

Project title: Organic foods - Consumer awareness, safety and regulation

Scope

The objectives of this project were to study consumer perceptions and practices with regard to organic foods, raise consumer awareness about quality and safety issues and advocate relevant food laws and regulations for such foods. While calling for changes at the policy level by advocacy, we attempted to sensitise the regulatory authorities to the issues of concern to consumers and the environment.

One major activity of the project was the testing of an organic product. We selected organic turmeric powder as it is a spice that is used extensively in different cuisines in India and also widely used in Southeast Asia. The test findings enabled us to identify areas of action in our project regarding safety and regulation issues.

Test Findings of Organic Turmeric Powder

We tested six national brands of organic turmeric powder and two non-organic brands too for the purpose of comparison. We tested them for safety, especially for the presence of pesticide residues and heavy metals, namely lead, copper, tin, zinc, cadmium, arsenic and mercury. The organic brands tested were *Asal*, *24 Mantra Organic*, *Fabindia Organics*, *Morarka Organic Down to Earth*, *Sattvic Organic and Natural* and *Vikalp Organic Product*. The non-organic brands tested were *Everest* and *Golden Harvest*.

CERC tested the organic turmeric powder brands as per the standards applicable to non-organic turmeric powder. The samples were tested against the values set by the Food Safety and Standards (Contaminants, Toxins & Residues) Regulations, 2011.

Heavy metals and pesticides

Heavy metals are individual metals and metal compounds, many of which are necessary to support life. However, in larger amounts, they become toxic. **Pesticides**, used to kill or repel pests, are reported to irritate the skin and eyes and affect the nervous and endocrine systems. Some pesticides may be carcinogens.

High Copper and Arsenic

Three brands of organic turmeric powder had higher than permissible levels of **Copper**. *Fabindia* had the highest level of 7.20 mg/kg as against the limit of 5.0 mg/kg. **Arsenic** was also found to be beyond the safe limit in four brands. While the standard limit is 0.1 mg/kg (maximum), *Asal* had the highest level of 0.52 mg/kg. Both non organic brands had heavy metals but within limits.

Adverse effects on health

Long-term exposure to excessive amounts of **Copper** could cause male infertility, liver damage, kidney failure, coma and death.

Long-term exposure to **Arsenic** from food can cause cancer, skin lesions, developmental effects, cardiovascular disease, neurotoxicity and diabetes.

Free of pesticides and lead

No pesticide residues were detected in any of the brands. Seven brands were also free of lead and tin. Everest had lead within limits. Zinc, mercury and cadmium were within the limits in all brands.

Heavy Metal levels in Organic and Non Organic Turmeric Powder brands

Parameter (mg/kg)	Std. Limits* NMT	Organic						Non Organic	
		Asal	24 Mantra	Fabindia	Morarka	Sattvic	Vikalp	Everest	Golden Harvest
Lead	10.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.20	N.D.
Copper	5.0	4.38	5.47	7.20	3.49	5.71	4.31	4.57	4.51
Zinc	25.0	7.04	9.11	19.80	5.02	6.48	13.22	14.80	8.83
Arsenic	0.1	0.52	0.25	0.18	N.D.	0.44	N.D.	0.081	0.058
Tin	Nil	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium	0.1	N.D.	0.07	0.08	N.D.	0.07	0.05	N.D.	N.D.
Mercury	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	0.05	0.15	0.17

N.D. = Not Detected (Detection limit ≥ 0.05 mg/kg)

* As per the Food Safety and Standards (Contaminants, Toxins & Residues) Regulations, 2011

NMT = Not more than

Highlighted cells are higher than the limit.

Highly priced

A price comparison revealed that organic turmeric brands purchased from the Indian market are priced between Rs. 25 and Rs. 85 per 100 g. Other brands not making organic claims are priced between Rs. 21 and Rs. 25 per 100 g. What is shocking is that consumers are paying much more and consuming products that have adverse effects on health.

High on Price and Heavy Metals

	Price in Rs. (per 100 g)	How much more you are paying (%)	Copper (mg/kg) Max: 5	Arsenic (mg/kg) Max: 0.1
<i>Organic Turmeric Powder</i>				
<i>Asal</i>	25	109	4.38	0.52
<i>24 Mantra</i>	35	152	5.47	0.25
<i>Fabindia</i>	85	370	7.20	0.18
<i>Morarka</i>	65	283	3.49	Not detected
<i>Sattvic</i>	46	200	5.71	0.44
<i>Vikalp</i>	33	144	4.31	Not detected
<i>Golden Harvest</i>	25	-	4.51	0.058
<i>Everest</i>	22	-	4.57	0.081

Best Buy

Morarka – No pesticides. Heavy metals within limits.

Packaging and Labelling

As per the Food Safety and Standards (Packaging and Labelling) Regulations, 2011 every packaged food article has to be labelled and provide the following information:

- The name of Food
- List of Ingredients
- Nutritional Information
- Declaration regarding Veg or non-veg
- Declaration regarding Food Additives
- Name and complete address of the manufacturer or packer
- Net Quantity

- Code No. /Lot No. /Batch No.
- Date of manufacture or packing
- Best Before and Use By Date
- Country of Origin for imported food and
- Instructions for use





Our findings








All brands gave incomplete information as per the Food Safety and Standards (Packaging and Labelling) Regulations, 2011. *Asal* was the worst performer and flouted all norms. The *Asal* product was packed in a plastic packet with handwritten weight information. The second from the bottom in this respect was *Vikalp* which mentioned only weight, price and address of manufacturer.

ECOMARK

Manufacturing companies' commitment towards organic products should also be reflected by the packaging. They should follow ECOMARK certification criteria for packaging. This is an important way to gain consumer trust. None of the eight brands had the ECOMARK certification.

Different logos found on the all brands tested

Brands	Logo	What does it mean?
<ul style="list-style-type: none"> • <i>Morarka</i> • <i>Fabindia</i> • <i>Sattvic</i> • <i>24</i> • <i>Mantra</i> 		<p>'India Organic' certifies that a food product conforms to the National Standards for Organic Products established in 2000.</p>
<ul style="list-style-type: none"> • <i>Morarka</i> • <i>Sattvic</i> • <i>24</i> • <i>Mantra</i> 		<p>'USDA Organic' is a certification mark provided by the U.S. Department of Agriculture.</p>
<ul style="list-style-type: none"> • <i>Morarka</i> • <i>24</i> • <i>Mantra</i> 		<p>The 'organic leaf' symbolises the unique set of EU rules organic products are complying with.</p>
<ul style="list-style-type: none"> • <i>Morarka</i> 		<p>OneCert verifies compliance with multiple international standards including: US, Europe, and Japan. OneCert Asia is accredited by NPOP in India.</p>

<ul style="list-style-type: none"> • <i>Sattvic</i> 		This is the logo of Agricultural and Processed Food Products Export Development Authority (APEDA) of India giving a seal of approval for quality.
<ul style="list-style-type: none"> • <i>Sattvic</i> 		The International Competence Centre for Organic Agriculture (ICCOA) logo is applicable in South Asia.
<ul style="list-style-type: none"> • <i>Sattvic</i> 		This Netherlands based organisation is engaged in inspection and certification.
<ul style="list-style-type: none"> • <i>Fabindia</i> 		The Swiss SGS Organic Production Standard is a worldwide programme for organic production and processing.
<ul style="list-style-type: none"> • <i>Fabindia</i> 		Fabindia's website says "Products displaying our Green logo are 'Fully Certified' Organic. All processes, from growing to preparing to packing have been done according to National and International standards, verified by accredited agencies."
<ul style="list-style-type: none"> • <i>Fabindia</i> 		Fabindia's website says "Products displaying our Yellow logo are 'Natural'. This category contains products produced by small farmers who use purely organic techniques, but who have decided to not yet register for certification."
<ul style="list-style-type: none"> • <i>Golden Harvest</i> • <i>Everest</i> 		AGMARK is a certification mark on agricultural products in India, assuring consumers that they conform to a set of standards approved by the Directorate of Marketing and Inspection, an agency of the Government of India

Manufacturers' Claims and the Facts

Brands	Claims	Facts
<i>Sattvic</i>	Organic and natural, free of harmful chemicals, improves quality of life	No pesticides but Arsenic and Copper beyond the safe limits.
<i>24 Mantra</i>	Reduce health risks with organic purity	No pesticides but Arsenic and Copper beyond the safe limits.

<i>Fabindia</i>	Organic	No pesticides but Arsenic and Copper beyond the safe limits.
<i>Vikalp</i>	Organic	No pesticides. No logo or certification that product is organic
<i>Asal</i>	Organic	No pesticides. No logo or certification that product is organic.
<i>Morarka</i>	Organic	No pesticides. Heavy metals within safe limits.

Manufacturers' response

CERC wrote to manufacturers to get their views regarding the presence of heavy metals in organic turmeric powder, labelling and certification. They responded as follows:

Asal: “The procedure to get certification is expensive for a small organisation. We have received FSSAI (Food Safety and Standards Authority of India) certificate and have initiated the difficult process for meeting labelling norms.”

Vikalp did not give their response in writing but shared their views on telephone. The manufacturer said: “We do not believe in certification. Our business works on mutual trust with farmers. We are a very small organisation. Hence certification and labelling requirements are difficult to follow.”

Sattvic did not give their response in writing but shared their views on telephone. The manufacturer said: “The farmers are certified and we trust the farmers. We have not tested the product so far but plan to do so in future. We will take up the issue of presence of heavy metals with the farmers. We will look into the matter of proper labelling.”

Morarka said the Food Safety and Standards Authority of India (FSSAI) should take the lead in notifying domestic standards for organic foods. They have claimed that all their products conform to APEDA (Agricultural and Processed Food Products Export Development Authority) standards for organic products.

Fabindia asked for details. We have provided the test findings and details of samples. The company had not responded to our queries till the time of going to press.

24 Mantra did not respond to our query on presence of heavy metals.

AREAS OF ACTION

What consumers should do

- Check for certification
- Look at the labels carefully

Appeal to regulatory authorities

- Give a clear and detailed definition when a manufacturer can claim a product to be organic
- Bureau of Indian Standards (BIS) should set specific mandatory standards for organic foods
- Inclusion of organic foods under the Food Safety and Standards (Contaminants, Toxins & Residues) Regulations, 2011. *In response to our appeal, we received a letter from FSSAI saying that BIS has constituted a committee to formulate standards for organic foods. Once the standards are finalised by BIS necessary action would be taken by FSSAI for its adoption under the Food Safety and Standards Regulations, 2011*
- Manufacturers should be made to follow the norms of the Food Safety and Standards (Packaging and Labelling) Regulations, 2011
- Regular monitoring of organic food quality
- To make ECOMARK certification criteria for packaging materials/packaging mandatory
- Different organic certification labels of different countries confuse consumers. There should be a single Indian certification for products sold in India
- There is a need to monitor organic products sold online
- There should be monitoring of advertising claims made by organic product manufacturers.
- Increase public awareness (such as programmes and advertisements on TV)
- Manufacturers also do not want to go for certification. They have no faith in the process. The Government needs to take immediate steps to address this issue

Appeal to manufacturers

- Ensure your products meet the standards and get your products certified
- Follow norms for labelling as per the Food Safety and Standards (Packaging and Labelling) Regulations, 2011
- Use eco friendly packaging and get ECOMARK certification for packaging