



GRAIN TESTING SERVICES & EQUIPMENT MARKET

Global Forecast To 2022



GRAIN TESTING SERVICES & EQUIPMENT MARKET - GLOBAL FORECAST TO 2022

By Grain Type (Cereals, Oilseeds, Pulses), Target Tested (Pathogens, Pesticides, GMO, Mycotoxin), Technology (Traditional, Rapid), End Use (Food, Feed), Component And Region



REPORT OVERVIEW

1.1 OBJECTIVES OF THE STUDY

- To define, segment, and forecast the size of the grain testing services market on the basis of grain type, target tested, technology, end use, and region
- To define, segment, and forecast the size of the grain testing equipment market on the basis of component
- To forecast the size of the global grain testing services market and its various submarkets with respect to four main regions, namely, North America, Asia Pacific, Europe, and the Rest of the World (RoW)
- To provide detailed information about crucial factors that are influencing the growth of the market (drivers, restraints, opportunities, industry-specific challenges)
- To analyze opportunities in the market for stakeholders and provide details of the competitive landscape for market leaders
- To strategically profile key players and comprehensively analyze their market share and core competencies*
- To analyze competitive developments such as expansions, investment, acquisitions, and new service launches, new product launches, joint venture, collaboration, and other strategies in the grain testing services & equipment market

1.2 MARKET DEFINITION

Grain testing is an application of food safety testing, which is a technical method of manufacturing, handling, and storing food to prevent foodborne diseases. It is performed to supervise the quality of food and prevent unwanted incidents of foodborne illnesses, toxicity, or poisoning.

1.3 MARKETS COVERED

This research report categorizes the grain testing services & equipment market into the following segments:

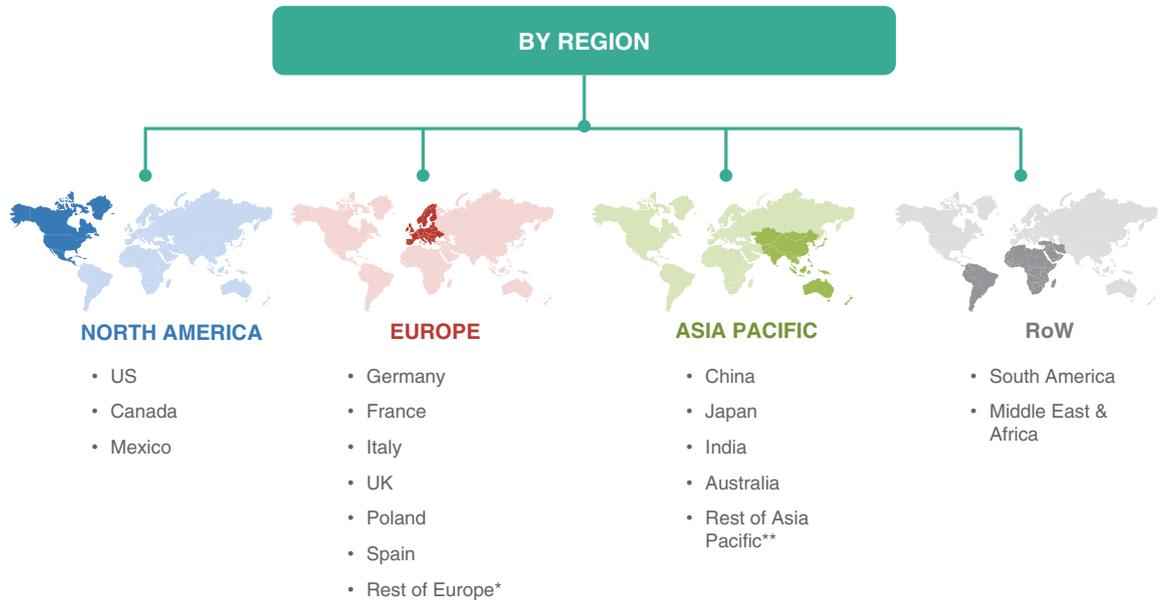
FIGURE 1 GRAIN TESTING SERVICES & EQUIPMENT MARKET SEGMENTATION



*Others include food allergens, heavy metals, and organic contaminants.

Source: Secondary Research, Primary Interviews, Related Research Publications, Industry Journals, Press Releases, and MarketsandMarkets Analysis

FIGURE 2 GRAIN TESTING SERVICES & EQUIPMENT GEOGRAPHIC SEGMENTATION

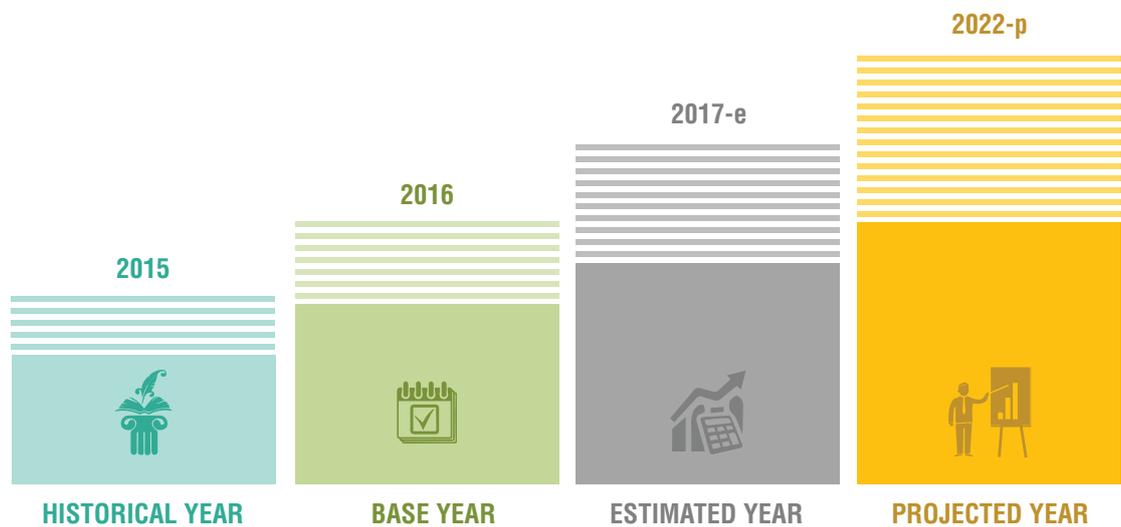


*Rest of Europe includes Belgium, the Netherlands, and Hungary.

**Rest of Asia-Pacific includes Indonesia, Vietnam, and Singapore.

Source: Secondary Research, Primary Interviews, Related Research Publications, Industry Journals, Press Releases, and MarketsandMarkets Analysis

1.4 YEARS CONSIDERED FOR THE STUDY



e- Estimated; p- Projected

Note 1: Forecast period considered is from 2017 to 2022 throughout.

Note 2: The year, 2016 is the base year considered for most company profiles. Wherever the recent financial data was available, 2017 has been considered as the base year

1.5 CURRENCY

- The base currency used in the report is U.S. dollars, with market size indicated only in USD million.
- For companies reporting their revenues in U.S. dollars, the data has been sourced from their annual reports.
- For companies that reported their revenue in other currencies, the average annual currency conversion rate used for the particular year to convert the value to U.S. dollars.

1.6 STAKEHOLDERS

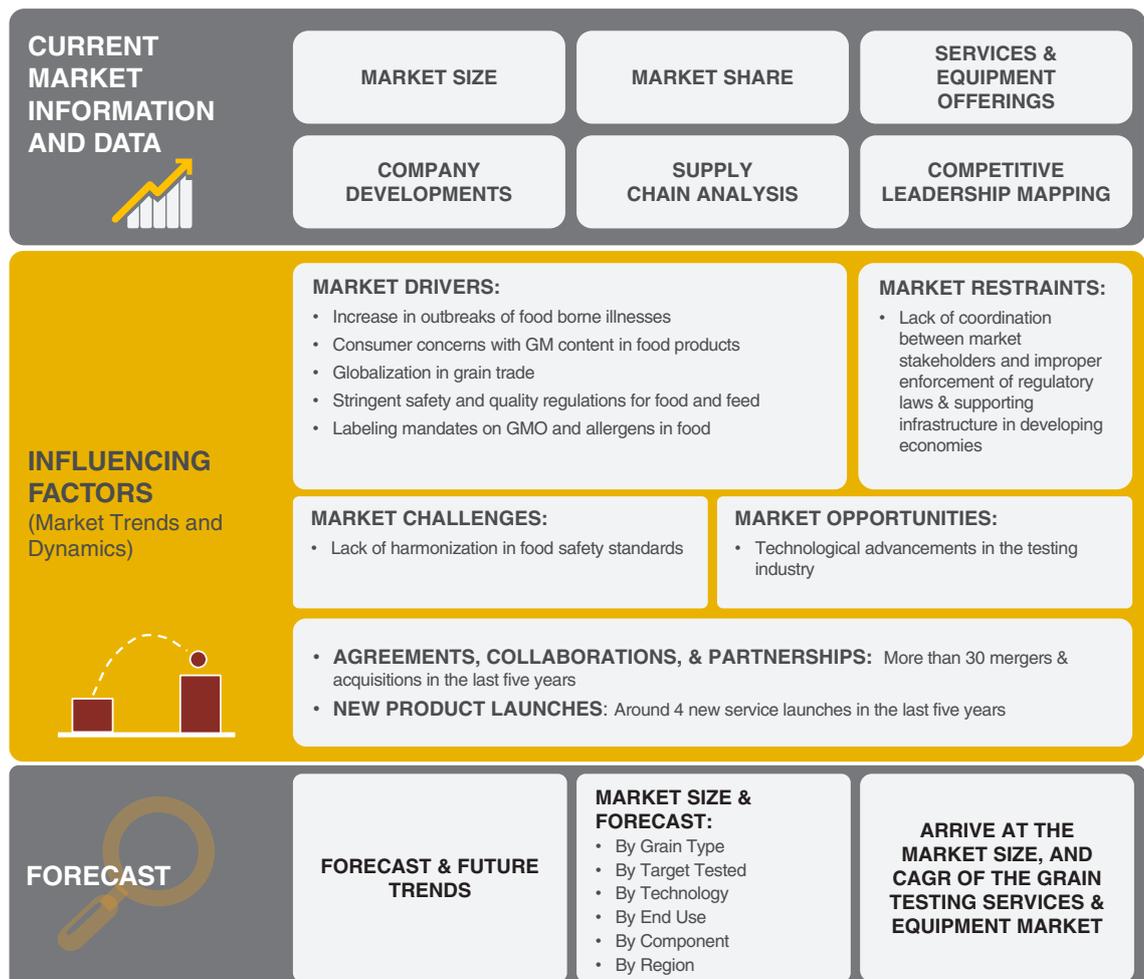
- Manufacturers, importers & exporters, traders, distributors, and suppliers of grain testing kits, equipment, reagents, chemicals, and other related consumables
- Grain testing service providers
- Food processors
- Food manufacturers
- Grain producers, traders, and distributors
- Trade associations and industry bodies
- Government and research organizations
- Regulatory bodies such as Food and Drugs Organization (FDA), European Food Safety Authority (EFSA), Food Standards Australia New Zealand (FSANZ), and Food Safety Commission of Japan

2.1 RESEARCH DATA

This research study involved the use of extensive secondary sources such as directories and databases—Hoovers, Forbes, Bloomberg Businessweek, and Factiva—to identify and collect information useful for a technical and commercial study of the grain testing services & equipment market. The primary sources involved include experts from the core and related industries and preferred suppliers, dealers, manufacturers, and executives from companies and organizations related to all segments of this industry's value chain.

In-depth interviews were conducted with various primary respondents such as key industry participants, subject matter experts, C-level executives of key market players, and industry consultants to obtain and verify critical qualitative and quantitative information as well as to assess future prospects. The following figure depicts the market research methodology applied in drafting this report on the grain testing services & equipment market.

FIGURE 3 GRAIN TESTING SERVICES & EQUIPMENT MARKET: RESEARCH DESIGN



Source: Secondary Research, Primary Interviews, Related Research Journals, Press Releases, and MarketsandMarkets Analysis

2.1.1 SECONDARY DATA

In the secondary research process, sources such as annual reports, press releases, and investor presentations of companies, white papers, certified publications, articles from regulatory bodies, trade directories, by recognized authors, and databases were used to identify and collect information for this study.

Secondary research was used to obtain key information about the industry's supply chain, the total pool of key players, market classification, and segmentation according to industry trends, geographic markets, and key developments from both, market- and technology-oriented perspectives.

2.1.1.1 KEY DATA FROM SECONDARY SOURCES

PARAMETER	SOURCE
MARKET SIZE	<ul style="list-style-type: none"> • Company Financials • Magazines • Industry Journals • Press Releases • Paid Databases • The MarketsandMarkets Data Repository
REVENUE OF COMPANIES	<ul style="list-style-type: none"> • Annual Reports • Company Websites • Public Databases • The MarketsandMarkets Data Repository
QUALITATIVE INFORMATION (Market Dynamics, Market Trends)	<ul style="list-style-type: none"> • Company Websites • Annual Reports • Press Releases • The MarketsandMarkets Data Repository

2.1.2 PRIMARY DATA

The market includes several stakeholders in the supply chain, which include reagent & technology suppliers, testing & certification laboratories, food and feed manufacturers, and regulatory organizations. The demand side of the market is characterized by the presence of key food processors & manufacturers, food importers/exporters, feed manufacturers, feed importer/exporters, and government agencies. The supply side is characterized by the presence of key testing service providers for grain testing, technology providers for grain testing including laboratory consumable manufacturers, diagnostic kit & reagent manufacturers, researchers, and equipment and instrument manufacturers.

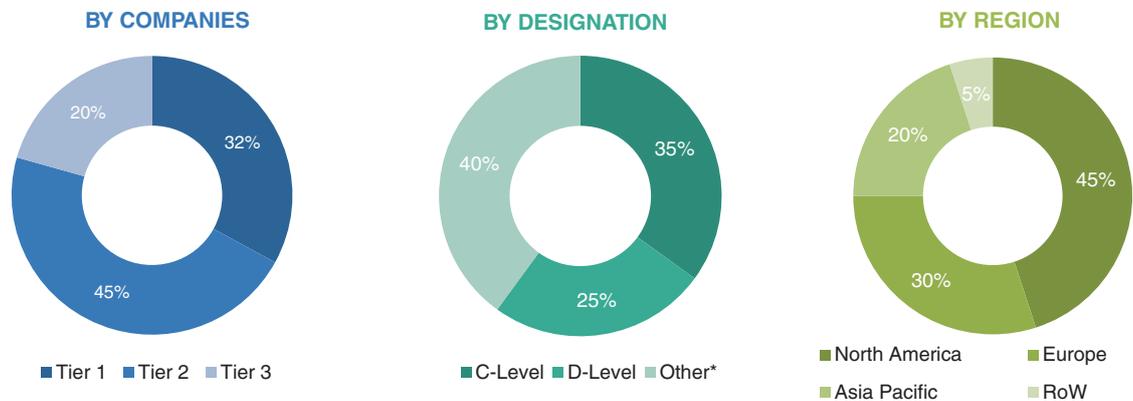
Various primary sources from both supply and demand sides of both markets have been interviewed to obtain qualitative and quantitative information. The primary interviewees from the demand side include key opinion leaders, executives, vice presidents, and CEOs from both food and feed industries. The primary sources from the supply side include testing laboratories, research institutions, and government agencies involved in R&D to introduce new grain testing technology, key opinion leaders, and key industry players.

2.1.2.1 KEY DATA FROM PRIMARY SOURCES

TYPE	PARAMETER	KEY DATA
MARKET INSIGHTS	<ul style="list-style-type: none"> Market dynamics 	<ul style="list-style-type: none"> Drivers Restraints Opportunities Challenges & issues Supply chain
MARKET TRENDS	<ul style="list-style-type: none"> Market projections Developments Key players 	<ul style="list-style-type: none"> Key players Most preferred strategies Key market for growth over the next five years
GRAIN TESTING SERVICES & EQUIPMENT MARKET	<ul style="list-style-type: none"> Global market size from 2015 to 2022 Global market size in terms of value (USD million) CAGR of each region during the forecast period (2017–2022) 	<ul style="list-style-type: none"> Global market, by grain type <ul style="list-style-type: none"> Cereals, oilseeds, pulses Global market, by target tested <ul style="list-style-type: none"> Pathogens, pesticides, GMOs, mycotoxins, others* Global market, by technology <ul style="list-style-type: none"> Traditional, rapid Global market, by end use <ul style="list-style-type: none"> Food, feed Global market, by component <ul style="list-style-type: none"> Instruments, consumables & reagents, reference materials Global market, by region <ul style="list-style-type: none"> North America, Europe, Asia Pacific, RoW

*Others include food allergens, heavy metals, and organic contaminants.

2.1.2.2 BREAKDOWN OF PRIMARIES



*Others include sales managers, marketing managers, and product managers.

Tier 1: Revenue > USD 500 million; Tier 2: USD 100 million > Revenue > USD 500 million; Tier 3: Revenue < USD 100 million

After the complete market engineering process (which includes calculations for market statistics, market breakdown, market size estimations and projections, and data triangulation), extensive primary research was conducted to gather information and to verify and validate the critical numbers that were arrived at. Primary research was also conducted to identify the segmentation, industry trends, market share, key market players, market dynamics such as drivers, restraints, opportunities, challenges, and strategies preferred by leading players.

In the market engineering process, both “top-down” and “bottom-up” approaches were extensively used, along with several data triangulation methods, to carry out estimations and projections for the overall market and its subsegments, as listed in this report. Extensive qualitative and quantitative analyses were conducted on the complete process to list key information/insights throughout the report.

2.2 MARKET SIZE ESTIMATION

Both, the top-down and bottom-up approaches were used to estimate and validate the total size of the grain testing market. These approaches were also used extensively to estimate the size of various subsegments in the market. The research methodology used to estimate the market size includes the following details:

- The key players in the industry and markets have been identified through extensive secondary research.
- The grain testing industry’s value chain and market size, in terms of value, have been determined through primary and secondary research.
- All percentage shares, splits, and breakdowns have been determined using secondary sources and verified through primary sources.
- All the possible parameters that affect the markets covered in this research study have been accounted for, viewed in extensive detail, verified through primary research, and analyzed to obtain the final quantitative and qualitative data.

The following is an illustration of the overall market size estimation process employed for the purpose of this study.

FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

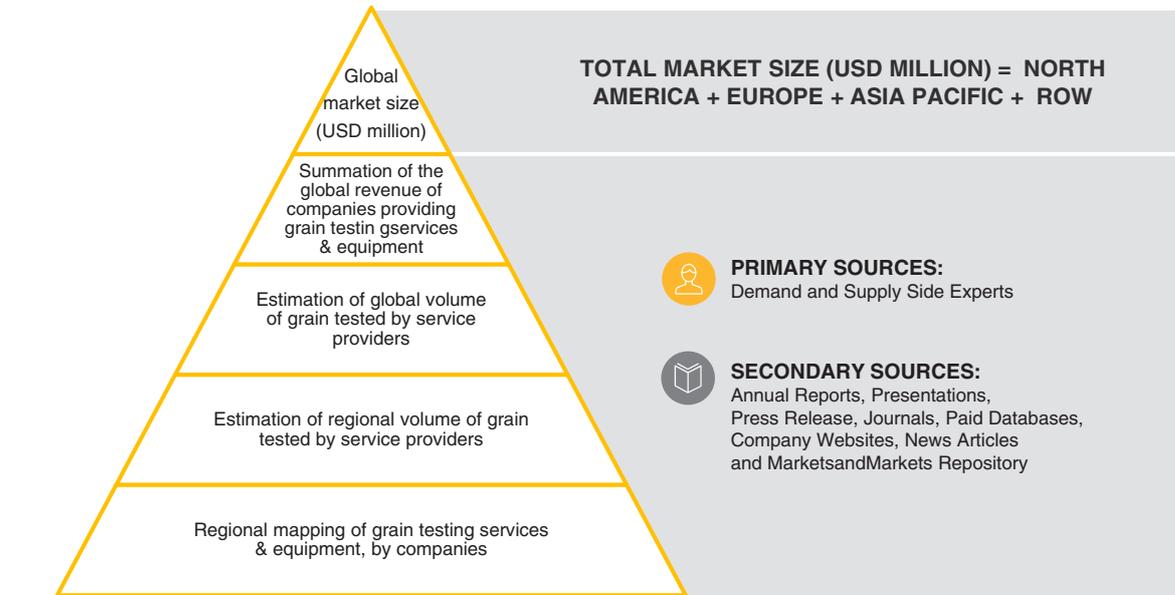
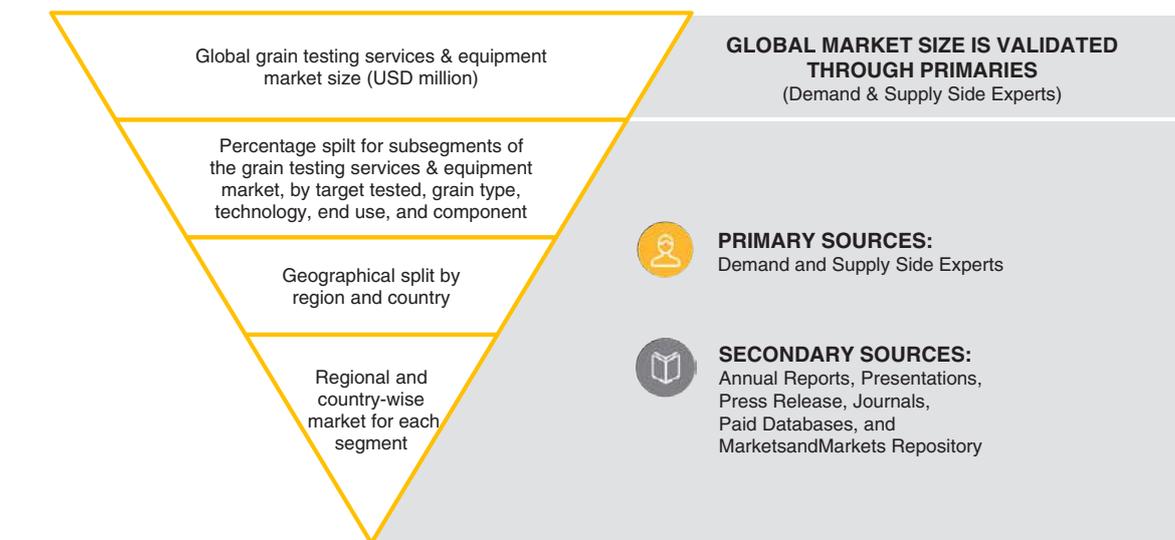


FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH



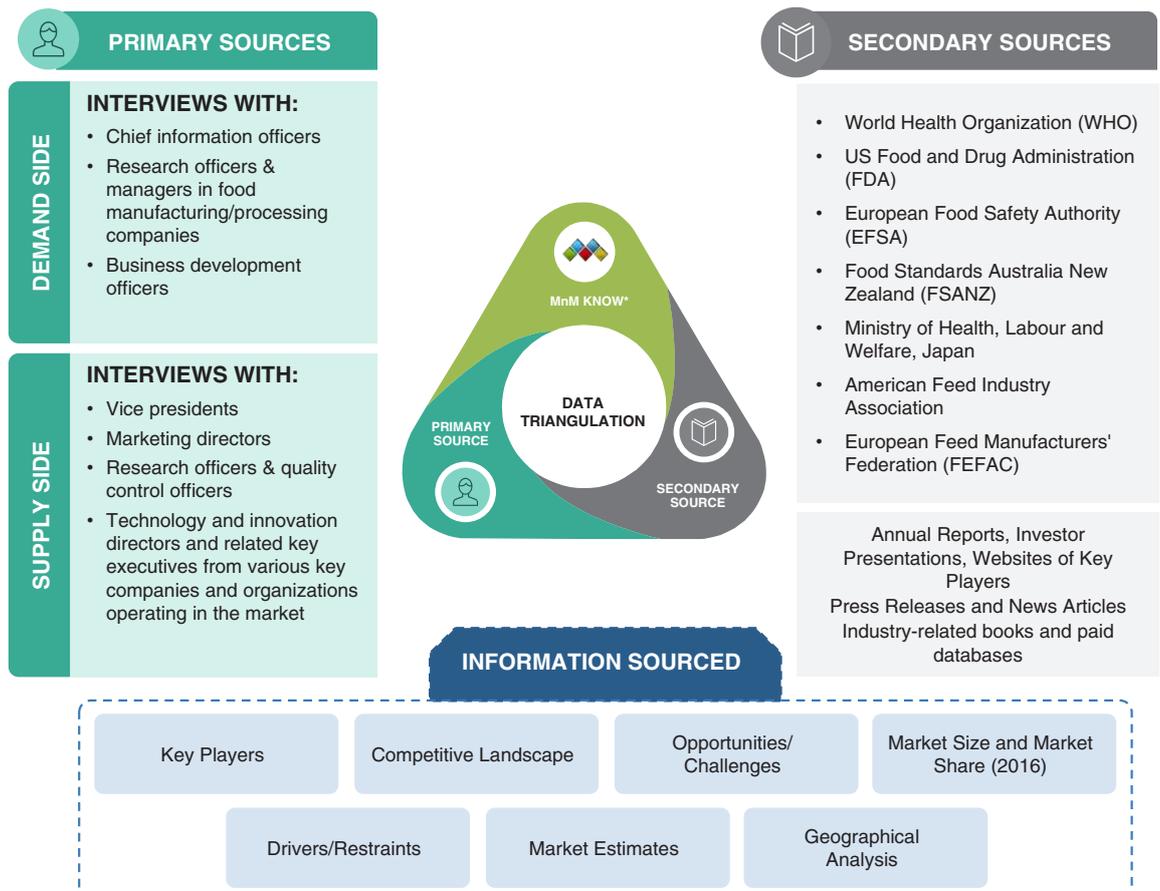
Calculations based on the financial data of key companies identified for testing in each region (North America, Europe, Asia Pacific, and RoW) have been used to determine the overall market size. This overall market size has been used in the top-down procedure to estimate the sizes of other individual markets (mentioned in the market segmentation of target tested, grain type, technology, end use, component, and region) via percentage splits from secondary and primary research.

The data obtained was further validated by conducting primary interviews with industry experts, key suppliers, and manufacturers in the market. With the data triangulation procedure and validation of data through primaries, the exact values of the overall parent market size and each individual market size were determined and confirmed. Market share was estimated for each company to verify the share, in terms of value, used earlier in the bottom-up procedure.

2.3 MARKET BREAKDOWN & DATA TRIANGULATION

After arriving at the overall market sizes—using the estimation processes explained above—the market was split into several segments and subsegments. In order to complete the overall market engineering process and arrive at the exact statistics of each market segment and its subsegments, the data triangulation and market breakdown procedures were employed, wherever applicable. The data has been triangulated by studying various factors and trends from both, the demand and supply sides for the grain testing services & equipment market.

FIGURE 6 DATA TRIANGULATION



MnM KNOW* stands for MarketsandMarkets' 'Knowledge Asset Management' framework. In this context, it stands for existing market research knowledge repository of over 5,000 granular markets, our flagship competitive intelligence and market research platform "RT", subject matter experts, and independent consultants. MnM KNOW acts as an independent source that helps us validate information gathered from primary and secondary sources .

2.4 RESEARCH ASSUMPTIONS & LIMITATIONS

The following assumptions have been taken into consideration to complete the overall market engineering process for grain testing services & equipment market.

PARAMETER	ASSUMPTION
ECONOMIC STABILITY	<ul style="list-style-type: none"> • A positive economic climate is assumed to continue in all regions until 2022. • The growing economy and increasing consumption of food are expected to attract key companies in the grain testing market.
EXCHANGE RATE	<ul style="list-style-type: none"> • The average USD exchange rates of all foreign currencies have been considered for the year 2016. • MarketsandMarkets assumes that the fluctuation of the USD value will not be significant enough to affect the projections to a notable extent.
POLITICAL STABILITY	<ul style="list-style-type: none"> • A stable political environment is assumed to prevail in the key regions. • It is also assumed that political tension in countries such as Iraq, Syria, and Libya will have little effect on the global economic stability.

The following limitations were faced during the research study on the grain testing services & equipment market:

PARAMETER	LIMITATION
PRIMARIES, BY KEY PLAYER	<ul style="list-style-type: none"> • The quantitative information for some of the market segments is kept confidential by industry players. • Hence, qualitative insights gathered during the course of the study have been used to arrive at the market size of the subsegments.
PRIMARIES, BY REGION	<ul style="list-style-type: none"> • There are limited number of experts in some regions such as South America and the Middle East & Africa. • In such cases, the regional market size is derived on the basis of weightage assigned to these markets based on the qualitative insights from global industry experts.
SCOPE, BY REGION	<ul style="list-style-type: none"> • Due to the significantly smaller market size of the countries, market size of RoW is estimated as per the regions, which include South America and the Middle East & Africa.
MARKET SCOPE	<ul style="list-style-type: none"> • The scope does not take into consideration the market for in-house testing.

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TABLE 1 GRAIN TESTING SERVICES MARKET SIZE, BY GRAIN TYPE, 2015–2022 (USD MILLION)

GRAIN TYPE	2015	2016	2017-e	2022-p	CAGR (2017–2022)
Cereals	XX.X	XX.X	XX.X	XX.X	XX.X%
Oilseeds	XX.X	XX.X	XX.X	XX.X	XX.X%
Pulses	XX.X	XX.X	XX.X	XX.X	XX.X%
TOTAL	XX.X	XX.X	XX.X	XX.X	XX.X%

e - estimated; p - projected
 Source: Secondary Research, Primary Interviews, Related Research Publications, Press Releases, Industry Journals, MarketsandMarkets Analysis

TABLE 2 GRAIN TESTING SERVICES MARKET SIZE, BY TARGET TESTED, 2015–2022 (USD MILLION)

TARGET TESTED	2015	2016	2017-e	2022-p	CAGR (2017–2022)
Pathogens	XX.X	XX.X	XX.X	XX.X	XX.X%
Pesticides	XX.X	XX.X	XX.X	XX.X	XX.X%
GMOs	XX.X	XX.X	XX.X	XX.X	XX.X%
Mycotoxins	XX.X	XX.X	XX.X	XX.X	XX.X%
Others*	XX.X	XX.X	XX.X	XX.X	XX.X%
TOTAL	XX.X	XX.X	XX.X	XX.X	XX.X%

e - estimated; p - projected
 *Others include food allergens, heavy metals, and organic contaminants.
 Source: Secondary Research, Primary Interviews, Related Research Publications, Press Releases, Industry Journals, MarketsandMarkets Analysis

TABLE 3 GRAIN TESTING SERVICES MARKET SIZE, BY REGION, 2015–2022 (USD MILLION)

REGION	2015	2016	2017-e	2022-p	CAGR (2017–2022)
North America	XX.X	XX.X	XX.X	XX.X	XX.X%
Europe	XX.X	XX.X	XX.X	XX.X	XX.X%
Asia Pacific	XX.X	XX.X	XX.X	XX.X	XX.X%
RoW	XX.X	XX.X	XX.X	XX.X	XX.X%
TOTAL	XX.X	XX.X	XX.X	XX.X	XX.X%

e - Estimated; p - Projected
 Source: Secondary Research, Expert Interviews, Related Research Publications, Government Publications, Press Releases, Company Website, Company Publications, and MarketsandMarkets Analysis

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HIGH GROWTH MARKETS

Market	CAGR (%)
Agricultural Biologics	12.40%
Seeds & Others	11.51%
Farm Equipment & Irrigation	7.90%
Testing & Services	6.54%
Feed & Animal Nutrition	4.21%
Agrochemicals	4.11%

* CAGR (Compound Annual Growth Rate) represents Market Value (USD) growth forecast for a period of 6 years. It is an average CAGR based on the high growth niche markets covered in MarketsandMarkets syndicated reports and should not be interpreted as industry CAGR.
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