

FOOD AND NUTRITIONAL

# Supply Chain Outlook 2023

NOVEMBER - ISSUE 31



# ECONOMY

- STILL WEAK ECONOMY GLOBALLY
- CHINA TENSIONS INCREASE

## TABLE OF CONTENTS

Economic Update	2
Current Events	3
Vitamins	4
Minerals	5
Premixes	8
Microencapsulation	9
Granulations	10
Message from TWG Health + Nutrition	11

## Pricing Trends Key

- Price Increase 
- Price Increase Due  
to Current Events 
- Price Stable 
- Price Decrease 

## Economic Outlook

Globally, economic environments are divergent as we face political tension, low employment and rapid activity in the markets. The US unemployment rate is 3.9% for October, despite adding new jobs in the economy. However, US GDP is currently 4.9%, the highest rate since Q4 of 2021, likely due to high consumer and spending inventory investments. The Federal Reserve intends to leave interest rates as is due to recent economic growth. The US economy predicts a slowdown in Q4 of 2023 as the monetary policy remains firm to control inflation. Labor shortages are becoming a worsening battle across many global economies.

Germany is facing several economic obstacles this month as its economy is showing minimal signs of growth. The real GDP in 2023 is predicted to fall 0.4%, an assumed result of the spike in energy prices during the onset of the Russia-Ukraine War. Germany is now working through another significant surge in energy prices after two Israeli gas plants were closed following the Hamas attacks. Although a labor shortage has not directly contributed to the fall in GDP, it proposes a warning for the German economy and its ability to keep up with consumer demand. Migration has yet to prove to be a solution to the labor shortage. Germany's right political party is expressing concerns over illegal immigration, causing Germany to place strict labor market regulations that prevent even skilled legal migrants from working. The labor shortage is considered to be one of Germany's significant structural obstacles at the moment.

Growing wages and a lack of opportunities are increasing the migration rate. Similarly, the migration rate has grown drastically as migrants seek refuge from political conflicts, which can cause further controversy among countries.

## China

As tensions rise, trade among countries is becoming more challenging to manage. China is looking to invest in other resource-centered countries instead of repairing its long-term economic relationship with the West. The probability of economic growth is splintering as disputes over exports, security, technology, etc., continue.

The Eurozone economy is weakening and is starting to tighten its monetary policy to combat inflation. The European Central Bank announces its decision not to change rates as inflation continues to decline. The ECB expects the economy to weaken through the end of this year but remains optimistic about the current changes in the monetary policy to restore economic performance in the coming years.

## Middle East

Instability is growing with the attacks in the Middle East. The United States' recent involvement has threatened security and economic relations. The Western government is beginning to fear the threat of terrorism as the conflict extends to Europe and the United States. Oil prices have not yet shown signs of concern amidst the current events but will be monitored to avoid a shock in the market.



# CURRENT EVENTS

- RUSSIA WAR CONTINUES
- CHINA ECONOMY CRISIS

## China Economy

- Recent reports show China's economy having zero inflation. Economists express concern with the void of inflation presenting issues in the economy. The goal is to keep inflation balanced; leaning too far on either side of the spectrum indicates central obstacles in the economy. China's zero inflation points to weak demand, low spending and an excess of industrial capacity. This results from China's recent decisions to expand trade in developing countries that provide less demand, rather than with the US and Europe, which provide a more significant supply chain investment.

## Russian & Ukraine

- Russia continues its war on Ukraine by deploying larger drone and missile attacks this week. Ukraine has increased its air defense to combat Russia's continued attempts to destroy infrastructure buildings. Ukraine predicts Russia will increase terrorism efforts during the winter as an advantage over Ukraine's front line of defense. Currently, the main point target in the Ukraine is their energy grid and power supply. Ukraine braces for the upcoming attacks, struggling to produce adequate defense materials and supplies for troops.

## Japan

- Japan and the Philippines prepare strengthening actions as concerns arise in territorial disputes with China. Eastern China has expressed plans to reclaim Taiwan, a self-governed territory. Japan and the Philippines are discussing pacts to grant military access to bases to begin training drills. The two countries want to strengthen military ties as China extends recent threats and has started blocking the Philippines' access to oil and gas opportunities across the China Sea. Further sessions will be held between Japan and the Philippines shortly.

## Energy Pricing

- Earlier this month, damages were found on the Finland-Estonia gas pipeline. This channel is responsible for supplying gas to a large part of Europe. Current investigations say the damages to the pipeline is external and caused by humans. However, it has not been confirmed whether the destruction was deliberate. There is a high chance that energy prices in Europe will see another spike as a result.

## Vitamin Supply

- Chinese vitamin producers are still holding inventory in a climate of low demand and currency headwinds that are unlikely to improve any time soon. Other VC manufacturers such as Luwei and CSPC had similar woes and were looking for any kind of a deal.
- The prices of many vitamins have been weak so far this year, and we were anticipating some firming, but so far oversupply, including several new entrants into the B-vitamin space, and weak demand, especially in feed, has kept a cap on prices, at least so far.
- The feed industry is very important since about 70-80% of vitamins go into this industry. The dynamics now are not favorable as meat consumption declines due to economic as well as health reasons.
- As we approach Q4 and 2024 contract season and volumes are contracted, this may drive costs higher as inventories are booked and depleted. That being said, it is probably a good time to consider booking volumes now to take advantage of lower costs.





FAT SOLUBLE

# VITAMINS

Trending Vitamins:

- **CYANOCOBALAMIN**
- **VITAMIN D**
- **VITAMIN K**

**Vitamin A:** Prices for Vitamin A have stabilized, and supplies are generally good. Although prices are stable, 2024 could see slightly lower prices than 2023. BASF has announced that they are planning to build a new citral plant at their Chinese “Verbund” facility. They will continue to dominate the market with 118,000 mt of capacity once it is completed in 2025-6.



**Vitamin D:** Prices on Vitamin D have remained stable. Feed industry demand is especially weak, but any signs of improvement could lead to slightly higher prices.



**Vitamin E:** Pricing for Vitamin E have dropped recently but have since stabilized.



**Vitamin K:** Current pricing for vitamin K1 is stable. Most users prefer a 1% or 5% trituration. New uses in bone health and other condition-specific formulations, especially with vitamin K2, is making this formerly minor vitamin a more interesting story. Pricing and demand are stable. Vitamin K3 remains tight and is the only Chinese vitamin to increase in price during 2022.



## Pricing Trends Key

Price Increase

Price Increase Due to Current Events

Price Stable

Price Decrease

In a vitamin industry marked by oversupply and weakened demand, strategic volume bookings become crucial as we approach Q4 and the 2024 contract season, offering an opportunity for businesses to optimize costs in the current market dynamics.



# VITAMINS<sup>CONT.</sup>

Trending Vitamins:

- **CYANOCOBALAMIN**
- **VITAMIN D**
- **VITAMIN K**

**Vitamin C:** Vitamin C prices are at their lowest but now stable due to a large supply and decreased demand. The current nameplate capacity for ascorbates in China is approaching 300,000 mt, about a 50% over-supply if all plants are producing all out. Extended shutdowns are currently on going which could tighten the market towards the end of the year despite chronic overcapacity



## **Vitamin B1 (Thiamine):**

The B1 market has stabilized at a low price. Manufacturers suspended offering price quotes because of this. After the Chinese holiday, we anticipate they will return to the market and look to raise the prices, but we don't think they will have much luck due to weak demand. New supplies of intermediates are also being planned by the major players.



## **Vitamin B2 (Riboflavin):**

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



## **Vitamin B3 (Niacin/ Niacinamide):**

Pricing has stabilized in recent months as there is no longer a raw material shortage. Longer term,

oversupply is developing, and we are seeing some price softening.



## **Vitamin B5 (Calcium Pantothenate):**

Intermediate shortages have led to significant swings in price, but a wave of new entrants and cleaner production techniques may weaken prices, especially if the feed industry remains in the doldrums. Prices have dropped to the lowest seen recently.



## **Vitamin B6 (Pyridoxine):**

B6 pricing has been stable as supplies have improved and demand has decreased. DSM plant closures in China have led to some of the increase in price. Pricing will continue to strengthen.



## **Vitamin B7 (Biotin):**

After reaching exceptionally soaring prices in 2020, B7 prices began to fall and have now stabilized at a low level. About 85% is used in feed which has been weak this year. Any improvement will lead to rising prices.



## **Vitamin B9 (Folic Acid):**

The B9 market has stabilized. Feed industry demand remains very weak. New entrants could weaken prices later this year.



## **Vitamin B12 (Cyanocobalamin)**

The B12 market is at historical lows in pricing.



### Pricing Trends Key

Price Increase

Price Increase Due to Current Events

Price Stable

Price Decrease

Price Stable to Rising





# MINERALS

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





## Trending Minerals

- Iron
- Chelates
- Magnesium Sulfate
- Magnesium Oxide
- Magnesium Citrate
- Zinc Gluconate
- Zinc Citrate
- Zinc Oxide

**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

### Pricing Trends Key

- Price Increase 
- Price Increase Due to Current Events 
- Price Stable 
- Price Decrease 

**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:** Global demand and pricing continue to increase.



**Sodium:** Sodium prices have stabilized.



## Zinc

Zinc prices and availability have stabilized.



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



**Zinc Oxide:** Prices for Zinc Oxide are on the rise and lead times can be longer than average.



**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 on the rise with longer lead times continuing.



# MINERALS<sup>CONT.</sup>

- 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 for zinc bisglycinate are increasing and lead times are longer than average.



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



**Copper Glycinate Chelate:** Copper Glycinate prices are stable and expected to remain so.



**Manganese Amino Acid Chelate:** Manganese Amino Acid shows an increase due to raw material availability and longer than average lead times.



## 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:** Lead times have increased; however, prices are stable.



### Pricing Trends Key

Price Increase

Price Increase Due to Current Events

Price Stable

Price Decrease





# PREMIXES

- MANUFACTURERS ARE SWITCHING TO PREMIXES
- PANDEMIC HAS CHANGED THE WAY PROVIDERS OFFER SERVICES

## 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.



## TWG SuperBlend®

Our value-added SuperBlend® custom nutrient premixes 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 multi-functional 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 pre-qualified 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.





# blending performance & stability

For over 100 years TWG Health + Nutrition has  
utilized our extensive ingredient knowledge  
to consistently deliver quality- assured  
custom nutrient premixes,  
microencapsulations, and granulations.



Call us: **(800) 201-3096**

Visit us online: [twghealthandnutrition.com](http://twghealthandnutrition.com)

© Copyright 2023 TWG Health + Nutrition. All rights reserved.