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Animal Genetics Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Product {Live Product (Poultry, Porcine, Bovine, Canine, Others), Genetic Materials (Semen, Embryos)}, By Genetic Testing Services (Genetic Disease Tests, Genetic Traits Tests, DNA Typing, Others), By Region and Competition, 2019-2029F

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Abstracts

Global Animal Genetics Market was valued at USD 6.33 Billion in 2023 and is anticipated to project impressive growth in the forecast period with a CAGR of 7.92% through 2029. The genetic information contained within an organism's genes serves as a fundamental blueprint for its appearance, function, and overall survival, while also distinguishing its characteristics from those of other species. Livestock genetics, therefore, play a crucial role in determining animal productivity and well-being. It should be noted, however, that an animal's genetic code can transmit inherited traits or diseases. This genetic code is encoded within the DNA molecule, an extensive structure present in every cell of the body. DNA consists of numerous genes, which are specific DNA sequences responsible for expressing inherited traits. Genes dictate various physical attributes, such as eye color and coat color, and are arranged within chromosomes, the units of DNA bonded together within each cell. Each chromosome contains hundreds of thousands of genes, and they exist in pairs within cells. In each cell, genes are duplicated as two copies, known as alleles. However, there are exceptions to this norm in sperm and egg cells. During the development of these reproductive cells, each cell receives only one copy of each chromosome, resulting in each gene having a single copy in each reproductive cell.

Key Market Drivers

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Focus on Sustainable and Efficient Livestock Production

The focus on sustainable and efficient livestock production is a key driver in the global animal genetics market. With growing concerns about environmental sustainability and resource efficiency, there is a pressing need to develop innovative solutions. By harnessing the power of genetics, breeders can selectively breed animals that are not only more productive, but also more efficient in converting feed into valuable products, such as high-quality meat or nutrient-rich milk.

This strategic approach significantly reduces the overall environmental impact of livestock production. Genetically improved animals require fewer resources, generate less waste, and emit fewer greenhouse gases per unit of output. By embracing these advancements, the industry is actively working towards reducing the ecological footprint of agriculture.

Moreover, this focus on sustainable animal genetics aligns perfectly with broader sustainability goals. It enables us to meet the increasing demand for animal-based products in a responsible and environmentally conscious manner. By striking this balance, we can ensure that future generations can enjoy the benefits of animal-based products while preserving and protecting our precious natural resources.

Increasing Adoption of Precision Breeding Techniques

The increasing adoption of precision breeding techniques, such as artificial insemination, embryo transfer, and in vitro fertilization, is revolutionizing the global animal genetics market. These advanced techniques empower breeders with precise control over the selection and transmission of desirable genetic traits in animals, leading to a significant improvement in the quality and productivity of offspring. By strategically matching superior genetic material, breeders can enhance traits related to disease resistance, growth rate, milk production, and meat quality, resulting in more resilient, high-performing, and genetically superior animals.

Furthermore, this targeted and meticulous approach to breeding ensures not only better breeding outcomes but also contributes to the overall advancement of animal genetics. With the ability to fine-tune and optimize genetic traits, breeders can unlock the full potential of animal genetics, paving the way for breakthroughs in areas such as disease resistance, adaptive traits, and overall animal welfare. As precision breeding techniques continue to evolve and improve, we can expect further advancements in animal

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genetics, benefitting both breeders and the agricultural industry as a whole.

Increasing Consumer Demand for Animal-derived Protein

To meet the rising demand for animal-derived protein, farmers and livestock producers are seeking ways to enhance the productivity and quality of their animal herds. Genetic selection and breeding play a crucial role in achieving these goals. By breeding animals with desirable traits, such as higher meat yield, disease resistance, and better feed conversion efficiency, producers can optimize their operations and increase protein production. The increasing consumer demand for animal-derived protein is a significant driver for the demand for animal genetics research and technology. Genetic advancements are essential to meeting the growing protein needs of the global population while addressing sustainability, health, and efficiency concerns in the livestock and agriculture sectors.

Rising Adoption of Progressive Genetic Practices Such as Artificial Insemination (AI) and Embryo Transfer

The growing focus on developing superior animal breeds using genetic engineering has paved the way for obtaining high reproduction rates, which in turn facilitates large-scale production of modified breeds. This trend is expected to drive the animal genetics market during the forecast period. Animal genetics, a field that emphasizes the inheritance and genetic variations in both wild and domestic animals, plays a crucial role in this regard. Commercially, animal genetics is used to test genetic disorders, examine genetic traits, and analyze DNA. To identify genetic hybridizations, various genetic practices such as artificial insemination, embryo transfer, and cytological studies are employed. Moreover, artificial insemination (AI) offers numerous benefits in animal breeding, including the reduction of various risks and disease transmission. Studies have shown that female offspring cattle born through artificial insemination yield more milk compared to normal offspring. Additionally, the use of antibiotic-containing semen extenders has proven effective in preventing bacterial infectious diseases.

As a result, the entire AI process is considered more hygienic and controlled than natural mating. These advancements in animal genetics and artificial insemination are driving the industry forward, playing a pivotal role in the quest for improved animal breeds and increased agricultural productivity.

Key Market Challenges

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High Costs and Limited Affordability

The high costs and limited affordability of advanced animal genetics technologies act as a significant restraint on the growth of the global animal genetics market. Implementing technologies such as genetic testing, artificial insemination, and gene editing requires substantial investments in equipment, expertise, and infrastructure. These high costs make these technologies inaccessible for small-scale farmers or those in developing regions with limited financial resources. Consequently, the lack of affordability not only limits market expansion but also hampers the adoption of advanced genetics solutions, hindering the potential for improved breeding practices, disease resistance, and overall livestock productivity. As a result, it becomes imperative for stakeholders to explore innovative approaches and financial models that can reduce costs and increase the accessibility of these technologies to a wider range of farmers, thus fostering sustainable growth in the animal genetics market.

Ethical and Regulatory Concerns Limit

Ethical and regulatory concerns surrounding animal genetic research and manipulation pose a significant restraint on the global animal genetics market. Public opinion and ethical considerations, particularly related to genetically modified organisms (GMOs) and cloning, can lead to stringent regulations, lengthy approval processes, or even complete bans on certain genetic engineering practices. These restrictions create formidable barriers to entry for companies and significantly hinder the development and commercialization of innovative genetic technologies. The complex and evolving regulatory landscape, coupled with ongoing ethical debates, can cause uncertainty and slow down the overall growth of the animal genetics market. This uncertainty arises from the need to strike a delicate balance between scientific advancements and the ethical implications associated with altering the genetic makeup of animals. As society becomes more aware of and concerned about animal welfare, the demand for increased transparency and accountability in genetic research and manipulation continues to grow.

Furthermore, the dynamic nature of this regulatory landscape further complicates market dynamics. As new scientific discoveries emerge and ethical considerations evolve, regulations are subject to change. This fluidity requires companies operating in the animal genetics market to constantly adapt and comply with the latest regulatory frameworks, adding another layer of complexity to the already challenging landscape. In summary, ethical and regulatory concerns surrounding animal genetic research and manipulation have a profound impact on the global animal genetics market. The

influence of public opinion, ethical considerations, and evolving regulations create barriers to entry, hinder innovation, and introduce market uncertainties. Navigating this intricate landscape requires a delicate balance between scientific progress and ethical responsibility.

Key Market Trends

Rising Investments in Research and Development

The rising investments in research and development within the animal genetics sector present a significant and promising opportunity for the market. With increased investment in research and development, there is a greater scope for exploring new genetic solutions and cutting-edge technologies, leading to remarkable advancements in breeding techniques, genetic testing, and genomic analysis. These innovative breakthroughs have the potential to revolutionize the industry by providing more accurate and efficient methods for genetic improvement in animals, ultimately contributing to enhanced animal productivity, disease resistance, and sustainable livestock production.

Moreover, the investments in research and development not only drive market growth but also pave the way for the continuous improvement of animal genetics. This enables the development of new breeds that are better suited to specific environments, have improved adaptability to changing climates, and possess desirable traits such as increased yield, better feed conversion efficiency, and improved meat quality. As a result, these advancements contribute to the overall sustainability of livestock production and have a positive impact on food security, environmental conservation, and economic growth. In conclusion, the increasing investments in research and development within the animal genetics sector offer a wide array of possibilities and benefits. By pushing the boundaries of genetic knowledge and technological capabilities, these investments are propelling the industry forward and fostering a future where animal genetics plays a vital role in meeting the demands of a growing population and ensuring a sustainable future for the livestock sector.

Growing Focus on Animal Health And Disease Prevention

The growing focus on animal health and disease prevention presents a significant opportunity in the global animal genetics market. By leveraging genetics and advanced breeding techniques, breeders can develop disease-resistant and resilient animal breeds that are better equipped to withstand and combat a wide range of diseases and

health challenges. This not only improves the overall well-being of animals but also enhances the efficiency and sustainability of agricultural practices. The increasing demand for genetically improved animals with superior disease resistance has opened doors for market players to develop and offer innovative genetic solutions. These solutions include genetic testing for disease susceptibility, selective breeding programs, and the identification of genetic markers associated with disease resistance.

By implementing these cutting-edge genetic technologies, breeders can further optimize animal health, improve productivity, and reduce the reliance on antibiotics and other interventions. In addition, the application of genetics in animal breeding offers long-term benefits by preserving genetic diversity and preventing the loss of valuable traits in animal populations. By carefully selecting and managing the genetic makeup of animal breeds, breeders can safeguard against the risks of inbreeding and maintain a healthy and diverse gene pool. Overall, the integration of genetics into animal breeding practices provides a promising avenue for addressing animal health challenges and ensuring sustainable and resilient livestock production systems. Through continuous research and innovation, the animal genetics market can contribute to the development of healthier and more productive animal populations, benefiting both the animals and the stakeholders involved in the agricultural industry.

Segmental Insights

ProductInsights

The animal genetics market, categorized by live product, is segmented into poultry, porcine, bovine, canine, and others. The porcine segment held the largest market share in 2023 and is projected to exhibit the highest compound annual growth rate (CAGR) during the forecast period. Pork stands as the most widely consumed meat worldwide, contributing to this dominant position. Factors such as a substantial consumer base for pork meat and its products, along with the increasing penetration of advanced genetic research, further contribute to this share. Additionally, the porcine segment is expected to grow due to advantages like relatively limited land requirements and low maintenance needs for animals. The poultry segment experiences significant growth due to the increasing shift towards white meat consumption.

Factors such as affordability and a lower risk of food-related diseases drive genetic research in this segment. Moreover, European countries' government initiatives to reduce environmental impact and raise awareness have prompted consumers to shift from red meat to white meat. This transition presents new opportunities for animal

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genetics to support the production of white meat and meet the growing demand.

Regional Insights

North America holds a significant share of the animal genetics market due to increasing government initiatives aimed at promoting sustainable agriculture and animal welfare. Moreover, the region has witnessed a notable increase in the adoption of advanced genetic technologies, such as genotyping and gene editing, by livestock producers and breeders. This has resulted in the development of improved breeding strategies that focus on producing healthy and vigorous animals capable of efficiently utilizing nutrients for optimal growth and reproduction.

In addition, the escalating incidence of infectious diseases among the animal population, particularly in poultry and porcine sectors, has further emphasized the need for advanced biotechnological strategies. These strategies aim to develop high-quality breeds that are more resistant to diseases, thus reducing the overall economic impact on the livestock industry. By leveraging biotechnological advancements, such as genetic markers for disease resistance and genomic selection, researchers and breeders can enhance breeding programs and mitigate the spread of infectious diseases in animal populations.

The combination of these factors has contributed to the growing demand for animal genetics solutions in North America, as stakeholders recognize the potential for improved productivity, sustainability, and profitability in the livestock industry.

Key Market Players

Neogen Corporation

URUS Group LP

EW Group Ltd

Groupe Grimaud La Corbiere SA

Hendrix Geneticss BV

Animal Genetics Inc.

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Vantress, Inc.

Tropical Bovine Genetics Pvt. Ltd.

Trans Ova Genetics LC

Inguran LLC

Report Scope:

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

Animal Genetics Market,By Product:

oLive Product

oGenetic Materials

Animal Genetics Market,By Genetic Testing Services:

oGenetic Disease Tests

oGenetic Traits Tests

oDNA Typing

oOthers

Animal Genetics Market, By Region:

oNorth America

United States

Canada

Mexico

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oEurope

France

United Kingdom

Italy

Germany

Spain

oAsia-Pacific

China

India

Japan

Australia

South Korea

oSouth America

Brazil

Argentina

Colombia

oMiddle East Africa

South Africa

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Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Animal Genetics Market.

Available Customizations:

Global Animal Genetics marketreport 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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