+357 96 030922
info@marketpublishers.com

Biorationals Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Product (Botanical, Microbial, Others), By Application (Fruits & Vegetables, Grains & Cereals, Others), By Region and Competition

https://marketpublishers.com/r/BED938C2C84DEN.html
Date: October 2023
Pages: 173
Price: US$ 4,500.00 (Single User License)
ID: BED938C2C84DEN

Abstracts

The Global Biorationals Market reached a value of USD 1.25 billion in 2022 and is poised for substantial growth to reach USD 2.07 billion projecting a robust Compound Annual Growth Rate (CAGR) of 8.79% until 2028. Biorationals, harnessing naturally derived pheromones, stand as a potent solution against insects and pests. The continuous advancement of organic solutions for biorationals ensures the absence of harmful chemical residues in grains and agricultural produce. With a heightened focus on achieving robust agricultural yields, the demand for biorationals is expected to surge in the coming years.

Key Market Drivers

Increasing Demand for Biorationals in the Electronics & Optics Sector

In modern agriculture, there is a growing emphasis on balancing the needs of a burgeoning global population with environmental sustainability. Both consumers and farmers are increasingly seeking safer and more sustainable solutions, driving a remarkable uptick in the demand for biorational products in fruit and vegetable crops. These naturally derived alternatives to traditional chemical pesticides and fertilizers are reshaping the landscape of crop protection and cultivation.

The surge in demand for biorational products is rooted in their alignment with sustainable and environmentally friendly agricultural principles. Unlike conventional

+357 96 030922
info@marketpublishers.com

chemical inputs, which often leave harmful residues in ecosystems and pose risks to human health, biorationals offer a safer and more targeted approach to crop management. This targeted approach is particularly crucial in fruit and vegetable production, where product quality and safety are paramount.

Consumers are becoming more conscious of the food they consume and the potential risks associated with chemical residues. The use of biorational products in fruit and vegetable crops ensures that the produce reaching consumers' tables is not only free from harmful residues but also retains its nutritional value and flavor. This not only boosts consumer confidence but also elevates the market value of these crops.

Additionally, fruit and vegetable crops are often cultivated in proximity to natural habitats and water bodies. The use of biorational products minimizes the risk of contamination to surrounding ecosystems, safeguarding beneficial insects, pollinators, and aquatic life. Biorational solutions degrade more rapidly than conventional chemicals, reducing their impact on soil and water quality.

Moreover, biorational products are designed to target specific pests while sparing beneficial organisms, promoting the natural balance of ecosystems. By supporting natural predators and minimizing disruptions to pollinators, biorational products contribute to the overall health of the agricultural ecosystem, which drives market demand.

Increasing Demand for Biorationals in Grains & Cereals Crops

In the global pursuit of sustainable agriculture, biorational products are playing a pivotal role in shaping the future of crop cultivation, particularly in the grains and cereals sector. As concerns regarding food security, environmental impact, and consumer health take center stage, the demand for biorational solutions has surged in these essential crops.

Consumer awareness of chemical residues in food is on the rise, especially in staple foods like grains and cereals. Biorational products provide an alternative to conventional chemical pesticides and fertilizers, ensuring that the food produced is safer and healthier for consumption. This shift aligns with the growing preference for clean, residue-free food.

Grains and cereals heavily rely on pollinators and beneficial insects for successful pollination and natural pest control. The targeted nature of biorational products ensures that these beneficial insects are spared, safeguarding the delicate balance of

+357 96 030922
info@marketpublishers.com

ecosystems. This has profound implications for biodiversity and the resilience of agricultural systems.

The emergence of pesticide resistance poses a significant threat to conventional crop protection methods. Biorational products, with their diverse modes of action, offer a varied toolkit for pest management. Rotating biorational solutions within integrated pest management (IPM) strategies reduces the likelihood of pests developing resistance, ensuring long-term efficacy.

As sustainability becomes a driving force in agriculture, the adoption of biorational products aligns with these principles. Grains and cereals, often cultivated on a large scale, can benefit from the reduced environmental impact of biorational solutions. By promoting natural processes and minimizing chemical inputs, biorationals support the shift toward more sustainable farming practices, driving market growth.

Increasing Demand for Biorationals in Oilseeds Crops

In the evolving landscape of agriculture, sustainability is taking center stage in crop cultivation, particularly in oilseed crops. Environmental concerns, consumer preferences, and evolving agricultural practices are driving a significant surge in demand for biorational products in oilseed crops.

Oilseed crops, including canola, soybeans, and sunflowers, play vital roles in global food and energy systems. However, their cultivation often involves intensive practices that can harm soil health and ecosystem balance. Conventional chemical inputs exacerbate these concerns, contributing to soil degradation, water pollution, and loss of biodiversity. Biorational products offer solutions by providing targeted pest and disease management while minimizing harm to non-target organisms and soil quality.

Consumer awareness of chemical residues in food has surged, leading to a demand for produce free from harmful residues. Biorational products, with their focus on natural ingredients and precision targeting, provide a path to achieve residue-free oilseed crops. This resonates with health-conscious consumers' preferences and enhances the market value of these commodities.

Oilseed crops are often grown in agricultural landscapes that support diverse ecosystems. The use of biorational products supports beneficial insects, pollinators, and other wildlife, contributing to overall ecosystem health. By minimizing disruptions to these natural allies, biorational solutions foster biodiversity and ecological resilience.

+357 96 030922
info@marketpublishers.com

Pests, such as aphids and caterpillars, can significantly impact oilseed crop yields. Conventional chemical pesticides may offer quick solutions, but they often come at the cost of environmental harm and the development of resistance. Biorational products, with their varied modes of action and minimal impact on non-target organisms, provide a sustainable means of managing pests over the long term.

For example, canola crops are susceptible to pests like aphids, which can transmit viruses leading to significant yield losses. Biorational products, including beneficial insects and microbial biopesticides, offer an eco-friendly approach to managing these pests. By promoting natural predators and maintaining crop health, biorational solutions contribute to higher yields and oil quality. Similarly, soybean plants vulnerable to pests like soybean aphids and caterpillars can benefit from biorational solutions, including insect-killing nematodes and microbial bioinsecticides.

All these factors contribute to the growing demand for biorational products in oilseed crops.

Key Market Challenges

Limited Efficacy for Certain Pests and High Research and Development Costs

While biorational products excel in managing specific pests and diseases, their effectiveness can vary. They may not always provide a comprehensive solution for all pests, necessitating the combination with other methods or products. This underscores the importance of integrated pest management (IPM) strategies that incorporate multiple approaches to achieve optimal results.

Developing biorational products requires substantial investment in research and development. Identifying and isolating effective bioactive compounds, testing their efficacy, and ensuring their safety demand significant financial resources. This cost factor can deter some companies from entering the market, limiting the range of available products and potentially hindering innovation.

Regulatory Hurdles

Navigating complex and varying regulations presents a significant challenge for the biorationals market. Regulatory authorities often impose stringent requirements for product approval and registration, leading to delays in market entry. The lack of

+357 96 030922
info@marketpublishers.com

harmonization in regulatory standards across different regions adds complexity and can impede the expansion of biorational solutions to new markets.

Effective adoption of biorational products depends on the knowledge and awareness of farmers and other stakeholders. Educating growers about the benefits, proper application methods, and integration of biorationals into their existing practices is crucial. In regions where awareness is lacking, there is a need for training programs and extension services to bridge the gap and ensure successful implementation.

Moreover, biorational products can face resistance from farmers accustomed to traditional chemical solutions. Skepticism about their effectiveness, misconceptions, and resistance to change can hinder their adoption. Overcoming this challenge requires not only demonstrating the efficacy of biorationals but also addressing concerns and dispelling myths.

Biorational products may not always be readily available or accessible to farmers, particularly in remote or economically disadvantaged areas. Limited distribution networks and inadequate market penetration can hinder the widespread use of these products, even when they could offer substantial benefits.

Key Market Trends

Increasing Demand for Safe and Residue-Free Produce

Consumers are becoming increasingly aware of the potential health risks associated with chemical residues on their food. This awareness has fueled the demand for produce that is free from harmful chemicals, leading to a surge in demand for biorational products. Unlike conventional chemical pesticides, biorationals are designed to target specific pests or diseases without causing harm to non-target organisms. This precision targeting not only minimizes the risk of harmful residues but also contributes to the overall health of ecosystems and biodiversity.

Moreover, governments and regulatory bodies across the world are recognizing the importance of biorational products in sustainable agriculture. As a result, they are implementing policies and regulations that promote the use of these products. This includes streamlining registration processes and offering incentives for farmers who adopt biorational solutions. The favorable regulatory environment is bolstering the growth of the biorationals market and encouraging more farmers to make the switch from conventional chemicals.

+357 96 030922
info@marketpublishers.com

Advancements in Research and Development

Research and development efforts in the field of biorationals are yielding remarkable innovations. Scientists are exploring new ways to harness the power of naturally occurring compounds and microorganisms to combat pests and diseases. This includes the development of biopesticides, biofertilizers, and plant growth-promoting substances that enhance crop health and productivity. As the knowledge base expands, the effectiveness and versatility of biorational products continue to improve, further driving their adoption.

Moreover, Integrated Pest Management (IPM) is a holistic approach that combines various pest control methods to minimize the use of chemicals while maximizing crop yields. Biorational products seamlessly fit into the IPM framework by providing farmers with effective tools to manage pests in a targeted manner. The use of biorational products alongside cultural practices, biological controls, and monitoring systems allows farmers to achieve pest control with reduced environmental impact.

Increased Investment and Market Growth

The growing interest in sustainable agriculture has attracted significant investment in the biorationals market. This influx of capital is driving innovation, product development, and market expansion. With a broader range of biorational options available, farmers can choose solutions that best fit their specific crop and pest management needs.

Additionally, the expansion of the organic farming sector has provided a fertile ground for biorational products. Biorationals align seamlessly with organic farming principles, as they are derived from natural sources and have minimal impact on the environment. As consumers continue to seek organic produce, the demand for biorational solutions is projected to rise further.

Segmental Insights

Product Insights

Within the product category, botanical products emerged as the dominant player in the global biorationals market in 2022. The expansion of the botanical product category can be attributed to the growing demand from emerging economies in the Asia Pacific region, including India and China.

+357 96 030922
info@marketpublishers.com

In recent years, the use of biorationals has been on the rise, primarily due to the complete absence of residues in agricultural produce. These products, such as insecticides and pesticides, facilitate the elimination of pests and insects from seeds and soils without leaving behind any harmful chemical residue on fruits and vegetables. Farmers in regions like North America and Europe have been among the early adopters of biorational products, as consumers in these areas lean towards organically-based agricultural items.

Application Insights

In terms of application, fruits & vegetables emerged as the dominant player in the global biorationals market in 2022. The expansion can be credited to significant product demand arising from activities related to crop protection, including the application of insecticides and pesticides via foliar methods. Biorationals, being less toxic organic alternatives, play a vital role in crop protection against pests and insects. They influence the life cycle of living organisms, disrupting the life cycle of insect pests in a manner that can lead to reduced crop damage in the future. Biorationals also provide support to the natural enemies of pests and insects, such as predators, parasites, disease-causing fungi, bacteria, and viruses.

Moreover, synthetic pesticides find extensive usage due to their comparatively lower production costs when compared to bio-based alternatives. This poses a formidable hurdle for industry players striving to achieve economies of scale. Nonetheless, the swift embrace of biorationals is anticipated to lend significant support to their advancement. The Asia Pacific region spearheaded the market, commanding over a third of the global market share individually. Nonetheless, stringent regulations governing the utilization of synthetic pesticides and insecticides render Europe the most appealing market in the foreseeable future.

Regional Insights

Asia Pacific emerged as the dominant player in the global Biorationals market in 2022. The Asia Pacific region boasts a vast and diverse agricultural landscape, with a significant portion of the global agricultural activity taking place here. This extensive agricultural activity provides a substantial market for biorational products that aim to enhance crop productivity while minimizing environmental impact.

Moreover, the region is home to some of the most populous countries in the world, such

+357 96 030922
info@marketpublishers.com

as India and China. With a growing population and increasing demand for food, there is a strong incentive to adopt agricultural practices that ensure sustainable and reliable crop yields. Biorational products align with these goals by offering effective pest and disease management without the negative effects of chemical residues. Along with this, the organic farming movement is gaining momentum in Asia Pacific as consumers demand healthier and more sustainably produced food. Biorational products align well with organic farming practices, as they are derived from natural sources and often have minimal residual effects, making them a valuable tool for organic growers.

Key Market Players

BASF SE

Bayer Cropscience AG

Valent Biosciences Corporation

Certis LLC

UPL Limited

Koppert B.V.

Isagro S.P.A.

Gowan Company LLC.

Summit Chemicals Company

The Wonderful Company LLC.

Report Scope:

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

Biorationals Market, By Product:

Botanical

+357 96 030922
info@marketpublishers.com

- Microbial
- Others

Biorationals Market, By Application:

- Fruits & Vegetables
- Grains & Cereals
- Others

Biorationals Market, By Region:

- Asia-Pacific
  - China
  - India
  - South Korea
  - Japan
  - Australia
- North America
  - United States
  - Canada
  - Mexico
- Europe
  - France

+357 96 030922
info@marketpublishers.com

Germany

United Kingdom

Italy

Spain

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

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

Available Customizations:

Global Biorationals 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).

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

6. ASIA-PACIFIC BIORATIONALS MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com

7. NORTH AMERICA BIORATIONALS MARKET OUTLOOK

8. EUROPE BIORATIONALS MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com

9. SOUTH AMERICA BIORATIONALS MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com

10. MIDDLE EAST AND AFRICA BIORATIONALS MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Biorationals Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Product (Botanical, Microbial, Others), By Application (Fruits & Vegetables, Grains & Cereals, Others), By Region and Competition

Product link: https://marketpublishers.com/r/BED938C2C84DEN.html

Price: US$ 4,500.00 (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/BED938C2C84DEN.html