Johne's Disease Diagnostics Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Animal Type (Cattle, Goat, Sheep), By Test Type (ELISA, PCR, AGID, Others), By Region, By Competition Forecast & Opportunities, 2018-2028F

https://marketpublishers.com/r/JFCA0C9A5D64EN.html

Date: November 2023
Pages: 180
Price: US$ 4,900.00 (Single User License)
ID: JFCA0C9A5D64EN

Abstracts

Global Johne's Disease Diagnostics Market has valued at USD 0.63 billion in 2022 and is anticipated to project impressive growth in the forecast period with a CAGR of 5.63% through 2028. Johne's Disease, also known as Paratuberculosis, is a chronic bacterial infection primarily affecting ruminant animals such as cattle, sheep, and goats. It is caused by Mycobacterium avium subspecies paratuberculosis (MAP) and can lead to significant economic losses in the livestock industry due to reduced milk production, weight loss, and increased mortality among infected animals. Accurate and early diagnosis of Johne's Disease is crucial for disease management and prevention.

Key Market Drivers

Rising Awareness and Concern

One of the primary factors propelling the growth of the Global Johne's Disease Diagnostics Market is the rising awareness among livestock farmers and veterinarians. Previously, Johne's Disease often went undiagnosed or was misdiagnosed due to its slow progression and the variability in clinical signs. However, as knowledge about the disease spreads, farmers and veterinarians are better equipped to recognize its symptoms, leading to increased demand for accurate diagnostic tools and tests.

Farmers and livestock producers are becoming acutely aware of the economic impact of Johne's Disease. Infected animals typically experience reduced milk production, weight loss, and increased mortality rates, all of which result in substantial financial losses for farmers. This understanding of the disease's financial implications has motivated them to invest in regular testing and early detection, thereby boosting the demand for diagnostics.

In an era of heightened consumer awareness about food safety and animal welfare, there is increasing pressure on the agriculture industry to ensure the health of livestock. Johne's Disease can potentially impact the safety of dairy and meat products, as MAP can be shed in animal feces and contaminate the environment. Consequently, consumers are more concerned about the disease's implications on the food they consume, driving demand for rigorous testing and monitoring.

Governments and regulatory bodies in various countries have recognized the significance of Johne's Disease and have implemented measures to control its spread. These measures often include mandatory testing and reporting, especially in regions with a high prevalence of the disease. Such regulatory initiatives further raise awareness and necessitate the use of diagnostic tools and tests, contributing to market growth.

Awareness about Johne's Disease has fostered collaboration among various stakeholders, including government agencies, research institutions, diagnostic companies, and veterinary services. These partnerships lead to the development of comprehensive disease management strategies that include early detection and regular testing. Collaborative efforts serve as a driving force behind the growth of the diagnostics market, as they facilitate the sharing of knowledge, research findings, and best practices.

Advanced Diagnostic Technologies

The Global Johne's Disease Diagnostics Market is witnessing remarkable growth, driven by a confluence of factors. Among these, the rapid advancement of diagnostic technologies stands out as a key driver. Johne's Disease, a chronic bacterial infection primarily affecting ruminant animals, has long posed challenges for accurate and early detection. However, the integration of cutting-edge diagnostic technologies has transformed the landscape of Johne's Disease diagnostics.

Polymerase Chain Reaction, or PCR, is a revolutionary molecular biology technique that

has revolutionized disease diagnostics, including Johne's Disease. PCR allows for the detection of the genetic material of Mycobacterium avium subspecies paratuberculosis (MAP), the causative agent of Johne's Disease, with high sensitivity and specificity. This technology has significantly improved the accuracy of diagnosis, enabling early detection and intervention, which is vital for disease control.

ELISA is another advanced diagnostic technology that has made significant inroads in the Johne's Disease Diagnostics Market. It detects antibodies produced by the host animal in response to MAP infection. ELISA assays are highly specific and can be used for large-scale screening of herds. Their efficiency in detecting subclinical infections has contributed to the early identification of infected animals, helping farmers take prompt measures to prevent disease spread.

Next-Generation Sequencing technology has opened up new horizons in disease diagnostics and research, including Johne's Disease. NGS allows for the comprehensive analysis of genetic material, facilitating the identification and characterization of pathogens with unmatched precision. This technology not only aids in diagnosis but also contributes to understanding the genetic diversity of MAP strains, which is crucial for effective disease management.

In addition to laboratory-based techniques, there is a growing demand for rapid point-of-care tests in the field of Johne's Disease diagnostics. These tests often utilize advanced immunological or molecular technologies to provide quick and reliable results, allowing for on-the-spot decision-making by veterinarians and farmers. The convenience and speed of these tests contribute to early disease detection and containment.

One of the primary advantages of advanced diagnostic technologies is their ability to provide higher sensitivity and specificity in detecting MAP infection. This translates into fewer false negatives and false positives, reducing the chances of misdiagnosis and enabling more accurate disease management.

Advanced diagnostic technologies also offer the advantage of customization and multiplexing. This means that diagnostic assays can be tailored to specific needs, allowing for the simultaneous detection of multiple pathogens or variants. This versatility is especially valuable in regions where co-infections are common.

Increased Research and Development

The Global Johne's Disease Diagnostics Market has experienced significant growth in

recent years, owing to several key factors. Among these factors, increased research and development (R&D) efforts have played a pivotal role in advancing diagnostic methods, improving accuracy, and expanding the range of options available for detecting this debilitating livestock disease.

One of the primary outcomes of increased R&D in the field of Johne's Disease diagnostics is the development of more accurate testing methods. Traditional diagnostics often had limitations in terms of sensitivity and specificity. However, R&D initiatives have led to the creation of highly precise and reliable diagnostic tools. These advancements enable earlier and more accurate detection of Johne's Disease, facilitating timely intervention and disease management.

Researchers and diagnostic companies are continually exploring innovative approaches to Johne's Disease detection. This includes the utilization of cutting-edge technologies such as next-generation sequencing (NGS), metagenomics, and microfluidics. These novel approaches not only improve the accuracy of diagnosis but also offer the potential for rapid, point-of-care testing, which can be invaluable for on-farm disease management.

Increased R&D efforts have led to the development of tailored diagnostic solutions for Johne's Disease. These solutions cater to the diverse needs of different regions and livestock types. For example, diagnostics can be customized to suit the specific challenges faced by dairy farms versus beef cattle operations. This adaptability enhances the market's ability to address unique requirements, thereby expanding its reach.

Researchers are actively engaged in the discovery of biomarkers associated with Johne's Disease. Biomarkers are specific molecules or genetic signatures that indicate the presence of the disease. Identifying reliable biomarkers can significantly improve the efficiency of diagnostics. As more biomarkers are discovered and validated through research, the market benefits from a growing repertoire of diagnostic tools.

Ongoing R&D initiatives ensure that diagnostic methods are continuously improved. This includes not only enhancing the accuracy of existing tests but also optimizing testing procedures, reducing costs, and increasing the speed of results. Continuous improvement efforts make diagnostics more accessible and practical for livestock farmers and veterinarians.

Research and development in the Johne's Disease Diagnostics Market often involve

collaborations between academic institutions, diagnostic companies, and government agencies. These partnerships facilitate the pooling of knowledge, resources, and expertise, accelerating the pace of innovation. Collaboration ensures that the best minds in the field work together to address the challenges posed by Johne's Disease.

Collaborations and Partnerships

The Global Johne's Disease Diagnostics Market is experiencing significant growth, with various factors contributing to its expansion. Among these factors, collaborations and partnerships are emerging as key catalysts. In the fight against Johne's Disease, a chronic bacterial infection primarily affecting ruminant animals, collaborations and partnerships between industry stakeholders are paving the way for innovation, research, and effective disease management.

Collaborations and partnerships often involve the sharing of knowledge and expertise among diverse stakeholders. This cross-pollination of ideas and insights accelerates the development of new diagnostic technologies and approaches. By pooling resources, researchers, veterinarians, and diagnostic companies can tap into collective knowledge, resulting in more effective and innovative solutions for Johne's Disease diagnostics.

Research and development (R&D) efforts are crucial for improving diagnostic accuracy and expanding the range of diagnostic tools. Collaborative endeavors allow for faster progress in R&D, as multiple institutions can work together on projects. This synergy leads to the creation of cutting-edge diagnostic methods, which subsequently drive the market's growth.

Collaborative efforts extend beyond diagnostics to encompass comprehensive disease management strategies. These strategies often include early detection, treatment, and prevention measures. By collaborating, stakeholders can develop holistic approaches that combine diagnostics with other interventions, resulting in more effective disease control. Farmers and veterinarians are more likely to adopt such integrated strategies, further fueling the demand for diagnostics.

Collaborations and partnerships play a pivotal role in the validation and standardization of diagnostic methods. When multiple organizations work together to validate a diagnostic test or tool, the results are considered more reliable and widely accepted. Standardization ensures that the diagnostic tests are consistent and provide accurate results, which is essential for market growth and trust among end-users.

Partnerships between academic institutions and diagnostic companies are particularly beneficial. Academic researchers often have access to cutting-edge technologies and scientific expertise, while diagnostic companies bring commercialization and distribution capabilities. These collaborations bridge the gap between research and practical application, resulting in the development of market-ready diagnostic solutions.

Collaborative efforts can lead to the development of region-specific diagnostic solutions. Since the prevalence and management of Johne's Disease vary by region, diagnostic tools and tests need to be adaptable. Collaborations can ensure that the market offers tailored solutions that meet the unique needs of different geographic areas, further expanding its reach.

Key Market Challenges

Complex Diagnosis

Johne's Disease is notoriously difficult to diagnose due to its slow progression and the variability in clinical signs among infected animals. This complexity presents a significant challenge for accurate and early detection. Developing diagnostic tools and tests that can reliably detect the disease in its early stages remains a formidable task.

Cost Concerns

While advanced diagnostic technologies offer higher accuracy, they can also be expensive to implement. This cost factor can deter some livestock farmers from investing in routine screening for Johne's Disease, particularly in regions with limited resources. Balancing the need for accurate diagnostics with cost-effectiveness is an ongoing challenge.

Limited Public Awareness

While awareness about Johne's Disease is increasing, it remains relatively low compared to other livestock diseases. Many farmers and even veterinarians may not be fully informed about the disease, its impact, and the importance of routine testing. Enhancing public awareness and education about Johne's Disease is an ongoing challenge.

Genetic Diversity of Mycobacterium avium subsp. paratuberculosis (MAP)

The genetic diversity of the causative agent of Johne's Disease, MAP, presents challenges for diagnostic development. Different strains of MAP may require distinct diagnostic approaches, complicating the development of universal diagnostic tools.

Key Market Trends

Adoption of Next-Generation Sequencing (NGS)

Next-Generation Sequencing technology is increasingly being applied in the field of Johne's Disease diagnostics. NGS allows for comprehensive genetic analysis of Mycobacterium avium subspecies paratuberculosis (MAP), the causative agent of Johne's Disease. This technology not only improves diagnostic accuracy but also enables researchers to better understand the genetic diversity of MAP strains, which can inform disease management strategies.

Serological Assays and Biomarkers

Serological assays, which detect antibodies produced by the host in response to MAP infection, are becoming more refined and specific. Additionally, researchers are actively working on identifying and validating biomarkers associated with Johne's Disease. These biomarkers can serve as reliable indicators of disease presence and progression, offering potential breakthroughs in diagnostics.

Digitalization and Data Integration

The digital transformation of healthcare and diagnostics is making its mark in the Johne's Disease Diagnostics Market. Digital platforms and data analytics are being used to streamline diagnostic processes, manage patient data, and provide insights for disease control. Data integration across farms and regions is enhancing surveillance and monitoring efforts.

Targeted Regional Solutions

Given the variability in disease prevalence and management practices across different regions, there is a trend toward developing region-specific diagnostic solutions. These solutions are tailored to meet the unique needs of specific geographic areas, ensuring more effective disease control.

Segmental Insights

Animal Type Insights

Based on the category of Animal Type, the cattle sector emerged as the dominant force in the market in 2022, commanding the largest share of revenue. This category encompasses various bovine animals such as cows, bulls, oxen, calves, and buffaloes. The anticipated increase in zoonotic disease occurrences among cattle is expected to propel market expansion. According to data from the National Library of Medicine, in 2019, out of the 1,407 known human diseases, 816 were classified as zoonotic, indicating their potential to naturally spread between animals and humans. These zoonotic diseases encompassed 538 bacteria and rickettsia, 317 fungi, 208 viruses, 287 helminths, and 57 protozoa. On a global scale, the burgeoning populations of cows and livestock are contributing significantly to the expansion of this market.

France, boasting an impressive cattle population of over 18 million in 2020, primarily focused on beef production. In the same year, beef and pork collectively represented more than 80% of the entire cattle farming landscape in France. It is worth noting that the sheep sector is poised to experience the most rapid growth during the forecasted period. Ovine Johne's disease, which is caused by Mycobacterium paratuberculosis infection, is a key factor driving this trend. In Australia, owners are required to promptly report confirmed or suspected cases of ovine Johne's disease to Agriculture Victoria's animal health personnel within seven days of identification.

Test Type Insights

In the field of Johne's disease diagnostics within the business context, the PCR segment has established a dominant position in the market. Several key factors are poised to stimulate the growth of this segment. These include the swift uptake of testing and diagnostic technologies, coupled with the expanding livestock population, which is anticipated to further bolster market expansion. Additionally, PCR testing is readily accessible in clinical immunology and microbiology laboratories, offering superior sensitivity and the ability to detect infections earlier compared to antibody tests. As an illustration, the Animal Health Diagnostic Center (AHDC) offers a Johne's Direct Fecal PCR test.

For herds engaged in Johne's disease management through treatment and testing, this particular test is accessible to veterinary practitioners and is designed to transform individual cow or goat cultures. On the other hand, the ELISA segment is projected to experience the most rapid CAGR during the forecasted period, driven by the increasing

adoption of diagnostic tests. It is essential to note that ELISA tests can only be conducted on individual samples and are not amenable to pooling.

Regional Insights

In 2022, the North American region took center stage in the Johne's disease diagnostics market, securing the largest share of revenue. This significant market presence can be attributed to several key factors. Firstly, the region boasts a robust presence of essential service providers, who have strategically implemented various initiatives to expand their market reach. Additionally, the increasing livestock population has played a crucial role in driving market growth. Furthermore, a noticeable surge in biopharmaceutical development outsourcing activities in the United States has contributed to this dominance. The substantial market share of the U.S. in the Johne's disease diagnostics sector is largely due to the presence of major players like Thermo Fisher Scientific, Inc., Zoetis, and IDEXX. These companies are actively involved in developing and introducing diagnostic tests necessary for Johne's disease diagnosis. Moreover, collaborative efforts between local and international firms, along with acquisitions, are expected to further fuel market expansion in the United States. For instance, in April 2020, Zoetis successfully acquired Performance Livestock Analytics to enhance its animal health solutions for beef producers across the care continuum.

In the Asia Pacific region, the market for Johne's disease diagnostics is projected to experience the swiftest CAGR during the forecasted period. This remarkable growth can be attributed to several factors. Notably, countries such as China and India are expected to witness rapid market expansion, primarily driven by the increased establishment of manufacturing facilities in the region. Furthermore, market players are increasing their research and development investments to create value-added products, which is anticipated to further propel market growth. Additionally, the region's growing livestock population and the prevalence of zoonotic diseases are expected to act as significant growth catalysts. In summary, the factors mentioned above are poised to drive substantial market growth in the Asia Pacific region.

Key Market Players

PBD Biotech Ltd

Zoetis Inc

IDEXX Laboratories Inc

ID VET

Thermo Fisher Scientific Inc

Vmrd Inc

bioMerieux Inc

Report Scope:

In this report, the Global Johne's Disease Diagnostics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Johne's Disease Diagnostics Market, By Animal Type:

Cattle

Goat

Sheep

Johne's Disease Diagnostics Market, By Test Type:

ELISA

PCR

AGID

Others

Johne's Disease Diagnostics Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

United Kingdom

France

Italy

Spain

Asia-Pacific

China

Japan

India

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Kuwait

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global
Johne's Disease Diagnostics Market.

Available Customizations:

Global Johne's Disease Diagnostics 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

9.2. Market Share & Forecast
  9.2.1. By Animal Type (Cattle, Goat, Sheep)
  9.2.2. By Test Type (ELISA, PCR, AGID, Others)
  9.2.3. By Country
9.3. South America: Country Analysis
  9.3.1. Brazil Johne's Disease Diagnostics Market Outlook
   9.3.1.1. Market Size & Forecast
    9.3.1.1.1. By Value
   9.3.1.2. Market Share & Forecast
    9.3.1.2.1. By Animal Type
    9.3.1.2.2. By Test Type
  9.3.2. Argentina Johne's Disease Diagnostics Market Outlook
   9.3.2.1. Market Size & Forecast
    9.3.2.1.1. By Value
   9.3.2.2. Market Share & Forecast
    9.3.2.2.1. By Animal Type
    9.3.2.2.2. By Test Type
  9.3.3. Colombia Johne's Disease Diagnostics Market Outlook
   9.3.3.1. Market Size & Forecast
    9.3.3.1.1. By Value
   9.3.3.2. Market Share & Forecast
    9.3.3.2.1. By Animal Type
    9.3.3.2.2. By Test Type

10. MIDDLE EAST AND AFRICA JOHNE'S DISEASE DIAGNOSTICS MARKET OUTLOOK

10.1. Market Size & Forecast
  10.1.1. By Value
10.2. Market Share & Forecast
  10.2.1. By Animal Type (Cattle, Goat, Sheep)
  10.2.2. By Test Type (ELISA, PCR, AGID, Others)
  10.2.3. By Country
10.3. MEA: Country Analysis
  10.3.1. South Africa Johne's Disease Diagnostics Market Outlook
   10.3.1.1. Market Size & Forecast
    10.3.1.1.1. By Value
   10.3.1.2. Market Share & Forecast
    10.3.1.2.1. By Animal Type

11. MARKET DYNAMICS

11.1. Drivers
11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

12.1. Recent Development
12.2. Mergers & Acquisitions
12.3. Product Launches

13. PORTER'S 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. COMPETITIVE LANDSCAPE

14.1. Business Overview

14.2. Product Offerings

14.3. Recent Developments

14.4. Financials (As Reported)

14.5. Key Personnel

14.6. SWOT Analysis

  14.6.1. PBD Biotech Ltd

  14.6.2. Zoetis Inc

  14.6.3. IDEXX Laboratories Inc

  14.6.4. ID VET

  14.6.5. Thermo Fisher Scientific Inc

  14.6.6. Vmrd Inc

  14.6.7. bioMerieux Inc

15. STRATEGIC RECOMMENDATIONS

16. ABOUT US & DISCLAIMER

Market Publishers

I would like to order

Product name: Johne's Disease Diagnostics Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Animal Type (Cattle, Goat, Sheep), By Test Type (ELISA, PCR, AGID, Others), By Region, By Competition Forecast & Opportunities, 2018-2028F

Product link: https://marketpublishers.com/r/JFCA0C9A5D64EN.html

Price: US$ 4,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/JFCA0C9A5D64EN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html

To place an order via fax simply print this form, fill in the information below
and fax the completed form to +44 20 7900 3970