhania -1	GCr-1, GCr-2, CO1, CO2, CO3, CO4, Rajendra Swathi, Swathi, Sadhana, Sindhu, Sudha, Hisar Sugandh, Hisar Anand, JDI, RCr20, RCr 436	RCr435, RCr 446, Pant Haritma, ACr-1
B. Plant Height/stature		
Dwarf	Medium	Tall
RCr-684, Sadhana, Sindhu and RCr-436	RCr-20, Swathi, Sudha, Hisar Surbhi, Rajendra Swathi, GCr-1, Gcr-2 and CO-1	RCr-41, ACr-1, Hisar Sugandh, Hisar Anand, RCr-435, Azad Dahnia-1, CO-2, CO-3, CO-4, Pant Haritma and JD-1
C. Based on Maturity		
Early	Medium	Late
GCr-1, GCr-2, CO-1, CO-2, CO-3, CO-4, Sadhana, Sudha	RCr-20, RCr-435, RCr-436, RCr-684, Hisar Sugandh and Rajendra Swathi	RCr-41, Pant Haritma, ACr-1, Azad Dahnia-1, Hisar Anand and Hisar Surbhi and Swathi
D. Based on Seed size		
Small	Medium	Bold
GCr-1, GCr-2, CO-1, CO-2, CO-3, CO-4, Sadhana, Sudha and Swathi	RCr-20, RCr-435, RCr-436, RCr-684, Hisar Sugandh and Rajendra Swathi	RCr-41, Pant Haritma, ACr-1, Azad Dahnia-1, Hisar Anand and Hisar Surbhi

Figure 10. Popular coriander cultivars in India (Lal 2014^{vi})

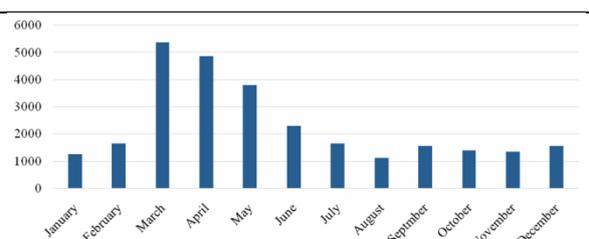


Figure 11. Average market arrivals of coriander seeds in a calendar year in Rajasthan, India (Meena 2020)

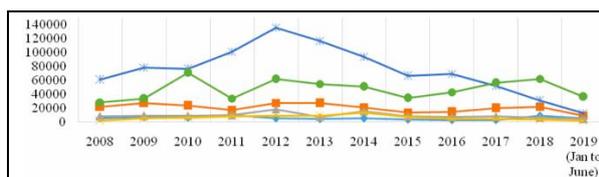


Figure 12. Market-wise annual arrival of coriander seeds in tonnes (Meena 2020^{vii})

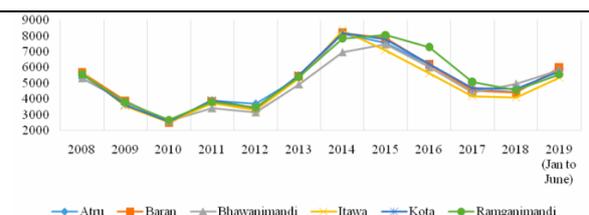


Figure 13. Market-wise annual prices of coriander seeds per 100 kgs (Mena 2020)

Coriander Product and Market Segmentation in India

Figure 14 summarizes the coriander value chain in India. Coriander may be visualised with three production-distribution or activity-marketing channels: raw coriander leaves, coriander seeds and value-added products like coriander powder, paste, oil and puree. The product is largely marketed by farmers through the APMC, local vendors and private food processors. The price spread and values accrued to stakeholders across the chain reflects the profit margins accrued to different stakeholders. Farmer shares 45% of the consumer's rupee while the shares of village traders, APMC agent/traders, processors, wholesalers and retailers share the rest.

- Channel 1 may be viewed in terms of one for table variety and the other for processed products of coriander like powder, paste, oil and puree which are consumed by urban households and institutional buyers like hotels and canteens, etc.
- Channel 2 & 3 is actually derived from the mandi itself where the raw coriander seeds are bought by the food processors by targeting the national and international market.

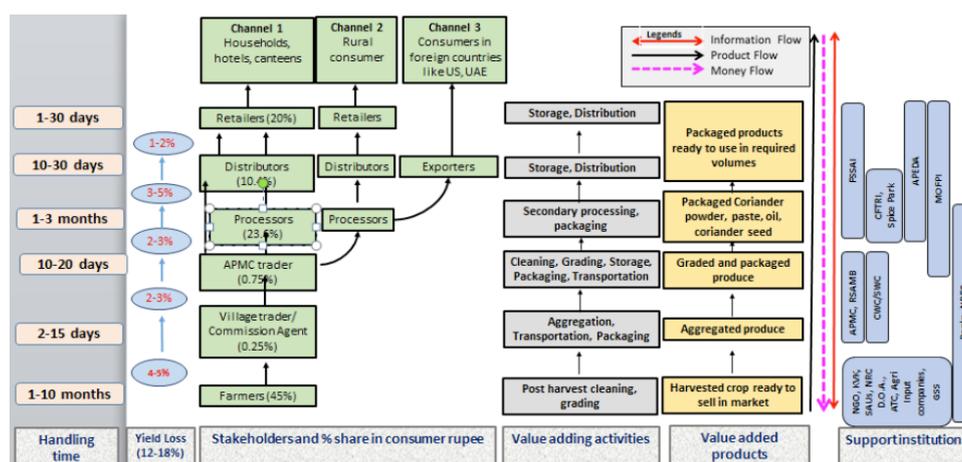


Figure 14. Coriander value chain map^{viii}

Several traditional brands in the spice sector produce coriander powder. Popular brands like TATA, MDH, Everest dominate in the retail sector with an average price of INR 140 to 1640 per 500g. Organic coriander demand is increasing in India; organic coriander consumer price is three to four times more as compared to the conventional one.



Figure 15. Major coriander powder brands in India

Table 6. The consumer price of various Indian coriander brands

Brand	Coriander powder (INR)
TATA Sampann 200g	62
Aashirvaad 500g	140
MDH 500g	160
Patanjali 500g	120
Organic 200g	90
Pure Organio 100g	319
Geo-Fresh 100g	210

What are significant constraints in the coriander supply chain?

1. Production related constraints:
2. Post-Harvest related constraints:
 - Inadequate storage facilities in rural areas
 - Transportation facilities at producers' level
3. Processing and market infrastructure-related constraints:
 - The traditional system of marketing
 - Lack of market intelligence services
 - Fluctuations in prices
 - Distant markets

Comparative challenges in coriander's exports from India

Italy and Russian Federation are global competitors along with India. Whereas India is the main supplier of the macrocarpum variety, Italy and Russia lead the supply of the microcarpum variety. India is mostly present in the food segment, while Russia also has a strong presence in the essential oil industry.

ⁱ <https://www.tridge.com/intelligences/coriander/price>

ⁱⁱ <https://www.cbi.eu/market-information/spices-herbs/coriander-seeds/market-potential>

ⁱⁱⁱ <https://trade.ec.europa.eu/access-to-markets/en/home>

^{iv} <https://www.cbi.eu/market-information/spices-herbs/coriander-seeds/market-entry>

^v <https://numerical.co.in/numerons/collection/5fbc31733e9dd8281015163f>

^{vi} Lal, Gopal & Saran, Parmeshwar Lal & Devi, Ganga & Bijarniya, Deepak & Raj, Rishi. (2014). Seed production technology of coriander (*Coriandrum sativum*). In *Advances in vegetable agronomy*. ed., Chaudhary, A.K., Rana, K.S., Dass, A. and Srivastav, M. pp 214-222. PGS, IARI and DARE, ICAR, New Delhi

^{vii} <http://www.issn.ind.in/userfiles/file/2020/Chapter%205.pdf>

^{viii} https://agriculture.rajasthan.gov.in/content/dam/agriculture/Rajasthan%20Agricultural%20Competitiveness%20Project/valuechainreport/RACP_VC_Coriander.pdf