

THE EU IS HEAVILY DEPENDENT ON THIRD COUNTRIES FOR THE SUPPLY OF VITAMINS AND AMINO ACIDS FOR ANIMAL FEED.



The European Feed Manufacturers' Federation (FEFAC) has been flagging the issue for years: **Europe is heavily dependent on foreign countries, and particularly China, for the supply of vitamins and amino acids for animals.** These substances are not marginal details but indispensable components: **vitamins ensure the health and welfare of farmed animals**, while **amino acids are essential to reduce nitrogen emissions** and help limit reliance on

imported soy.

To highlight the scale of this dependence, **FEFAC**, with the support of experts, has carried out a [dedicated study](#) on the EU feed and livestock sectors, with a special focus on **essential nutritional additives**. The analysis aimed to address four crucial questions: how concentrated the global market for these substances is; **to what extent the EU relies on third countries**; whether European production capacities can meet internal demand; and, finally, whether supplies from safer sources could replace imports from countries with the highest geopolitical risk.

The importance of vitamins and amino acids in animal feed

The mission of the feed industry has always been to provide animals with a complete diet that meets all their nutritional needs, ensuring health, welfare, good productive performance, and a lower environmental impact. To achieve this, feed manufacturers combine cereals, food industry by-products, minerals, and products of animal origin. However, **these mixtures can lack essential nutrients such as vitamins and amino acids, making supplementation with nutritional additives necessary.**

As with humans, **vitamins play essential roles** in animals' growth, bone development, energy metabolism, nervous system, fertility, and immune defences. **Their deficiency can cause serious problems**, including blindness, rickets, bone fragility, growth retardation, immunosuppression, and reduced productivity. **Since animals are unable to synthesise all the vitamins they need**, nor obtain sufficient amounts from the diet alone, **vitamin supplementation is essential**. It is even permitted in **organic farming and aquaculture**. It prevents clinical deficiencies, production losses, and higher disease incidence. **Only ruminants represent a partial exception**, as they can produce certain B vitamins thanks to rumen microbes.

Amino acids, the "building blocks" of proteins, are equally important. Some, defined as essential, **must be provided through feed because the animal cannot synthesise them**. The lack of even a single amino acid limits protein synthesis, with consequences

for growth, feed conversion, and yield in meat, milk, or eggs. In the past, this was compensated for by increasing overall protein intake, resulting in higher nitrogen emissions. **Today, crude protein is reduced, and essential amino acids are supplemented in a targeted way, which lowers environmental emissions, nitrate, ammonia, and nitrous oxide pollution, and decreases the demand for protein-rich raw materials such as soy.** In Europe, this strategy saves around three million tons of imported soybean meal every year.

80% of vitamins are produced in China, just 8% in the EU

Without these supplements, European livestock farming would not be able to keep animals healthy, produce efficiently, or comply with environmental regulations. Analysis of the study's findings shows that global production is concentrated in a few countries: **nearly 80% of vitamins are produced in China, compared to just 8% in the EU.** The EU does not produce some vitamins at all, such as B9, C, and K3, nor the amino acid threonine. It depends 100% on China for vitamin B9, 96% for biotin (vitamin H), and only 6% of its lysine requirements are produced internally. **Overall, China accounts for 60–70% of the value of all vitamins imported by the EU and 70–80% of amino acids.**

Very few countries dominate the market: only 10 produce vitamins (China, the EU-27, Switzerland, United Kingdom, South Korea, India, Turkey, the USA, Vietnam, Uruguay) **and 11 produce amino acids** (China, the EU-27, the USA, Brazil, Indonesia, Malaysia, Japan, South Korea, Singapore, Russia, and Belarus), of which three may be regarded as high geopolitical risk (China, Russia, and Belarus). **Moreover, China is the only country producing all vitamins, with a global market share ranging from 33% to 99%.**

For Europe, the dependency is clear: **the EU-27 imports 35–100% of its feed uses of vitamins, of which 60-70% from China. The more than 95% EU-27 dependency on third countries for the supply of lysine drives the overall EU-27 dependency on amino acids.** There are, therefore, important products for which the EU is totally dependent on external supply, while for others, such as vitamins B3, B12, and H, dependency exceeds 75%.

The problem is not only the lack of EU production capacity, but also its low competitiveness

The FEFAC Study, “**EU Vulnerability for the Sourcing of Essential Nutritional Feed Additives**”, warns that the figures may even underestimate Europe's real dependence. For some chemically synthesised vitamins, such as A and E, it is necessary to purchase “precursor” substances, which themselves come from only a few countries: this makes **the supply chain more concentrated than estimated.** To achieve real autonomy in the production of vitamins and amino acids, **the EU would need to invest in building new production plants in Europe.** The only exception is **methionine**, which is produced through chemical synthesis and has a more diversified production base across several countries, although the growth of Chinese production risks eroding European competitiveness in the coming years.

The main problem is not only the lack of production capacity, but above all the low competitiveness compared to third countries, particularly China, which benefits from much lower energy and raw material costs. To bridge this gap, measures would be necessary to allow European companies to compete on equal terms.

FEFAC considers this situation worrying, as it means Europe is dependent on the global market. The reasons are multiple: **the European chemical and fermentation industries suffer from very high costs**, especially for energy and raw materials, and therefore cannot compete with non-European producers. **As a result, in recent years, there has been little investment in the domestic production of vitamins and amino acids**. Meanwhile, global demand for these nutrients continues to grow, driven by increasingly efficient farming systems and stricter environmental objectives, such as reducing nitrogen emissions. Furthermore, for many vitamins, there are only two or three producing countries and very few companies worldwide: this means that **any incident at a plant which halts production could impact global availability**.

The risk is real: a shortage of a vitamin or amino acid could compromise animal health, reduce performance and reproduction, and over the longer term jeopardise European production of meat, milk, eggs, and fish. **In the event of supply interruptions, the EU has limited internal stockpiles** and could face difficulties. In other words, **without a strong industrial strategy, the EU risks losing ground both in terms of sustainability and food sovereignty**.

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