

# **Soil Active Herbicides Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Mobility Type (Contact, Systemic), By Mode of Action (Selective Herbicides, Non-Selective Herbicides), By Product Type (Synthetic Herbicides, Bio-herbicides), By Application (Pre-Plant, Pre-Emergence, Post-Emergence), By End Use (Farming Lawns, Gardening & Landscaping), By Region, and By Competition**

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## **Abstracts**

Global Soil Active Herbicides Market is anticipated to grow in the forecast period. Soil-active herbicides refer to herbicides that exert their effects on plant roots, seeds, and shoots. These herbicides are mixed into the soil, playing a crucial role in managing the proliferation of undesired plants and weeds. They remain effective within the soil for a designated duration and are utilized by farmers both prior to and following crop planting.

### **Key Market Drivers**

#### **Increasing Global Population and Food Demand**

As the world's population continues to expand, the demand for food production has reached unprecedented levels. With the need to feed billions, the agricultural sector faces the formidable challenge of enhancing productivity while ensuring sustainable practices.

The world's population is on a trajectory of continuous growth, placing immense

pressure on global agriculture to produce more food. This surge in population directly translates to increased demand for crops, necessitating enhanced agricultural efficiency. Soil active herbicides, designed to optimize crop yields by curbing weed competition, have become indispensable tools in meeting the escalating food demand.

The rising global population underscores the urgency of ensuring food security. Agriculture must produce more with the available arable land. Soil active herbicides play a crucial role in maximizing crop yields by mitigating the adverse effects of weeds on plant growth. As an integral component of modern weed management, these herbicides contribute to the global effort to achieve sustainable food production.

Traditional weed management methods are often labor-intensive and time-consuming. In the face of burgeoning food demand, farmers seek more efficient solutions. Soil active herbicides provide a time-saving and effective means of weed control, allowing farmers to allocate resources more strategically and focus on other aspects of crop management, leading to increased overall productivity.

The need to produce more food has driven a shift towards intensive agricultural practices. Large-scale farming operations, designed to meet the demands of a growing population, benefit from the targeted and long-lasting effects of soil active herbicides. These herbicides contribute to the optimization of land use and facilitate the management of extensive crop areas efficiently.

### Advancements in Agriculture Technology

In the dynamic realm of agriculture, technology stands as a driving force, transforming traditional practices and ushering in a new era of efficiency and sustainability. As advancements in agriculture technology continue to unfold, a notable beneficiary emerges in the form of the Global Soil Active Herbicides Market.

A cornerstone of agricultural technological progress is precision farming. This approach involves the use of advanced technologies such as GPS, sensors, and data analytics to optimize various aspects of crop management. In the context of soil active herbicides, precision farming enables targeted application, ensuring that herbicides are deployed precisely where needed. This precision minimizes wastage, reduces environmental impact, and enhances the overall effectiveness of soil active herbicides.

The synergy between agriculture technology and the development of herbicide formulations has yielded innovative products with heightened efficacy. Through

extensive research and technological integration, new formulations of soil active herbicides are designed to provide longer-lasting effects, increased selectivity, and improved performance in diverse soil conditions. These advancements contribute significantly to the market's growth by offering farmers more potent tools for weed management.

Digital monitoring and decision support systems empower farmers with real-time data on crop health, soil conditions, and weed prevalence. Integrated with soil active herbicides, these systems assist farmers in making informed decisions regarding the timing and dosage of herbicide applications. The ability to respond promptly to dynamic agricultural conditions enhances the efficiency of weed control and optimizes the use of soil active herbicides.

Agriculture technology has witnessed a surge in automation and mechanization, simplifying labor-intensive tasks. The integration of automated machinery for herbicide application ensures consistent coverage and distribution, reducing the reliance on manual labor. This not only enhances the precision of soil active herbicide application but also makes it more accessible to farmers on varying scales, contributing to the market's widespread adoption.

### Environmental Concerns and Sustainable Agriculture

In the quest for a sustainable future, agriculture emerges as a critical frontier where environmental concerns and innovation converge. The Global Soil Active Herbicides Market, tasked with providing effective weed management solutions, finds itself at the forefront of this symbiotic relationship.

Traditional weed control methods, such as extensive tillage or the use of non-selective herbicides, can leave a significant ecological footprint. In contrast, soil active herbicides, when used responsibly, contribute to sustainable agriculture by minimizing soil disturbance and reducing the need for repeated applications. This eco-friendly approach resonates with environmentally conscious farmers, fostering the adoption of soil active herbicides.

Environmental concerns have spurred a shift towards conservation tillage practices, aimed at preserving soil structure and minimizing erosion. Soil active herbicides play a pivotal role in this paradigm by enabling weed control without the need for extensive tillage. As farmers increasingly embrace conservation tillage, the demand for soil active herbicides is set to rise, driving the market's growth.

Conventional herbicides, when applied excessively or inappropriately, can contribute to water contamination and runoff, posing threats to aquatic ecosystems. Soil active herbicides, with their targeted and soil-incorporated nature, minimize these risks. The compatibility of soil active herbicides with sustainable agriculture practices aligns with the growing concern for water quality, driving their adoption among environmentally conscious farmers.

Sustainable agriculture emphasizes the importance of preserving biodiversity. Traditional weed management practices can inadvertently harm non-target plant species. Soil active herbicides, designed for specificity and selectivity, allow for weed control without causing widespread harm to surrounding flora. This characteristic aligns with sustainable agriculture goals, attracting farmers who prioritize biodiversity conservation.

### Rising Need for Cost-Effective Weed Management

In the ever-evolving landscape of agriculture, the imperative to optimize resource utilization and cut costs is steering farmers and cultivators towards innovative solutions. One such solution that has gained prominence is the use of soil active herbicides.

Traditional weed management methods often involve significant labor costs and time investments. As the global agricultural community grapples with the need to produce more with fewer resources, the economic efficiency offered by soil active herbicides becomes a compelling factor. These herbicides provide a cost-effective solution by reducing the need for manual labor in weed control, allowing farmers to allocate resources more strategically.

Weeds compete with crops for nutrients, water, and sunlight, potentially leading to substantial yield losses. Soil active herbicides, by effectively suppressing weed growth, contribute to minimizing these losses. The economic impact of preserving crop yields is substantial, and as the demand for higher productivity increases, farmers are turning to soil active herbicides as a viable investment to safeguard their harvests.

Traditional weed control methods often involve extensive tillage, which can incur significant fuel and labor costs. Soil active herbicides, designed to work within the soil, enable farmers to reduce dependency on tillage without compromising on weed management. This reduction in tillage-related costs is a key driver for the adoption of soil active herbicides among those seeking cost-effective and sustainable weed control.

solutions.

The rising need for cost-effective weed management extends across agricultural operations of all scales. Soil active herbicides offer operational scalability, making them suitable for both small-scale and large-scale farming. This versatility in application aligns with the diverse needs of farmers, further fueling the market's growth as it becomes an accessible and cost-efficient solution for a broad spectrum of agricultural practices.

## Key Market Challenges

### Environmental Concerns and Regulatory Scrutiny

Perhaps the most pressing challenge confronting the soil active herbicides market is the increasing scrutiny of environmental impacts. Regulatory bodies worldwide are placing a heightened focus on the ecological consequences of herbicide use, and soil active herbicides are no exception. Stricter regulations and evolving environmental consciousness demand a delicate balance between effective weed management and environmental stewardship.

### Resistance Management in Weeds

The prolonged use of herbicides, including soil active varieties, has led to the emergence of herbicide-resistant weed species. This resistance poses a significant challenge for the soil active herbicides market, necessitating ongoing research and development to stay ahead of evolving weed populations. Developing new formulations and strategies to manage resistance is crucial for the sustained effectiveness of soil active herbicides.

### Public Perception and Consumer Awareness

Public perception of herbicide use in agriculture, including soil active herbicides, is influenced by concerns about food safety and environmental impact. Increasing consumer awareness regarding agricultural practices has led to a demand for transparency and sustainable farming. The soil active herbicides market faces the challenge of aligning its narrative with these concerns, emphasizing responsible use and the benefits of these herbicides in sustainable weed management.

## Key Market Trends

## Integration of Precision Agriculture Technologies

Precision agriculture is gaining momentum as farmers leverage technologies like GPS, sensors, and data analytics for precise and data-driven decision-making. The integration of precision agriculture technologies into the use of soil active herbicides allows for more targeted and efficient weed management. Farmers can optimize herbicide applications based on real-time data, reducing waste and improving overall effectiveness.

## Development of Sustainable Formulations

With an increasing emphasis on sustainable agriculture, there is a growing demand for herbicide formulations that minimize environmental impact. The soil active herbicides market is responding by developing formulations with enhanced biodegradability, reduced toxicity, and lower ecological footprints. Sustainable formulations align with both regulatory requirements and the preferences of environmentally conscious farmers.

## Biological Soil Active Herbicides

The rise of biologicals in agriculture is extending to the realm of weed management. Biological soil active herbicides, derived from microorganisms or natural compounds, are gaining traction as viable alternatives. These herbicides offer an eco-friendlier approach to weed control, appealing to farmers seeking sustainable solutions that align with organic farming practices.

## Segmental Insights

### Mobility Type Insights

Based on the category of Mobility Type, contact herbicides are poised to dominate the global soil active herbicides market as the preferred mobility type. This trend can be attributed to their unparalleled efficacy in swiftly targeting and eliminating unwanted vegetation upon contact, thereby providing a rapid and efficient solution to weed control. The contact herbicides' ability to act swiftly on the target plants while minimizing residual effects on the soil positions them as an environmentally friendly and sustainable choice. Additionally, the increasing emphasis on precision agriculture and integrated weed management practices further enhances the appeal of contact



herbicides. Farmers and agricultural professionals recognize the importance of a mobility type that not only addresses weed-related challenges effectively but also aligns with modern agricultural sustainability goals. The dominant position of contact herbicides in the market is expected to persist as growers seek reliable and environmentally conscious solutions for soil active herbicide applications.

### Product Type Insights

Synthetic herbicides are poised to dominate the global soil active herbicides market as the preferred product type, and several factors contribute to this anticipated dominance. First and foremost, synthetic herbicides are known for their versatility and efficacy in targeting a wide spectrum of weeds, offering a comprehensive solution to farmers grappling with diverse weed populations. The ability of synthetic herbicides to provide long-lasting weed control and minimize the need for repeated applications enhances their attractiveness to farmers seeking cost-effective and time-efficient solutions. Moreover, the continuous advancements in herbicide technology have led to the development of highly selective synthetic herbicides, allowing for targeted weed management without adversely affecting non-target crops. As the demand for increased agricultural productivity and sustainability rises, synthetic herbicides, with their proven track record and ongoing innovations, are poised to maintain their dominant position in the global soil active herbicides market.

### Regional Insights

North America is positioned to dominate the global soil active herbicides market due to a convergence of factors that establish the region as a key player in the industry. The agricultural landscape in North America is characterized by large-scale commercial farming operations that rely heavily on efficient and technologically advanced weed management solutions. The region's robust infrastructure, extensive research and development capabilities, and widespread adoption of precision farming practices contribute to the dominance of soil active herbicides. Additionally, stringent regulatory frameworks and a high level of awareness regarding sustainable agriculture practices in North America drive the demand for herbicides that offer effective weed control while minimizing environmental impact. The presence of major agricultural input suppliers and a well-established distribution network further solidify North America's leading position in the global soil active herbicides market. As the region continues to prioritize productivity and sustainability in agriculture, its dominance in the soil active herbicides market is expected to persist.

## Key Market Players

Bayer AG

BASF SE

Syngenta AG

DuPont de Nemours, Inc.

ADAMA Ltd.

Arysta LifeScience Corp

Nufarm Limited

Nissan Chemical Corp

Shandong Binnong Technology Co Ltd

FMC Corporation

## Report Scope:

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

Soil Active Herbicides Market, By Mobility Type:

Contact

Systemic

Soil Active Herbicides Market, By Mode of Action:

Selective Herbicides

Non-Selective Herbicides



Soil Active Herbicides Market, By Product Type:

Synthetic Herbicides

Bio-herbicides

Soil Active Herbicides Market, By Application:

Pre-Plant

Pre-Emergence

Post-Emergence

Soil Active Herbicides Market, By End Use:

Farming Lawns

Gardening & Landscaping

Soil Active Herbicides 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 Soil Active Herbicides Market.

### Available Customizations:

Global Soil Active Herbicides 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

**1. BAYER AG**

**2. BASF SE**

**3. SYNGENTA AG**

**4. DUPONT DE NEMOURS, INC.**

**5. ADAMA LTD.**

**6. ARYSTA LIFESCIENCE CORP**

**7. NUFARM LIMITED**

**8. NISSAN CHEMICAL CORP**

**9. SHANDONG BINNONG TECHNOLOGY CO LTD**

**10. FMC CORPORATION**

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