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Agri Genomics Market Forecasts to 2030 – Global Analysis By Product Type (Sequencing & Testing Products, Bioinformatics Tools & Services, Genetically Modified Seeds, Gene Editing Products, Reagents and Consumables and Other Product Types), Livestock Type, Crop Type, Technology, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Agri Genomics Market is accounted for $4.0 billion in 2024 and is expected to reach $7.3 billion by 2030 growing at a CAGR of 10.5% during the forecast period. Agri genomics is the application of genomic tools and techniques in agriculture to improve crop and livestock productivity, sustainability, and resilience. It involves studying the genetic makeup of plants, animals, and microorganisms to identify traits of interest, such as disease resistance, drought tolerance, and higher yields. By utilizing techniques like DNA sequencing, gene editing, and bioinformatics, agri genomics helps in developing improved varieties and breeds, optimizing farming practices, and addressing global food security challenges in a rapidly changing environment.

According to the Indian government's inter-ministerial committee report, digital technology interventions increased farmer income in India by 16-18%.

Market Dynamics:

Driver:

Rising global population and food demand

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The rising global population and increasing food demand are driving growth in the market. As the world’s population grows, the need for higher agricultural productivity and sustainable food production intensifies. Agri genomics, leveraging genetic research, helps improve crop yields, disease resistance, and resource efficiency. This technology plays a pivotal role in meeting food security challenges, enabling farmers to adapt to changing climates while boosting agricultural sustainability and productivity.

Restraint:

Ethical concerns and regulatory hurdles

Ethical concerns and regulatory hurdles in the market can slow down innovation and adoption. Issues surrounding genetic modification, biodiversity risks, and potential environmental impacts raise public apprehension. Strict regulations and lengthy approval processes hinder the timely release of genetically engineered crops and livestock. These barriers can delay the development of breakthrough solutions, limiting the market's ability to address pressing agricultural challenges such as food security and climate change.

Opportunity:

Advancements in genomic technologies

Advancements in genomic technologies are revolutionizing the market. Innovations are enabling precise genetic modifications in crops and livestock. These technologies enhance traits such as disease resistance, drought tolerance, and nutrient content. As a result, they accelerate breeding programs, improve agricultural productivity, and promote sustainability. These breakthroughs are pivotal in addressing global food security challenges and supporting sustainable agricultural practices.

Threat:

High costs of genomic technologies

The high costs of genomic technologies in the market can limit accessibility for small-scale farmers and developing nations. Expensive equipment, sequencing, and data analysis restrict widespread adoption, creating a gap between large corporations and smaller agricultural players. This financial barrier can slow the progress of innovations

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and prevent equitable distribution of advanced farming solutions, hindering the global potential for improving crop yields, sustainability, and food security.

Covid-19 Impact:

The COVID-19 pandemic disrupted the market by delaying research, development, and the commercialization of genomic technologies due to lab closures, supply chain interruptions, and restricted movement. Funding for projects was diverted, and field trials were postponed. However, the crisis also highlighted the need for resilient food systems, accelerating interest in genomic solutions for improving crop yields and livestock health to ensure food security in future global challenges.

The microarrays segment is expected to be the largest during the forecast period

The microarrays segment is expected to account for the largest market share during the projection period enabling high-throughput analysis of gene expression, genetic variations, and marker discovery in crops and livestock. These tools facilitate the identification of desirable traits, such as disease resistance and improved yield, allowing for more precise breeding programs. Microarrays contribute to accelerating genomic research and developing sustainable agricultural solutions, improving productivity and resilience in farming systems worldwide.

The livestock breeding segment is expected to have the highest CAGR during the forecast period

The livestock breeding segment is expected to have the highest CAGR during the extrapolated period driven by genomic technologies, allowing for more precise selection of desirable traits. Genomic tools, like gene editing and SNP analysis, enhance breeding efficiency, reducing costs and time. This leads to healthier, more productive livestock, improving meat, milk, and wool yields while ensuring sustainability and resilience in the face of climate change and evolving market demands.

Region with largest share:

North America region is projected to account for the largest market share during the forecast period driven by advanced research, technology adoption. The region leads in genomics innovation with the use of CRISPR, next-generation sequencing, and bioinformatics to enhance crop and livestock productivity. Increased investment from both public and private sectors, along with a focus on sustainable farming practices,

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positions as a key player in shaping global agricultural genomics trends.

Region with highest CAGR:

Asia Pacific is expected to register the highest growth rate over the forecast period. The integration of next-generation sequencing (NGS), CRISPR-Cas9 gene-editing technologies, and bioinformatics tools is advancing agri genomics research. Additionally, Countries like China, India, and Japan are heavily investing in agricultural biotechnology and genomics. Governments are providing funding to boost innovation in precision farming, pest-resistant crops, and drought-tolerant plants.

Key players in the market

Some of the key players in Agri Genomics market include Bayer CropScience, Corteva Agriscience, Syngenta AG, Monsanto, Illumina Inc., Thermo Fisher Scientific, Agilent Technologies, Neogen Corporation, Bio-Rad Laboratories, 10x Genomics, DuPont, Cargill Inc., Genus PLC, Trait Biosciences and GreenLight Biosciences.

Key Developments:

In September 2024, Corteva, Inc., a global leader in agricultural technology and Pairwise, a technology company pioneering the application of gene editing in food and agriculture, announced a collaboration to accelerate the delivery of advanced gene editing solutions to farmers, ultimately benefitting both the environment and everyday consumers..

In June 2024, Bayer aims to launch ten blockbuster products in the next ten years to support farmers worldwide, the company announced at its 2024 Crop Science innovation update in Chicago. Each blockbuster is expected to contribute more than 500 million euros of the over 32-billion-euros peak sales potential in the R&D pipeline – unparalleled across the global agricultural industry.

Product Types Covered:

- Sequencing & Testing Products
- Bioinformatics Tools & Services
- Genetically Modified Seeds

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Gene Editing Products

Reagents and Consumables

Other Product Types

Livestock Types Covered:

Cattle

Poultry

Swine

Sheep

Goats

Crop Types Covered:

Cereals & Grains

Fruits & Vegetables

Oilseeds

Legumes

Technologies Covered:

Polymerase Chain Reaction (PCR)

Next-Generation Sequencing (NGS)

Gene Editing (CRISPR/Cas9)

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Microarrays

Other Technologies

Applications Covered:

Crop Breeding

Livestock Breeding

Aquaculture Genomics

Soil and Plant Genomics

Other Applications

End Users Covered:

Research Institutes & Academia

Agricultural Biotechnology Companies

Government and Regulatory Bodies

Farmers & Growers

Other End Users

Regions Covered:

North America

US

Canada

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- Mexico

Europe

- Germany
- UK
- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil

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Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

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Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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