

Algae-Based Animal Feed Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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Abstracts

The Global Algae-Based Animal Feed Market was valued at USD 4.5 billion in 2024 and is estimated to grow at a CAGR of 3.9% to reach USD 6.6 billion by 2034. This steady growth is driven by the rising demand for sustainable, high-performance feed solutions across the livestock, poultry, and aquaculture sectors. As global food demand rises, producers are under pressure to adopt efficient, eco-friendly practices. Algae-derived feed offers a promising answer, combining strong nutritional profiles with reduced environmental impact. Consumers and producers alike are showing growing concern over the sustainability of traditional feed ingredients like soy and fishmeal, whose production often contributes to deforestation and overfishing. In contrast, algae can be cultivated using less land and water, with a lower carbon footprint, making them an increasingly attractive alternative. Moreover, with the shift toward natural and functional nutrition for animals, algae-based feeds align well with industry efforts to improve animal health, optimize performance, and ensure long-term sustainability across supply chains.

Algae-derived feed products are becoming popular thanks to their rich content of essential proteins, omega-3 fatty acids, vitamins, and antioxidants. These nutritional properties contribute to improved animal health, better disease resistance, and more efficient feed conversion rates. As the global livestock population continues to expand and traditional feed sources face growing scrutiny over their environmental impact, algae-based alternatives offer a sustainable and high-performing option. In the aquaculture sector, algae play a particularly vital role, closely resembling the natural dietary intake of many aquatic species. Their inclusion supports healthy growth cycles and enhances immunity in fish and shrimp.

Algae-based feed is also gaining momentum in livestock and poultry farming. Producers

are increasingly incorporating algae to improve meat quality, enhance egg yolk coloration, and boost milk yield. In ruminants, certain algae strains have been shown to reduce methane emissions, offering a compelling case for their use in efforts to lower greenhouse gas output from animal agriculture. Additionally, as awareness grows around the carbon footprint of conventional feed, more farmers and nutritionists are looking toward algae not only as supplements but also as core feed ingredients in specialty diets—including pet food—where premium nutrition and sustainability are in high demand.

In 2024, the powdered algae-based feed segment accounted for 55.1% of the global market. This format's popularity is largely due to its versatility, ease of application, cost-effectiveness, and extended shelf life. Manufacturers favor powder forms because they blend easily into existing feed types while preserving their nutritional value. Their compatibility with pelleting and extrusion processes allows feed producers to maintain consistent quality across different animal species. Powdered forms such as Spirulina and Chlorella are particularly well-regarded for their high bioavailability of proteins and essential fatty acids. These powders not only enhance digestibility and performance but also contribute functional benefits that improve animal productivity.

The aquaculture segment within the algae-based animal feed market generated USD 1.6 billion in 2024. As seafood consumption continues to rise globally—driven by increasing per capita income and changing dietary habits—algae-based feed is stepping in to fill the gap left by declining supplies of traditional marine inputs like fishmeal and fish oil. Algae offer a stable, nutrient-dense solution that supports growth, feed efficiency, and disease resistance in aquatic species. Their use is helping producers meet sustainability goals and respond to environmental concerns tied to overfishing and habitat degradation, making algae central to the future of responsible aquaculture practices.

In China, the algae-based animal feed market reached USD 680 million in 2024. This growth is fueled by rapid expansion in the country's aquaculture industry and strong government initiatives promoting green, eco-friendly agriculture. National policies are encouraging the use of low-impact feed ingredients, leading to increased adoption of algae in swine and poultry operations as well. With domestic demand for high-quality animal protein on the rise, feed manufacturers are turning to nutrient-dense algae supplements to improve feed conversion ratios, enhance animal health, and align with China's sustainability goals.

To strengthen their position in the market, leading players such as Corbion, ADM, DSM,

Cellana, and Allmircoalgae are pursuing vertical integration strategies. These companies are scaling up microalgae cultivation, refining processing technologies, and investing in research and development to boost strain productivity and nutrient density. Strategic collaborations with feed manufacturers and farmers are also expanding product accessibility and driving adoption across mainstream and niche animal nutrition markets.

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