

# **GMO Testing Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Technology (Polymerase Chain Reaction, ELISA Test, Strip Test), By Crop Type (Corn, Soy, Rapeseed & Canola, Potato, Others), By Trait (Stacked, Herbicide Tolerance, Insect Resistance), By Region and Competition**

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## **Abstracts**

The Global GMO Testing Market reached a valuation of USD 2.54 Billion in 2022 and is expected to experience substantial growth in the forecast period, with a projected Compound Annual Growth Rate (CAGR) of 7.70% and expected to reach USD 3.95 Billion through 2028. GMO testing involves the analysis of food, feed, and various products to detect the presence of genetically modified organisms (GMOs). This process entails identifying and quantifying specific DNA or protein sequences unique to GMOs, utilizing various analytical methods such as Polymerase Chain Reaction (PCR), Enzyme-Linked Immunosorbent Assay (ELISA), and DNA sequencing.

The significance of GMO testing lies in ensuring product safety and quality, meeting regulatory requirements across multiple countries, and addressing consumer concerns regarding GMO usage in food and other products. Through testing, it becomes possible to identify the presence of genetic modification in a product, as well as the specific type of modification, providing crucial information for consumers and regulators alike.

GMO testing can be conducted at various stages of the product lifecycle, encompassing the development and cultivation of GMO crops, as well as the production and distribution of GMO-derived products. This testing extends to a wide range of items, including food, animal feed, seeds, and plant materials.

## Key Market Drivers

### 1. Growing Demand for Genetically Modified Foods

Consumers are increasingly conscious of the foods they consume and demand transparency in labeling. They want to know whether the products they purchase contain GMOs or not. This has prompted food manufacturers to invest in GMO testing to ensure accurate labeling and build trust with their customers. As GMOs are integrated into various parts of the food supply chain, companies need to ensure that their supply chains are free from unauthorized GMOs. GMO testing helps in monitoring and verifying the GMO status of ingredients and products at different stages of production. It also plays a vital role in assessing the safety of genetically modified foods. The growing production of genetically modified crops serves as a significant catalyst for the GMO testing market.

### 2. Technical Advancements in Farming Techniques

Technical advancements in farming techniques have significantly expanded the use of GMO testing due to their direct impact on the development, cultivation, and distribution of genetically modified organisms (GMOs). Precision agriculture, which involves using technology like GPS, sensors, and data analysis, requires precise and efficient GMO testing methods to ensure that intended modifications are present and functioning as expected. The advancement of biotechnology has led to the development of new GMO varieties and techniques, necessitating new and improved GMO testing methods to accurately detect these newer GMO varieties.

### 3. Growing Demand for Diverse Processed Foods Obtained from GM Crops

Genetically modified organisms are integrated into various stages of food production, processing, and distribution, leading to the need for accurate and comprehensive testing. Processed foods often contain a wide range of ingredients, some of which may come from GM crops. GMO testing is essential to verify the presence of genetically modified ingredients in processed foods, ensuring compliance with labeling regulations and allowing consumers to make informed choices. GMO testing also helps maintain transparency and traceability in complex supply chains, ensuring that GM ingredients are properly identified and tracked throughout the supply chain.

### 4. Increasing Number of Processed Foods Tested

The variety of processed foods made from genetically modified crops has expanded significantly. This includes everything from packaged snacks to frozen meals, beverages, sauces, condiments, and more. As the range of processed foods increases, so does the need for GMO testing to accurately identify the presence of genetically modified ingredients.

## Key Market Challenges

### 1. Ban On the Production of GM Crops in Some Regions

Bans or restrictions on the production of genetically modified (GM) crops in certain regions can reduce the demand for GMO testing due to limited or no presence of genetically modified ingredients. In regions where GM crop cultivation is prohibited, there will be fewer opportunities for genetically modified ingredients to be present in processed foods, reducing the need for GMO testing. Fragmented markets can complicate supply chains and make it less economically viable for manufacturers to conduct GMO testing for smaller markets with bans.

### 2. Unaffordability of Tests by Food Manufacturers & Channel Members

High testing costs related to laboratory equipment, skilled personnel, sample collection, analysis, and compliance with regulations can discourage food manufacturers and distribution channel members from adopting GMO testing. These expenses can be a significant financial burden for food manufacturers, especially smaller businesses or those operating on tight profit margins.

## Key Market Trends

### 1. Emerging Markets for GMO Testing

Many countries are implementing or strengthening regulations regarding the labeling of genetically modified ingredients, encouraging food manufacturers to invest in GMO testing to comply with these requirements. Emerging markets for GMO testing can help facilitate smoother international trade by providing reliable testing services that adhere to international guidelines.

### 2. Rising Awareness About Safety and Health Benefits Associated with GMOs

The increasing awareness of the safety and health benefits associated with genetically modified organisms (GMOs) is expected to boost the GMO testing market. As consumers become more informed about the scientific research, regulatory assessments, and potential advantages of GMOs, there is an increasing demand for accurate information and transparent labeling.

### Segmental Insights

#### Technology Insights

The market is segmented into Polymerase Chain Reaction (PCR), ELISA Test, and Strip Test based on technological advancements. The PCR segment currently holds the largest market share and is projected to experience the fastest Compound Annual Growth Rate (CAGR).

#### Crop Type Insights

The soy segment dominated the global market in 2022 and is expected to maintain its leading position throughout the forecast period. Soy, being one of the most prevalent genetically modified crops, necessitates the significance of the soy GMO testing market within the overall industry. The global soy market is projected to flourish due to the growing demand for non-GMO soy products and the regulatory requirements for GMO labeling and testing.

### Regional Insights

North America is projected to be the fastest-growing market for GM food safety testing, driven by its position as the largest producer of GM crops and the need to comply with GMO labeling regulations set by importing nations. European countries such as Germany, the United Kingdom, Spain, and France have seen growth due to diverse regulatory issues for GMO testing and consumer resistance to GM foods.

### Key Market Players

EnviroLogix Inc.

Microbac Laboratories, Inc.

TUV SUD AG

R-Biopharm AG

Institut Merieux, ALS Limited

OMIC USA Inc.

Eurofins Scientific

Premier Foods plc

Thermo Fisher Scientific Inc.

Bio-Rad Laboratories, Inc.

#### Report Scope:

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

GMO Testing Market, By Technology:

Polymerase Chain Reaction

ELISA Test

Strip Test

GMO Testing Market, By Crop Type:

Corn

Soy

Rapeseed & Canola

Potato

Others

GMO Testing Market, By Trait:

Stacked

Herbicide Tolerance

Insect Resistance

GMO Testing Market, By Region:

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia-Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Kuwait

Turkey

Egypt

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global GMO Testing Market.

Available Customizations:

Global GMO 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).



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