

AMINO ACIDS

With good availability for most amino acids prices are stable with a weak tone. Supply remains positive outpacing demand allowing buyers to maintain lower stock levels. Non-domestic producers have been aggressive in pricing putting pressure on domestic producers to stay competitive. For the time being domestic suppliers are holding prices firm while keeping an eye on sales volumes.

Threonine is the one exception with prices increasing. Non-domestic producers are being challenged with product being held at the ports, delaying customer deliveries causing prices to firm. Expectation is this is a short-term issue projected to clear up by the end of Q1.

Category price indications are expected to be stable to weak through Q1 outside of threonine.

| INGREDIENT | Price Trend: 1 Month | Price Trend: 3 Month | Supply Availability |
|------------|----------------------|----------------------|---------------------|
| LYSINE | → ↓ | → ↓ | GOOD |
| THREONINE | ↑ | ↑ | GOOD |
| METHIONINE | ↓ | → | GOOD |
| TRYPTOPHAN | → | → | GOOD |
| VALINE | → | → | GOOD |

DAIRY POWDERS

Dairy powder market conditions have seen manageable changes in prices of minimal dollar values. International buying activity remains mixed causing prices to be variable basis the product. Producers are anxious to see prices move higher basis increased processing costs while sluggish demand keeps prices from increasing. Expectation is a variable to stable price trend through January.

| INGREDIENT | Price Trend: 1 Month | Price Trend: 3 Month | Supply Availability |
|---------------|----------------------|----------------------|---------------------|
| WHEY PERMEATE | → | → | GOOD |
| LACTOSE | → ↑ | → | GOOD |
| WHEY | → | → | GOOD |

VITAMINS

Vitamin market conditions continue to remain stable driven by available local market supply and more normalized logistics costs. A combination of these factors is causing prices to be bearish.

Looking towards the upcoming first quarter, supply is expected to outpace demand causing experts to predict stable to weaker price trends to continue.

| INGREDIENT | Price Trend: 1 Month | Price Trend: 3 Month | Supply Availability |
|------------|----------------------|----------------------|---------------------|
| VITAMIN E | → | → | GOOD |
| VITAMIN A | → ↓ | → | GOOD |
| CAL PAN | → | → ↓ | GOOD |
| NIACIN | → ↓ | → | GOOD |
| D3 500 | → | → | GOOD |

MINERALS

Trace mineral supplies have consistently increased to a more comfortable demand level in turn allowing prices to stabilize.

Copper sulfate prices are variable basis time of purchase by suppliers and level of inventory on hand. Scrap metal has tightened pushing prices higher. Expect price conditions to be mixed for the short term. Zinc product prices are overall stable to a bit weak basis increased supply availability. Predictions are this trend will continue.

Monocalcium phosphate producers have announced either stable to slightly lower prices for Q1. High input costs for raw materials and energy are keeping prices from moving any lower. This trend is expected to continue through the spring planting season.

| INGREDIENT | Price Trend: 1 Month | Price Trend: 3 Month | Supply Availability |
|-----------------------|----------------------|----------------------|--------------------------|
| MONOCALCIUM PHOSPHATE | → ↓ | → | INCREASING - STILL TIGHT |
| COPPER SULFATE | → ↓ | → | GOOD |
| ZINC SULFATE /OXIDE | ↓ | → | GOOD |