

# **India Food Safety Testing Market By Contaminants (Pathogens, Pesticides, Mycotoxin, Allergens, GMOs, and Others), By Technology (Traditional and Rapid (RT-PCR, ELISA, Lateral Flow, Others)), By Food Tested (Meat, Dairy, Poultry, Processed Foods, Fruits & Vegetables, Seafood, Cereals & Grains, and Others), By Region (North India, South India, East India, West India), By Region, and Competition, Forecast & Opportunities, 2020-2030F**

<https://marketpublishers.com/r/I03E7443C2BBEN.html>

Date: April 2024

Pages: 78

Price: US\$ 3,500.00 (Single User License)

ID: I03E7443C2BBEN

## **Abstracts**

India Food Safety Testing Market was valued at USD 55.25 Million in 2024 and is anticipated to witness an impressive growth in the forecast period with a CAGR of 7.18% through 2030. The India Food Safety Testing Market is witnessing significant growth, propelled by the increasing focus on ensuring the safety and quality of food products across the country. With a burgeoning population and rising consumer awareness about food safety, there is a growing demand for robust testing mechanisms to prevent foodborne illnesses and guarantee the integrity of the food supply chain.

One of the key drivers of the market is the stringent regulatory framework implemented by the Food Safety and Standards Authority of India (FSSAI). The FSSAI plays a crucial role in setting standards, regulating the manufacturing and distribution of food products, and ensuring compliance with safety guidelines. The Food Safety Testing Market is directly influenced by these regulations, as food producers and manufacturers are mandated to adhere to stringent quality and safety standards.

The market encompasses a broad spectrum of testing methods and technologies,

including microbiological, chemical, and physical testing. Microbiological testing is particularly critical for detecting pathogens like bacteria, viruses, and parasites that can contaminate food and cause foodborne diseases. Chemical testing focuses on identifying and quantifying various contaminants, such as pesticides, additives, and residues, ensuring that food products meet safety standards. Physical testing involves assessing the physical attributes of food items, such as texture, appearance, and composition.

Increasing incidents of foodborne illnesses and contamination outbreaks have heightened public awareness about the importance of food safety. Consumers are becoming more discerning and are actively seeking products that adhere to stringent safety standards. This shift in consumer behavior is driving food producers and manufacturers to invest in advanced testing technologies to ensure the safety and quality of their products, further boosting the growth of the Food Safety Testing Market.

The market is also witnessing advancements in testing technologies, with a notable emphasis on rapid and automated methods. Traditional testing methods often require significant time and resources, leading to delays in releasing products to the market. Rapid testing technologies, including PCR (polymerase chain reaction) and immunoassays, provide quicker and more efficient results, enabling food producers to streamline their processes and meet the demands of a fast-paced market.

Geographically, the market's growth is not uniform across all regions in India. Urban areas, where the demand for processed and packaged foods is higher, tend to have a more robust food safety testing infrastructure. However, there is a growing awareness and emphasis on food safety in rural and semi-urban areas, driven by government initiatives and awareness campaigns, which is expected to contribute to market growth in these regions.

As the food supply chain becomes more complex with globalization, the need for comprehensive food safety testing solutions continues to rise. This is particularly relevant in the context of imported foods, where ensuring compliance with Indian safety standards is paramount. The Food Safety Testing Market is witnessing an uptick in demand for services that cater to the testing and certification of imported food products.

## Key Market Drivers

### Increasing Incidence of Foodborne Illnesses

India, like many other countries, has witnessed a significant increase in instances of foodborne diseases. Contaminated food products, often carrying pathogens such as bacteria, viruses, and parasites, have been identified as the reason behind these outbreaks. The consequences of such illnesses extend beyond individual health concerns, impacting public health on a broader level. This surge has raised urgent need for the safety of the food supply chain and necessitated a robust response from regulatory authorities and the food industry.

As the nation witnesses rapid urbanization, changes in dietary habits, shifts in dietary preferences, and a growing population, the potential for contamination within the food supply chain has increased significantly. For instance, as per the FSSAI report released in August 2021, India records an approximate annual total of 100 million cases of foodborne diseases (FBD), incurring an annual cost of USD 15 billion to the nation. Projections indicate that by the year 2030, the incidence of foodborne diseases is anticipated to increase to a range of 150-177 million cases annually. This escalation underscores the need for rigorous quality control measures. The occurrence of foodborne outbreaks has triggered concerns, leading both consumers and regulatory authorities to prioritize food safety, which in turn creates huge opportunities propelling the India food safety market.

In recent years, there have been several cases in India that have emphasized the need for comprehensive food safety testing, such as the commonly observed Salmonella outbreak in packaged ready-to-eat snacks, excessive pesticide contamination in vegetables, and the presence of harmful pathogens in meat products. These occurrences not only directly jeopardize consumer health but also undermine consumer confidence in the safety of their food. In response, the Indian government has taken measures to enhance its regulatory framework by implementation of rigorous standards and an escalation in surveillance efforts to proactively identify and address potential risks. Additionally, there has been an increase in the frequency of food safety testing activities to ensure a more comprehensive approach.

Incidents such as contamination of milk products, adulterated spices, and bacterial issues in packaged foods have resulted in product recalls and heightened consumer apprehensions. These incidents emphasize the crucial requirement for robust food safety testing measures to proactively prevent, detect, and address potential contaminants before they enter the market.

## Growing Government's Focus On Strengthening Consumer Awareness For Food Safety

The rise in urbanization and shifts in consumer behaviors have resulted in an increased number of individuals purchasing and consuming food prepared in public establishments. To enhance consumer awareness regarding food adulteration, the Food Safety and Standards Authority of India (FSSAI) has implemented various initiatives. In 2020, FSSAI introduced the DART manual (Detecting Adulterants with Rapid Testing), which serves as a comprehensive guide for citizens to identify common adulterants and contaminants in various food categories. The manual covers adulterants found in Oils Fats, Sweetening Agents, Food Grains their products, Pulses, Spices, Salt, Tea, Coffee, artificial and toxic colors, and extraneous matters intentionally or unintentionally added to food. Furthermore, FSSAI conducts awareness campaigns through exhibitions, melas, and outreach activities at prominent events such as AAHAR International Food Hospitality Fair, Indus Food, India International Trade Fair, International Dairy Federation World Dairy Summit 2022, Mega Expo Science Book Fair 2022, etc. These efforts aim to educate consumers and promote a better understanding of food safety practices.

The heightened awareness of the correlation between food safety and overall health has led consumers in India to adopt a more discerning approach in their product choices. This trend has consequently spurred the necessity for robust safety testing protocols. In response to this scenario, the Food Safety and Standards Authority of India (FSSAI) and other regulatory bodies in the country have implemented various measures in food safety testing. For instance, in March 2021, FSSAI introduced an IT solution for the Indian food laboratory network called InFoLNet. In March 2021, FSSAI introduced InFoLNet, an IT solution for the Indian food laboratory network. This centralized Laboratory Management System (LMS) connects laboratories and provides an online portal, streamlining food testing activities.

In August 2023, Food Safety On Wheels (FSW), FSSAI launched Food Safety on Wheels (FSW) mobile testing vans to reach remote areas for training and awareness initiatives. These well-equipped units serve as mobile food testing labs, conducting simple tests for common adulterants in daily consumables such as milk, water, and edible oil. FSWs are strategically stationed at various exhibitions. Similarly, in July 2023, India introduced 'SaNGRAH' – Safe Food for Nations, an extensive initiative as a Global Food Regulatory Authorities Handbook, a Common Digital Dashboard, and Food-o-Copoeia designed to enhance consumer awareness in food safety.

## Key Market Challenges

## Lack of Infrastructure And Skilled Personnel

Ensuring the safety of the vast and diverse food supply in the country requires robust testing facilities equipped with state-of-the-art technology. However, a significant number of testing laboratories, particularly in smaller towns and rural areas, lack the necessary infrastructure modern equipment essential to conduct comprehensive food safety assessments. The absence of modern testing equipment, such as high-performance liquid chromatography (HPLC) and polymerase chain reaction (PCR) machines, limits the capacity of these laboratories to detect contaminants accurately and efficiently.

Additionally, the scarcity of proficient professionals in this field compounds the issue, given the imperative need for specialized training in handling sophisticated testing equipment.

## Inconsistencies In Regulatory Enforcement And Compliance

While central regulatory bodies such as the Food Safety and Standards Authority of India (FSSAI) provide overarching guidelines, the implementation and adherence to these regulations vary across different states. This lack of uniformity creates a complex and fragmented regulatory environment, posing hurdles for businesses operating on a national scale. Companies find themselves navigating a patchwork of regulations, leading to increased compliance costs and operational complexities.

The lack of standardized practices also makes it challenging for food safety testing laboratories to establish consistent protocols, hindering their ability to offer streamlined services across diverse regions. This disparity hampers food safety, creating gaps in risk identification and mitigation in testing.

## Key Market Trends

### Rise Of E-commerce In The Food Sector

According to IBEF, India has gained 125 million online shoppers in the past three years, with another 80 million expected by 2025. Online food shopping spans a range from everyday groceries to long shelf-life processed foods and fresh produce, including meals from aggregators like Zomato and Swiggy. The surge in food purchases through e-commerce platforms introduces a layer of anonymity in the selection and consumption of products. To address this gap, the Food Safety and Standards Authority of India

(FSSAI) has, in recent years, reinforced regulations to make food available only after undergoing rigorous food safety testing and meeting established food standards. This trend supports India food testing market growth empowering consumers enabling them to make informed decisions about food acquisitions.

### Rising Focus On Rapid And Portable Testing Methods

Conventional testing approaches frequently involve prolonged procedures, causing delays in product release and distribution. Businesses are increasingly adopting these innovative solutions to ensure rapid and efficient detection of contaminants, meeting the dynamic needs of the food industry and enhancing overall safety standards. For instance, the need for expeditious testing methodologies is notably prominent in the dairy sector, where prompt identification of contaminants like antibiotics is imperative. In India, the ongoing issue of milk adulteration has prompted the creation and acceptance of swift testing technologies that furnish prompt and precise outcomes, facilitating timely intervention and risk mitigation.

### Segmental Insights

#### Contaminants Insights

Based on Contaminants, Pathogen testing dominates the food testing market due to its critical role in ensuring food safety. Pathogens, including bacteria, viruses, and parasites, pose significant health risks when present in food. Outbreaks of foodborne illnesses underscore the importance of accurate and timely pathogen detection to prevent widespread contamination. Stringent regulations, driven by health authorities like the Food Safety and Standards Authority of India (FSSAI), mandate comprehensive pathogen testing to meet safety standards. With increasing consumer awareness and a growing emphasis on preventive measures, the demand for robust pathogen testing methods remains pivotal in safeguarding public health and maintaining the integrity of the food supply chain.

#### Technology Insights

Based on technology, Traditional technology remains dominant in the food testing market due to its established reliability and regulatory acceptance. Methods like microbiological culture, ELISA, and PCR, though considered traditional, provide accurate and validated results for pathogen and contaminant detection. These methods have been widely accepted by regulatory bodies such as the Food Safety and



Standards Authority of India (FSSAI). The familiarity, proven track record, and standardized protocols associated with traditional technologies make them the preferred choice for many food testing laboratories. While newer technologies are emerging, the dominance of traditional methods ensures stability, regulatory compliance, and consistent results in the food testing industry.

### Regional Insights

Based on region, South India emerges as a dominant region in the food testing market due to its robust food processing industry, increasing consumer awareness, and stringent regulatory measures. States like Karnataka, Tamil Nadu, and Kerala have witnessed substantial growth in food-related businesses, leading to a heightened demand for quality assurance through testing services. The presence of major food testing laboratories, research institutions, and a proactive approach by state governments in promoting food safety contribute to the region's dominance. Additionally, the rising urbanization and changing consumer preferences in South India further amplify the importance of comprehensive food testing services in ensuring public health and compliance with standards.

### Key Market Players

SGS India Private Limited.

TUV India Private Limited.

Intertek India Private Limited.

ALS Testing Services India Private Limited.

BioMerieux India Private Limited.

Qiagen India Private Limited.

Bio-Rad Laboratories India Private Limited.

Eurofins Analytical Services India Private Limited.

Bureau Veritas Consumer Products Services Private Limited.

ThermoFisher Scientific India Private Limited

Report Scope:

In this report, the India Food Safety Testing Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

India Food Safety Testing Market, By Contaminants:

- oPathogens

- oPesticides

- oMycotoxin

- oAllergens

- oGMOs

- oOthers

India Food Safety Testing Market, By Technology:

- oTraditional

- oRapid

India Food Safety Testing Market, By Food tested:

- oMeat

- oDairy

- oPoultry

- oProcessed Foods

- oFruits Vegetables



oSeafood

oCereals Grains

oOthers

IndiaFood Safety Testing Market, By region:

oNorth India

oSouth India

oEast India

oWest India

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the India Food Safety Testing Market.

Available Customizations:

IndiaFood Safety Testing Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

## Contents

### 1.PRODUCT OVERVIEW

- 1.1.Market Definition
- 1.2.Scope of the Market
  - 1.2.1.Markets Covered
  - 1.2.2.Years Considered for Study
  - 1.2.3.Key Market Segmentations

### 2.RESEARCH METHODOLOGY

- 2.1.Objective of the Study
- 2.2.Baseline Methodology
- 2.3.Key Industry Partners
- 2.4.Major Association and Secondary Sources
- 2.5.Forecasting Methodology
- 2.6.Data Triangulation Validation
- 2.7.Assumptions and Limitations

### 3.EXECUTIVE SUMMARY

- 3.1.Overview of the Market
- 3.2.Overview of Key Market Segmentations
- 3.3.Overview of Key Market Players
- 3.4.Overview of Key Regions/Countries
- 3.5.Overview of Market Drivers, Challenges, and Trends

### 4.VOICE OF CUSTOMER

### 5.INDIA FOOD SAFETY TESTING MARKET OUTLOOK

- 5.1.Market Size Forecast
  - 5.1.1.By Value
- 5.2.Market Share Forecast
  - 5.2.1.By Contaminants (Pathogens, Pesticides, Mycotoxin, Allergens, GMOs, and Others)
  - 5.2.2.By Technology (Traditional and Rapid)
    - 5.2.2.1.By Rapid Test (RT-PCR, ELISA, Lateral Flow, Others)

5.2.3.By Food Tested (Meat, Dairy, Poultry, Processed Foods, Fruits Vegetables, Seafood, Cereals Grains, and Others)

5.2.4.By Region (North India, South India, East India, West India)

5.2.5.By Company (2024)

5.3.Product Market Map

## **6.NORTH INDIA FOOD SAFETY TESTING MARKET OUTLOOK**

6.1.Market Size Forecast

6.1.1.By Value

6.2.Market Share Forecast

6.2.1.By Contaminants

6.2.2.By Technology

6.2.3.By Food Tested

6.2.4.By States (Top 3 States)

## **7.SOUTH INDIA FOOD SAFETY TESTING MARKET OUTLOOK**

7.1.Market Size Forecast

7.1.1.By Value

7.2.Market Share Forecast

7.2.1.By Contaminants

7.2.2.By Technology

7.2.3.By Food Tested

7.2.4.By States (Top 3 States)

## **8.EAST INDIA FOOD SAFETY TESTING MARKET OUTLOOK**

8.1.Market Size Forecast

8.1.1.By Value

8.2.Market Share Forecast

8.2.1.By Contaminants

8.2.2.By Technology

8.2.3.By Food Tested

8.2.4.By States (Top 3 States)

## **9.WEST INDIA FOOD SAFETY TESTING MARKET OUTLOOK**

9.1.Market Size Forecast

- 9.1.1.By Value
- 9.2.Market Share Forecast
  - 9.2.1.By Contaminants
  - 9.2.2.By Technology
  - 9.2.3.By Food Tested
  - 9.2.4.By States (Top 3 States)

## **10.MARKET DYNAMICS**

- 10.1.Drivers
- 10.2.Challenges

## **11.MARKET TRENDS DEVELOPMENTS**

- 11.1.Merger Acquisition
- 11.2.Product Development
- 11.3.Recent Developments

## **12.POLICY REGULATORY LANDSCAPE**

## **13.PORTERS FIVE FORCES ANALYSIS**

- 13.1.Competition in the Industry
- 13.2.Potential of New Entrants
- 13.3.Power of Suppliers
- 13.4.Power of Customers
- 13.5.Threat of Substitute Products

## **14.INDIA ECONOMIC PROFILE**

## **15.COMPETITIVE LANDSCAPE**

- 15.1.SGS India Private Limited
  - 15.1.1.Business Overview
  - 15.1.2.Company Snapshot
  - 15.1.3.ProductsServices
  - 15.1.4.Financials (In case of listed)
  - 15.1.5.Recent Developments
  - 15.1.6.SWOT Analysis

15.2.TUV India Private Limited

15.3.Intertek India Private Limited

15.4.ALS Testing Services India Private Limited

15.5.BioMerieux India Private Limited

15.6.Qiagen India Private Limited

15.7.Bio-Rad Laboratories India Private Limited

15.8.Eurofins Analytical Services India Private Limited

15.9.Bureau Veritas Consumer Products Services Private Limited

15.10.Thermofisher Scientific India Private Limited

## **16.STRATEGIC RECOMMENDATIONS**

## **17.ABOUT US DISCLAIMER**

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