

## Amino Acids

For key amino acids lysine and threonine tight available supply with increasing price trends continue. Domestic suppliers remain focused on strict contract supply allocations with non-domestic availability remaining inconsistent at best. These conditions have forced diet reformulations to minimize use in feed diets. Experts predict these trends to continue for the next several months.

Other key amino acids such as methionine, tryptophan and valine price trends continue to be generally stable. Demand has weakened with diet reformulations allowing prices to see little change. Market supply is available for spot to contract buyers.

INGREDIENT	PRICE TREND: 1 MONTH	PRICE TREND: 3 MONTHS	SUPPLY AVAILABILITY
LYSINE	↑	↑ →	TIGHT – ALLOCATION
THREONINE	↑	↑ →	TIGHT – ALLOCATION
METHIONINE	→	→	GOOD
TRYPTOPHAN	→	→ ↓	GOOD
VALINE	→	→ ↓	GOOD

## Minerals

Basis the product and sourcing region, mineral trends are stable to bullish. Copper sulfate has seen little change as supplies are good and able to meet market demand. Zinc based products are a different story with zinc sulfate continuing to be firm with tight supply available with a majority produced outside the US. Monocal supply also continues to be tight as a major producer wrestles with production issues for the past several months.

Price trends are expected to remain bullish overall as producers wrestle with logistics, supply and labor issues that impact available market supply.

INGREDIENT	PRICE TREND: 1 MONTH	PRICE TREND: 3 MONTHS	SUPPLY AVAILABILITY
MONOCALCIUM PHOSPHATE	→	→	TIGHT
COPPER SULFATE	→	→ ↑	GOOD
ZINC SULFATE/OXIDE	↑	→ ↑	TIGHT

## Vitamins

Vitamin market prices remain firm compared to last quarter as producers are faced with increasing raw material costs along with reduced production capacities due to energy use restrictions in China. General price increases have ranged from 15%-25% for most vitamins except cal pan which rose by over 40% driven by tight raw material availability.

Price trends for spot buyers are expected to be bullish through February and possibly through Q1. Buyers will have a keen eye on the market in March once Chinese New Year and the Olympics are completed in February. Experts predict prices to be more stable as we near Q2.

INGREDIENT	PRICE TREND: 1 MONTH	PRICE TREND: 3 MONTHS	SUPPLY AVAILABILITY
VITAMIN E	↑	→	TIGHT
VITAMIN A	↑	→ ↓	TIGHT
CAL PAN	↑	→ ↑	TIGHT
NIACIN	↑	→	TIGHT
D3 500	→	→	TIGHT

## Dairy Powders

Price trends for dairy powders are overall unchanged for the last 30 days. With continued weak demand from export markets, supplies remain ample for domestic buyers. Whey permeate and lactose markets have seen little price movement, a trend expected to continue until at least the completion of Chinese New Year and Olympics. Buyers are keeping a keen eye on when international buyers step which will cause a quick increase to market prices.

The whey market remains bullish as high protein whey products gobble up supplies offering less spray dried whey to the market. Overall expert predictions for the dairy market are stable until export demand increases.

INGREDIENT	PRICE TREND: 1 MONTH	PRICE TREND: 3 MONTHS	SUPPLY AVAILABILITY
WHEY PERMEATE	↑	→ ↑	GOOD
LACTOSE	→ ↓	→ ↑	GOOD
WHEY	↑	↑	TIGHT