

Agricultural Chelates - A Global Market Overview

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Abstracts

Agricultural chelates are organic compounds that form stable complexes with essential micronutrients like iron, zinc, manganese, and copper, ensuring their solubility and bioavailability even in alkaline or high-pH soils. By protecting these nutrients from precipitation or fixation, chelates enhance plant uptake and play a vital role in photosynthesis, enzyme activity, and overall crop growth. They can be applied through soil treatment, foliar sprays, fertigation, or hydroponic systems, offering versatility across farming practices. Common chelating agents such as EDTA, DTPA, EDDHA, and HEDTA are selected based on soil conditions, crop type, and nutrient requirements. Their application helps rectify nutrient deficiencies, improve yields, and support crop quality while reducing nutrient losses and environmental risks. With broad usage in cereals, grains, oilseeds, pulses, fruits, vegetables, turf, and ornamentals, chelates have become essential in both conventional and sustainable farming systems.

The global agricultural chelates market, valued at US\$1 billion in 2025, is projected to expand to US\$1.5 billion by 2032, reflecting a CAGR of 6% during 2025-2032. Growth is fueled by rising awareness of balanced plant nutrition and the demand for efficient micronutrient delivery, particularly in soils prone to nutrient stress. Precision agriculture technologies, including sensors, drones, and GPS, are enabling optimized application of chelates with minimal waste. Increasing adoption of eco-friendly and biodegradable formulations, alongside innovations such as controlled-release coatings and bio-based chelates, is addressing environmental concerns while improving nutrient efficiency. Population growth, shrinking arable land, and the rising need for high-quality crops further reinforce demand, while expanding use in hydroponics and high-value crops adds momentum. Although high costs and environmental scrutiny of synthetic agents remain challenges, ongoing R&D and integration with modern agronomy are expected to secure steady market growth worldwide.

Agricultural Chelates Regional Market Analysis

The Asia-Pacific region is the largest market for agricultural chelates, accounting for 31.2% of the global market in 2025. This dominance is driven by the expansion of agriculture to meet the rising food demand in countries such as China, India, and Japan. Farmers increasingly adopt modern practices, including precision agriculture, greenhouse farming, and integrated nutrient management, where chelates enhance nutrient availability, improve crop yields, and reduce soil degradation. Government support, concerns about food security, and deficiencies in soil nutrients are all contributing to an increased demand. Conversely, North America is projected to record the fastest growth with a 6.5% CAGR from 2025 to 2032. This growth is fueled by high-value horticultural and specialty crops such as fruits and vegetables. Advanced farming practices, precision agriculture, and controlled cultivation conditions drive the adoption of chelates, as they provide targeted solutions for nutrient management. Key markets include the United States, Canada, and Mexico, where awareness of soil nutrient deficiencies and the benefits of chelated micronutrients contribute to steady market expansion.

Agricultural Chelates Market Analysis by Type

The EDTA segment leads the global agricultural chelates market, accounting for a 35.3% share in 2025, due to its versatility, stability, and efficiency in delivering critical micronutrients such as iron, manganese, zinc, and copper. These nutrients are essential for photosynthesis, enzyme activation, and overall plant growth. EDTA formulations, which are available as granules, powders, and liquids, can be applied through foliar spray, soil treatment, or fertigation. Its ability to form stable complexes ensures nutrient availability even in challenging soil conditions, enhancing crop yield and quality. Large-scale production, affordability, and adaptability to various soils further support widespread adoption. In contrast, EDDHA is the fastest-growing segment with a 6.9% CAGR from 2025 to 2032, driven by its superior performance in correcting iron deficiencies in alkaline and calcareous soils, increasing adoption of high-value crops, precision agriculture, and sustainable farming practices, as well as rising awareness of micronutrient management and supportive government initiatives.

Agricultural Chelates Market Analysis by Crop Type

The cereal and grains segment leads the agricultural chelates market, accounting for a 35% share in 2025, due to the high nutrient demands of staple crops such as wheat, rice, and corn. Chelated micronutrients like iron, zinc, manganese, and copper improve nutrient uptake, enhance photosynthesis, and boost crop yield more efficiently than

conventional fertilizers. Their use also reduces nutrient runoff and supports sustainable farming practices, particularly in soils with deficiencies or high pH. On the other hand, the fruits and vegetables segment is the fastest-growing, with a 6.7% CAGR from 2025 to 2032, fueled by rising consumer demand for nutrient-rich, premium-quality produce. These high-value crops benefit from chelates through improved nutrient absorption, enhanced visual and nutritional quality, and effective management of micronutrient deficiencies, making chelates essential for both yield optimization and product quality in modern agriculture.

Agricultural Chelates Market Analysis by Mode of Application

The foliar spray segment dominates the global agricultural chelates market, accounting for 41.8% of the share in 2025, due to its ability to deliver fast, targeted nutrition directly to plant leaves, ensuring high-quality yields and correcting micronutrient deficiencies efficiently. Foliar application requires lower dosages than soil treatments, minimizes nutrient losses, and reduces environmental impact, making it a cost-effective and practical method. It is particularly effective in suboptimal soil conditions, such as high pH or saline soils, where nutrient availability is limited. Fertilizer manufacturers are increasingly developing specialized foliar chelates and guiding optimal application practices. Conversely, the fertigation segment is the fastest-growing application, with a projected 6.5% CAGR from 2025 to 2032, driven by the rise of greenhouse cultivation and hydroponics. Fertigation enables the precise and controlled delivery of chelates through irrigation systems, ensuring efficient uptake of essential micronutrients such as iron, zinc, manganese, and copper. This method allows for targeted treatment of localized deficiencies and supports modern, high-efficiency farming practices.

Agricultural Chelates Market Report Scope

This global report on Agricultural Chelates analyzes the market based on type, crop type, and mode of application for the period 2022-2032 with projections from 2025 to 2032 in terms of value in US\$. In addition to providing profiles of 16 major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

Key Metrics

Analysis Period: 2022-2032

Base Year: 2025

Forecast Period: 2025-2032

Units: Value market in US\$

Companies Mentioned: 15+

Agricultural Chelates Market by Geographic Region

North America (The United States, Canada, and Mexico)

Europe (Germany, France, the United Kingdom, Italy, Spain, and Rest of Europe)

Asia-Pacific (Japan, China, India, South Korea, and Rest of Asia-Pacific)

South America (Brazil, Argentina, and Rest of South America)

Rest of World

Agricultural Chelates Market by Type

EDTA

EDDHA

DTPA

IDHA

Other Types (Including HEDP, HETDA, Organic Acids, NTA, and Others)

Agricultural Chelates Market by Crop Type

Cereal & Grains

Fruit & Vegetables

Oilseeds & Pulses

Other Crop Types (Including Turf, Ornamentals, Commercial Crops)

Agricultural Chelates Market by Mode of Application

Foliar Spray

Soil Treatment

Fertigation

Others (Including Seed Dressing, Hydroponics, Trunk Injection, Implantation, and Others)

Delivery Time: 3-4 Business Days

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EDDHA

DTPA

IDHA

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Cereal & Grains

Fruit & Vegetables

Oilseeds & Pulses

Other Crop Types (Including Turf, Ornamentals, Commercial Crops)

Agricultural Chelate Mode of Applications

Foliar Spray

Soil Treatment

Fertigation

Others (Including Seed Dressing, Hydroponics, Trunk Injection, Implantation, and Others)

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Aries Agro Limited

BASF SE

Compo Expert GmbH

Haifa Group

ICL Group Ltd.

Isagro S.p.A.

Nouryon Holding B.V.

Nufarm Limited

Protex International SA

Raccolto
Shandong Iro Chelating Chemical Co. Ltd.
Syngenta AG
The Andersons, Inc.
Van Iperen International B.V.
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DTPA

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Other Types

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Cereal & Grains

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