FOOD AND NUTRITIONAL

Supply Chain Outlook 2025

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ECONOMY

- U.S. TARIFFS AIM TO STRENGTHEN TRADE
- EU FEARS U.S. TARIFFS ON IMPORTS

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Pricing Trends Key

Price Increase ///



Price Increase Due to Current Events



Price Decrease ///



Economic Outlook

United States - The U.S. economy continues modest but steady growth,

driven by consumer spending. Business investments in equipment and technology have slowed, though tax cuts and deregulation may boost investor confidence. Government investments rose 2.5%, with gains in defense and non-defense purchases. Consumer spending is expected to slow in the coming months. The job market slightly decelerated in January but remains on a growth path, with unemployment declining and labor force participation rising. Employment increased in healthcare and government but declined in services, leisure, and hospitality, while construction, manufacturing, and mining remain stagnant. Labor productivity played a key role in managing inflation in 2024, and participation is expected to rise with continued investments in the tech sector. Immigration restrictions and rising deportation rates are tightening the labor market.

The economy is adjusting to President Trump's newly imposed 10% tariff on

Chinese trade. While exports and imports of goods declined, service trade increased. The U.S. is seeking alternative trade partners to minimize supply chain disruptions, as China has responded cautiously to the new tariffs. The administration aims to use trade policy to influence global relations, particularly with China's ties to Russia amid the Ukraine war. As the economy adapts to the new administration, the Federal Reserve is maintaining a cautious approach, keeping interest rates unchanged to prioritize stable growth and inflation control.

Market movement YTD as of 2/18/25

- · DJIA: + 4.73%
- · S&P 500: + 4.22%
- NASDAQ: + 3.78%

Eurozone

European Union (EU): Year-end data showed the Eurozone economy stagnated, with real GDP unchanged. Slight economic weakness was expected as the ECB continued easing monetary policy and preparing for further rate cuts. The goal is to boost credit activity alongside rising incomes and lower interest rates. Recent economic gains are credited to growth in services, while manufacturing remains weak.

New U.S. tariffs on China have strained EU-U.S. trade relations, with EU leaders fearing additional tariffs as collateral damage from the China-EU partnership. In response, the EU activated the Anti-Coercion Instrument (ACI) to safeguard policies against external pressure, covering trade terms, intellectual property, and market access. While U.S. tariffs threaten the fragile EU economy, reduced Chinese trade could make EU exports more competitive.

China

China met its 2024 growth target but faces modest projections for 2025. January marks the second consecutive year of deflation, with a struggling labor market due to weak domestic demand and oversupply. The Central Bank's supply-focused monetary policy remains unchanged, with no plans to support fiscal expansion. New U.S. tariffs have triggered abrupt shifts in China's economy.

The renminbi depreciated further, continuing its decline before President Trump's inauguration. In response to U.S. trade measures, China imposed tariffs on energy resources and industrial equipment while tightening regulations on rare Earth material exports. It has also launched anti-competitive investigations into U.S. tech companies. The Bank of China continues prioritizing manufacturing and infrastructure investments over broader economic concerns. For sustained recovery, China must address consumer spending, the struggling housing market, and supply-demand imbalances to meet its 5% annual growth target.

CURRENT EVENTS

- U.S. TARIFFS DISRUPT EMERGING ECONOMIES
- TARIFFS AND SUPPLY ISSUES DRIVE VITAMIN COSTS

Effects of the United States Tariffs on Emerging Countries:

- When trade tariffs are implemented, foreign relations are challenged, supply chain disruptions arise, and the financial markets change as economies adjust. The most vulnerable economies to the effects of tariffs are the emerging nations. Sudden currency depreciation is common, which can trigger unprecedented inflationary patterns. Central banks usually restrict monetary policies to combat sudden economic instability. It is common for emerging nations to struggle with foreign currency debt during mass economic recovery periods.
- Countries with the highest risk of economic instability due to the new tariffs are countries with current trade partnerships with the US, such as Mexico. Emerging economies that have strong internal markets, diversity in trading materials, and low external debts have the lowest risk for economic instability, such as India. Global economies are all readjusting to the budding frictions in the trade market and preparing for any internal economic fallout.

Japan's Growing Economy:

• Japan's economy spiked in the last quarter of 2024 from corporate investments and strong external demand. The Bank of Japan took the steady growth as an opportunity to raise rates early this year safely and plans to raise further during 2025. Japan's economy is projected to stay on a steady but mild growth pattern for the year, remaining cautious of inflation and global conflict risks. Japan is taking advantage of being a safe zone for corporate investments and will use the opportunity to raise prices, especially concerning alternative trade partnerships. Japan is currently discussing appropriate tariffs for exports with the US to avoid fallout from the US-China trade conflict.

Vitamins

- With President Trump now in office, the announcement of the tariffs and implementation of those effective in February has caused immediate cost increases. Vitamins and minerals coming out of China will see a 10% increase on top of all existing tariffs.
- Target for BASF to have material back in the market in the US is still Q4 of this year. Hopefully this will provide relief to supply and pricing on some material.



Supply chain
disruptions and
seasonal shutdowns
may lead to further
price volatility across
key vitamins, with
increased costs
expected in the coming
months.

Vitamin A: Vitamin A pricing has stabilized, but remains strong, even though market demands have been weak.



Vitamin D: Vitamin D has stabilized, but prices remain high. There have been indications that prices may strengthen even more in the coming months.



Vitamin E: Pricing for Vitamin E has stabilized but remains high.



Vitamin K: Current pricing for vitamin K1 has stabilized.





Price Increase Due to Current Events

Price Stable
Price Stable Trice Stable to Rising

China-origin
vitamins and
minerals face a
10% tariff hike in
February, while
BASF aims to restore
U.S. supply by Q4
2025, potentially
easing costs and
shortages.



Vitamin C: Vitamin C prices were seeing increases towards the end of 2024 during bid season. The pricing has now stabilized. With the coming extended summer maintenance shutdowns, there may be more increases in pricing.



Vitamin B1 (Thiamine):

Pricing has been stable lately, but more recently there have been increases in the market. Some of this has been because of supply availability. Producers will try to keep prices higher by reducing capacity for the first part of the year.



Vitamin B2 (Riboflavin):

Riboflavin USP and food grade pricing have stabilized. Supplies are adequate. Several new entrants have begun manufacturing and potential capacity increases can be expected by the majors.



Vitamin B3 (Niacin/

Niacinamide): Western Drugs had a fire at their site in India on February 12, 2025, which caused major damage. Luckily no one was hurt, but it could have an impact on the market. They have declared force majeure. More to come on the full effect of supply and pricing in the market.



Vitamin B5 (Calcium

Pantothenate): B5 pricing has stabilized but remains low. There have been new producers entering the market, creating an oversupply of material.



Vitamin B6 (Pyridoxine): B6

pricing has stabilized but remains on the high end. New producers have entered the market which will create more supply and possible softening of prices.



Vitamin B7 (Biotin):

Production of B7 has stabilized and pricing has followed. Because pricing is on the lower level, there may be some increase in pricing coming.



Vitamin B9 (Folic Acid):

The B9 market is seeing an increase. Factories have stopped quoting this material which has supported continued increases. Prices have more than doubled since the beginning of 2025 with manufacturers still not quoting. The increase is expected to continue for the foreseeable future and supply is very tight.



Vitamin B12 (Cyanocobalamin)

The B12 market will see increases.



Pricing Trends Key

Price Increase 7/7



Price Increase Due to Current Events







Price Stable to Rising





MINERALS

- SOME MINERALS HAVE SEEN PRICE INCREASES
- PRODUCTION AND TRANSIT ISSUES ARE PART OF ESCALATION

Trending Minerals

- Chelates
 - Zinc Gluconate
- Magnesium Citrate
- Zinc Citrate

Calcium Carbonate: Visit the Granulations section on page 10 for more information about our directly compressible version of SuperTab® oyster shell calcium carbonate.

- SuperTab® Oyster Shell Granulation (OSG) 2000 AM
- SuperTab® Oyster Shell Granulation 2100 Malto
- SuperTab® Oyster Shell Granulation 2300 Acacia

Copper: Prices have stabilized but demand remains high.



Iron: Iron prices have stabilized, and supply is available.



Electrolytes

Calcium: Calcium prices have stabilized.



Magnesium: Magnesium market price and supply are stable.



Potassium: Potassium prices and availability are stable.



Phosphorus: Pricing has become relatively stable.



Sodium: Sodium prices have stabilized.



Zinc

Zinc prices and availability have stabilized. There have been new manufacturers that have entered the market which will keep the pricing stable.



Zinc Gluconate: The price of Zinc Gluconate is stable however, lead times are increasing.



Zinc Oxide: Prices for Zinc Oxide have started to see some strengthening.



Zinc Sulfate: Zinc Sulfate prices remain stable however, lead times are increasing.



Zinc Ascorbate: The price of Zinc Ascorbate is stable; however, lead times are longer than average.



Zinc Citrate: Prices are showing an increase with longer lead times continuing.



Pricing Trends Key

Price Increase ///



Price Increase Due to Current Events

Price Stable 💯



Price Decrease ///



Price Stable to Rising



MINERALS CONT. SOME MINERALS HAVE SEEN PRICE INCREASES PRODUCTION AND TRANSIT ISSUES ARE PART OF ESCALATION.

Chelates

Zinc Amino Acid Chelate: Prices and lead times for zinc amino acid are increasing.



Zinc Bisglycinate Chelate: Prices have stabilized. There have been additional manufacturers that have entered the market which should keep pricing from increasing as well.



Zinc Glycinate Chelate: Zinc Glycinate is experiencing longer than average lead times, but prices remain stable.



Copper Glycinate Chelate: Prices are stable and expected to remain so. There have been additional manufacturers that have entered the market which should keep pricing from increasing as well.



Manganese Amino Acid Chelate: Manganese Amino Acid has stabilized.



Trace Minerals

Chromium: Chromium prices remain stable but can be difficult to source due to long lead times.



Molybdenum: The Molybdenum market is experiencing longer than normal lead times, but prices are remaining stable.



Selenium: The selenium lead times have increased; however, prices are stable.



Pricing Trends Key

Price Increase
Price Increase Due to Current Events

Price Stable
Price Decrease
Price Stable
Trice Stable
Price Stable
Trice Stab



PREMIXES

- MANUFACTURERS ARE SWITCHING TO PREMIXES
- CUSTOM PREMIXES SIMPLIFY NUTRIENT PROCUREMENT

Custom Nutrient Premixes

More and more manufacturers are switching to vitamin and mineral premixes. Premixes consolidate multiple nutrients into a quality-assured, single-step ingredient and deliver economies of scale by simplifying ingredient procurement from a single source.

Our value-added SuperBlend® custom nutrient premixes



TWG SuperBlend®

deliver performance and stability in high temperature and shear processes in a variety of food and beverage products, including: Extruded bars Gummy supplements Breakfast cereals Ready to drink beverages Beverage mixes

MICROENCAPSULATION

- AN EFFECTIVE METHOD OF MASKING UNWANTED FEATURES
- DELIVER A WIDE-RANGE OF FUNCTIONAL INGREDIENTS

Microencapsulation Technology

Vitamins, minerals, and other nutrients possess unique characteristics that can affect the appearance, color, and odor of the final product. Microencapsulation is an effective method of masking unwanted sensory characteristics while maximizing nutrient function.

SuperCoat®, our most recent innovation using our proprietary SMART™ process, envelops particles at the microscopic level in a protective shell. This value-added coating technology delivers superior performance and stability of essential nutrients for a wide range of multifunctional ingredients.

Trending Microencapsulated Nutrients:

- Vitamin C
- Vitamin B5 (Calcium Pantothenate)
- Vitamin B9 (Folic Acid)

With a diverse portfolio of products, **TWG Health + Nutrition** is one of only a select group of manufacturers with the technology and resources to deliver independent manufacturing of custom premixes, microencapsulated nutrients, and granulations.

Our comprehensive supply chain and extensive list of prequalified ingredients allows us to react quickly to changing market trends and help you keep up with consumer demand. We also understand that superior service is just as important as technology and expertise. That's why we provide you with prompt quotations, technical assistance, and support documentation to help you efficiently deliver your products on time. Contact us today to talk to one of our experts about your project needs or ask about any ingredients not listed here.



GRANULATIONS

- DELIVER ESSENTIAL NUTRIENTS IN GRANULAR POWDERS IDEAL FOR HIGH SPEED TABLETING
- CAN BE INCORPORATED INTO DRUM-TO-HOPPER TABLET BLENDS



Granulations

Rather than outsource granulations from a third-party manufacturer, TWG Health + Nutrition has committed to developing technologies and processes in-house to effectively and efficiently manufacture **SuperTab® direct compressible granulations**.

SuperTab® granulations deliver essential nutrients in uniform, free-flowing, granular powders ideal for high speed tableting processes. As usual TWG Health + Nutrition combines quality, innovation and superior knowledge to make sure your product is the best it can be. Ask about our granulation capabilities today!

Trending Granulations:

- Glucosamine
- Chondroitin
- Vitamin C

Oyster Shell Granulation

SuperTab® Oyster Shell calcium carbonate is sourced from an above sea level deposit, characterized as fossilized oyster shell beds. These oyster shell beds have been thoroughly vetted over the past ten years with testing of the material both analytically and physically to insure consistency and purity. TWG Health + Nutrition sources the high purity genuine shells exclusively from a domestic supplier.

Contact us today to get started on your next dietary supplement product containing calcium carbonate granulations. Insist on SuperTab® Oyster Shell authenticity in your formulation.





Quality Without Compromise

Dedicated to the health and nutrition market, we are the custom premix, granulation, microencapsulation & beverage products partner you can trust to help deliver high-caliber products to market faster.







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