Polymer Coated-Urea Market Assessment, By Form [Prills, Granules, Others], By Application [Cereals and Grains, Oilseeds and Pulses, Fruits and Vegetables, Turf and Ornamentals, Others], By End-user [Residential, Commercial, Agricultural, Industrial], By Region, Opportunities and Forecast, 2018-2032F

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Report description:

Global polymer-coated urea market is projected to witness a CAGR of 6.54% during the forecast period 2025-2032, growing from USD 875.12 million in 2024 to USD 1452.68 million in 2032. The market is experiencing growth due to the adoption of sustainable agricultural practices and the demand for efficient nutrient management. Polymer-coated urea is a controlled-release fertilizer that provides an even and gradual discharge of nitrogen. Loss of nutrients through volatilization, leaching, and runoff is minimized, leading to increased crop yield and a reduced carbon footprint, which resonates with an increasing trend in eco-farming.

Influencing the growth of this market is the increase in food demand that motivates farmers to use better fertilizers to get the maximum output from their farms. In addition, polymer-coated urea addresses soil degradation problems by improving nutrient use efficiency, making it more effective in poor-quality soils. Technological advancements in coating materials and manufacturing processes have further enhanced product performance, thereby facilitating market growth.

In January 2023, equo.x, a controlled release urea fertilizer that employs a first-of-its-kind biodegradable release technology, was introduced by ICL, owned by Everris International B.V. This technology advances food security and sustainable agriculture and is expected to accomplish the EU Soil plan goal for 2030. Equo.x is made to meet European fertilizer standards and lessen nutrient leakage into soil and groundwater, to reduce nutrient loss by at least 50% by 2030.

However, challenges such as the high cost of production, compared to conventional fertilizers, and low awareness among small-scale farmers, may impede market growth. Asia-Pacific dominates the market as it has a large agricultural base and a growing adoption of precision farming techniques.

The market for polymer-coated urea is expected to augment in the years ahead with farmers around the world prioritizing

environmental sustainability and productivity in farming activities.

Sustainable Agriculture Focus Catalyzes Market Expansion

The polymer-coated urea market is booming because of the increasing emphasis on sustainable agriculture. Traditional fertilizers are prone to nitrogen loss due to volatilization, leaching, and surface runoff, which decreases the fertilizer's efficiency and pollutes the environment. An estimated USD 1.1 billion is spent annually by growers on nitrogen fertilizer in Australia. Nitrogen losses are often negligible, but in some soil types and under specific climatic conditions, the system loses anywhere from 25% to 70% of the nitrogen provided.

Polymer-coated urea overcomes this by controlled and periodic release of nitrogen so that the nutrient is available for a long time to the plants. This method improves nitrogen use efficiency and increases crop yield at a reduced application rate.

Moreover, polymer-coated urea helps to lessen the possibility of problems associated with nitrogen pollution, such as groundwater contamination and emission of greenhouse gases. These environmental benefits go hand in hand with global initiatives to promote more sustainable farming practices to improve productivity while maintaining ecological balance. Overgrazing, deforestation, pollution, and other factors cause the world to lose billions of tons of topsoil yearly. As soil health continues to decline due to excessive use of chemical fertilizers, new technologies such as polymer-coated urea will likely become an essential resource in farming.

Rising Global Food Demand Influences the Market Growth

The growing population and scarcity of arable land globally are the driving forces behind the surging demand for polymer-coated urea. The world's population is expected to increase by almost 2 billion in the next 30 years, from 8 billion to 9.7 billion in 2050 and perhaps peaking at 10.4 billion in the mid-2080s.

This problem has prompted increasing attention to maximizing agricultural productivity from existing farmland. Most conventional fertilizers are susceptible to nutrient losses, which tend to reduce their effectiveness and require further applications.

Polymer-coated urea addresses these inefficiencies related to the release rates of nitrogen to ensure a steady supply of nitrogen to crops over an extended period.

Not only are crop yields enhanced by nutrient delivery but also produce quality, which makes it a must-use tool to meet growing food demand. Polymer-coated urea reduces the number of fertilizer applications, saving time and labor costs on farms, especially in regions where input applications are laborious. Overall, the increasing demand for solutions that optimize productivity makes polymer-coated urea a powerful force for driving possible solutions to global agricultural challenges.

Agricultural Sector Holds a Significant Market Share

The major application of polymer-coated urea is in the agricultural sector as it helps to enhance crop productivity and ensure sustainable agriculture practices. Farmers utilizing polymer-coated urea for improving nitrogen use efficiency ultimately eliminate nutrient losses and optimize fertilizer application. This controlled-release fertilizer results in higher yields through the continuous nutrient supply during the crop growth cycle. This highly beneficial property of polymer-coated urea makes it extremely useful for staple crops that account for most global agricultural production, namely wheat, rice, and corn.

Besides solving the problems of soil degradation and the adverse environmental impacts caused by traditional fertilizers, such as water pollution and greenhouse gas emissions, the use of polymer-coated urea is growing. Countries with extensive agricultural profiles, such as India, China, and Brazil are increasingly adopting advanced fertilizers to attain food security goals in compliance with sustainability mandates.

In October 2024, the Ministry of Agriculture and Rural Affairs, China, declared that a record 700 million tons of grain would be produced in China in 2024 as the nation works to guarantee grain security. With increasing global food demand, the agriculture sector is burdened with ensuring high production without compromising on environmental safety, driving the growth of the polymer-coated urea market.

Asia-Pacific Dominates the Global Polymer-Coated Urea Market

The polymer-coated urea market is dominated by Asia-Pacific's large agricultural land and increased emphasis on sustainable farming. Major countries such as China, India, and Japan account for a significant demand share due to their large agricultural bases. In FY2023, 329.7 million tons of food grains were produced in India, an increase of 14.1 million tons over the previous year. Moreover, for MY2023/24, USDA projects that Japan's overall yield will be 6.91 tons per hectare (t/ha), up 0.7% from the previous year and 1% from the 5-year average of 6.82 t/ha.

Rising population levels and growing concerns over food security necessitate crop yield increases, thereby prompting farmers to use advanced fertilizers such as polymer-coated urea. Furthermore, the region's supremacy also reflects the swiftness with which it has accepted precision agriculture, focusing on the improved management of nutrients for optimal productivity. Government initiatives promoting eco-friendly fertilizers and subsidies to sustainable farming solutions have also added to the economical use of polymer-coated urea. Additionally, the high rate of soil degradation in Asia-Pacific has raised the need for controlled-release fertilizers, making them beneficial for improving soil health while minimizing environmental pollution.
Thus, the region, with an increasing focus on agricultural exports and sustainable goals, is expected to maintain its leading position in the market while strengthening its critical role in global food production.
Future Market Scenario (2025 - 2032F)
- Controlled-release fertilizers are likely to have increased use in the future. Governments are expected to provide subsidies and create awareness campaigns for the same.
- Ongoing innovations and cost-effective production methods will lead to mass availability of polymer-coated urea.
- Partnerships and investing in domestic production facilities will offset disruptions in supply chains.
Key Players Landscape and Outlook
The polymer-coated urea market's key participants are banking on innovation and expansion to meet the growing demand for sustainable fertilizers. These players heavily invest in research and development activities to improve coating technologies, enhance nitrogen release efficiency, and lower production costs. They are pursuing biodegradable and eco-friendly materials to meet environmental regulations and shifting consumer preferences. The competitive scenario includes strategic alliances, mergers, and even acquisitions to solidify market presence and diversify product portfolios.
For instance, in November 2023, a memorandum of understanding was signed between Nutrien Ltd. and Cotex Technologies Inc. to investigate market prospects for a coating technique to create an economical and eco-friendly nitrogen fertilizer solution. By creating a controlled-release layer, Cotex lowers emissions and gets rid of possible residue by releasing fertilizer into the soil gradually over time. The company claims to use plant-based and biodegradable coatings.
High-growth regions such as Asia-Pacific are being targeted by manufacturers geographically because of the region's enhanced agricultural activities, along with the influence of precision farming. In mature markets such as North America and Europe, organizations are leveraging government incentives and sustainability targets to drive adoption. Specific key players focus on education and outreach programs for farmers, especially in developing regions.
The future market prospects look bright and promising owing to the ever-increasing technological advancements and the shift towards green and sustainable agriculture. Moreover, customized solutions for specific crops and regions will further enhance the competitive domain of the market and guarantee the continuous growth of the polymer-coated urea industry.

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