

Secondary Macronutrient Fertilizers Market Assessment, By Nutrient Type [Magnesium, Calcium, Sulfur], By Form [Solid, Liquid], By Crop Type [Cereals and Grains, Fruits and Vegetables, Oilseeds and Pulses, Others], By Application [Foliar, Fertigation, Others], By Region, Opportunities and Forecast, 2017-2031F

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Report description:

Global secondary macronutrient fertilizers market is projected to witness a CAGR of 4.72% during the forecast period 2024-2031, growing from USD 42.05 billion in 2023 to USD 60.81 billion in 2031. The market worldwide has been progressing steadily with growing acceptance within agricultural industries for the need for balanced nutrient use to achieve the required yields and quality of crop production. Calcium, magnesium, and sulfur are significant secondary macronutrients that play many roles within plants, such as activating certain enzymes, chlorophyll synthesis, and movement of nutrients. They, however, are very important in restoring variations in soil nutrients, especially in soils that have undergone extensive agriculture and high cropping practices. There are a number of reasons that encourage market growth, including a worldwide initiative for food security, a growing interest in better land management, and the need to improve crops' ability to withstand the impacts of climate change. With the rise in demand for crops of higher value, which require sound management of nutrients, farmers are increasingly using secondary macronutrient fertilizers for specific crop purposes to achieve the set goals.

The market is becoming more efficient and environmentally friendly due to the introduction of advanced technologies in the manufacturing of fertilizers, such as slow-release and foliar application fertilizers. In the years to come, the global secondary macronutrient fertilizers market will continue to grow as farmers are under continuous pressure to increase crop productivity and quality with minimal economic and environmental costs.

In November 2023, EuroChem-BMU finished pilot tests for the manufacturing of mineral NPS fertilizers using elemental sulfur. The Russian market was decided to get the first 4-kiloton shipment of fertilizers containing sulfur. NPS compounds include elemental sulfur, one of the most important nutritional supplements needed for plant growth. For soils with low sulfur concentrations, the release of sulfur enhances the crop's whole life cycle without requiring reapplication, increasing yields.

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Technological Advancements to Catalyze Market Expansion

Advanced secondary macronutrient fertilizers are produced in such a way that they are more effective and friendly to the environment. Inventions like controlled-release technologies and methods of foliar application can aid in the delivery of the chemicals and minimize the loss of nutrients while optimizing plant absorption of the nutrients delivered.

The practice of applying fertilizers directly to the foliage in a technique known as foliar application helps to enhance the rate of absorption of nutrients by plants and is particularly useful in soils that are low in nutrients. These developments enhance the efficiency of fertilizers while minimizing their negative environmental impacts by reducing their leaching and runoffs.

Furthermore, companies are introducing new formulations to present better products to consumers. For instance, in February 2023, Vantage Ag, a maker and distributor of liquid fertilizer, introduced its first product using its in-house nanotechnology platform. The new technique uses a composition of nanoparticles that are very effective at covering and penetrating plant tissue. The sulfur particles in the new liquid sulfur product are less than a nanometer. Due to these microscopic particles, the nutrient is fully bioavailable and may be swiftly taken and used by the plant. Only 30 to 40 times the size of an atom, each nutrient particle is one-third to two-thirds of a nanometer.

Government Support to Influence Market Growth

Government involvement is one of the major factors estimated to propel the growth of the global secondary macronutrient fertilizers market. Balanced fertilization programs are motivated by governments and agricultural agencies globally, whereby secondary macronutrients such as calcium, magnesium, and sulfur are promoted together with primary nutrients such as nitrogen, phosphorus, and potassium. The support includes grants, awards, and outreach, encouraging and teaching farmers about these nutrients to improve the soil and crops.

Culturally the farmers' knowledge of sustainable management of nutrients. Also, the policies on food production intensive regions of soil degradation and nutrient loss are often associated with common government initiatives that supplement sustainability and food security advocate engaging in crop production of balanced and nutrient-dense fertilizers to circumvent loss in productivity of high-yielding crops.

Furthermore, some governments are easing the policies for manufacturers to enable them to produce these fertilizer products more efficiently. For instance, in July 2024, the European Council approved a rule requiring fertilizer items to be digitally labeled. While maintaining physical labels wherever needed, the legislation allows digital labels on fertilizing goods in the European Union. It makes labels easier to read and streamlines suppliers' labeling requirements.

Calcium-based Fertilizers to Hold a Significant Market Share

Owing to its importance in plant growth and soil health, calcium occupies a significant portion of the market for secondary macronutrient fertilizers. Calcium serves as an important plant nutrient as it contributes to the fortification of the cell membranes of plants, which improves their ability to withstand damage by diseases and other external factors. In addition, calcium aids in the development of roots, thus enhancing the yield and quality of crops. Calcium plays a balancing role in soil by maintaining the pH range and preventing soil densification for ideal conditions for root development and moisture penetration. In mineral soils, calcium is present as the Ca^{2+} divalent cation, which can be absorbed by plants. There is typically enough calcium available for the crop when the soil is limed to maintain an ideal pH level. By evaluating the cation on the soil's CEC (cation exchange capacity), soil tests can calculate the amount of calcium that is accessible.

Calcium is a vital nutrient required in large quantities for crops such as tomatoes, apples, and lettuce that are economically significant. The awareness of the advantages offered by calcium has led to increased application of calcium-based fertilizers.

Asia-Pacific to Witness Rapid Market Growth

Asia-Pacific secondary macronutrient fertilizers market is showing tremendous growth, as the region boasts a large agricultural industry and an increasing demand for food security due to a growing population. Nations such as China and India, are putting secondary macronutrient fertilizers to promote crop production and mitigate the effects of degenerating soil caused by modern agricultural practices. The adoption is being further encouraged by government policies, encouraging balanced use of fertilizers and sustainable agriculture. However, the consumers' inclination for quality, particularly for high value crops, is fueling the growth of the market.

To expand its activities in the region, especially in India, in March 2024, Haifa Group signed a collaborative agreement with Deepak Fertilizers and Petrochemicals Corporation Limited. With an emphasis on resource preservation and environmental

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pollution reduction, the new strategic partnership is aimed at giving Indian farmers access to cutting-edge plant nutrition solutions and efficient nutrification techniques to increase crop yields and quality. In order to improve food security, increase farmer incomes, and boost India's economy, the firms will collaborate to increase understanding of precision plant nutrition, with a focus on modern solutions that are accessible to Indian farmers.

Future Market Scenario (2024 - 2031F)

-□As farmers seek to achieve higher crop yields and greater quality, the growing awareness of the importance of secondary nutrients will boost demand.

-□Continued initiatives aimed at promoting agricultural sustainability will enhance the adoption of secondary macronutrients, especially in areas where soil nutrients are depleted.

-□The rising popularity of high-value, nutrient-dense crops will promote secondary macronutrient elements, especially in the production of horticulture and other unique crops.

Key Players Landscape and Outlook

The secondary macronutrient fertilizers market is occupied by a competitive landscape comprising international fertilizer manufacturers and regional companies. The players invest more in R&D to enhance nutrient use efficiency and sustainability. They are innovating and bringing new products to the market to gain a competitive edge. For instance, in June 2024, Coromandel International Limited introduced Paramfos Plus, a new complex-grade fertilizer enhanced with magnesium. The added magnesium improves quality and yield by increasing photosynthesis, producing more chlorophyll, and encouraging plant vegetative development. Paddy, cotton, maize, sugarcane, legumes, ragi, groundnuts, oilseeds, and vegetables are some crops that can benefit from its versatility, either as a top dressing or as a base treatment.

Collaboration and mergers are another strategy as companies seek to increase penetration in existing markets and access new markets, mainly due to high potential market growth opportunities in regions such as Asia-Pacific.

Considering the future, the market scenario is expected to remain favorable due to the demand from balanced fertilization and restoration of soil health. The major players are anticipated to intensify their focus on green technologies and sustainability practices to satisfy the demands of eco-friendly farmers and, thus, establish themselves as important players in the global agricultural productivity enhancement efforts.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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