



U.S. Dairy Risk Management

How to Buy U.S. Dairy Products Year-round while Mitigating Volatility

As an international buyer of dairy products, your primary goal is to secure supply on a consistent basis at a stable and controllable price. The U.S. dairy industry is well equipped to meet the increasing global demand for wholesome, quality products. However, the volatility of the global dairy market has proven challenging in mitigating your financial exposure. Risk management tools are here to help!

What is Risk Management?

Risk management is the identification, assessment and prioritization of risks, followed by planned efforts to minimize the probability of negative impact to your business. When sourcing dairy products unpredictable events and adverse price moves (volatility) in the price of the commodities can have a real and measurable impact on your bottom line. Risk management can enable you to protect against the adverse price movements and potentially extend the periods of favorable pricing.

The ability to secure input pricing through forward contracts or financial pricing tools such as futures,

options and over-the-counter accounts (OTCs) allows you to create certainty around the pricing and margin applicable to your business. Risk management is about taking control of traditionally difficult to control parts of your business and asserting your will upon otherwise uncontrollable and volatile factors impacting your ability to be successful.

Setting up a diversified plan amongst available tools allows a Commodity Risk Management Plan a greater chance at successfully smoothing out the peaks and valleys of extreme price ranges amongst commodity input prices which could put you out of business. The objective is to create certainty.



DID YOU KNOW

- The use of risk management tools creates certainty in the price you will pay hence enabling you to plan ahead and secure consistent supply of U.S. dairy products.
- The Dairy Risk Management tools in the United States are the most developed in the world, with some of the Dairy Futures contracts in existence for over 20 years. Trading volumes and open interest in U.S. Dairy Futures contracts are significantly higher than any other international contracts, making it easier to execute your risk management plan and control volatility with U.S. dairy products.



How Does this Work?

THE CHICAGO MERCANTILE EXCHANGE AND ITS ROLE IN GLOBAL DAIRY TRADE

The Chicago Mercantile Exchange (CME) is the marketplace where U.S. Dairy Futures and Options contracts are traded. The CME Group is the world's leading and most diverse derivatives marketplace, handling 3 billion contracts worth approximately \$1 quadrillion annually (on average).

The CME provides two important functions:

1. Price Discovery: all bids, offers and trades are public and available for the world to see. No one knows who the buyers or sellers are in the market at any point in time, but the prices that people bid, offered or traded are all made public and that allows price discovery.
2. Risk Transfer: when a price is discovered that is of interest to your business, the CME allows you to transfer the risk inherent to your existing business to another anonymous party by the purchase or sale of a Futures contract (or Option).

If you are sourcing physical commodities from a U.S. supplier, the chances are strong the price you will pay for your physical product will correlate well with the U.S. pricing mechanism utilized by the CME. Thus

the CME allows you an independent and anonymous source through which you can set Forward prices for commodities when suppliers are unable to do so. Cheese, whey, milk, butter and milk powders are all traded on the CME so if you are concerned that prices will rise, you can buy CME Futures to fix price in place of a supplier Forward contract, up to 24 months in the future.

Practical Examples:

1. BUYING U.S. DAIRY USING CME DAIRY FUTURES

Assume you are a buyer in July 2015 and you are making your procurement plan for Jan 2016. You will need to buy 100 metric tons (mt) (roughly 220,000 lbs.) of U.S. cheese in January 2016 for anticipated seasonal demand.

Looking at the CME Futures Market, you realize that the price for January 2016 is offered at \$1.70/lb. (\$3,750/mt equivalent) which is significantly lower than the prior years' price and below your budget target. You are concerned that the price may increase between July 2015 and January 2016 and want to secure the current price and ensure you achieve your budget goal.

You secure this price by calling your broker and buying



CME Cheese Price History and Forward Curve

2005-2016

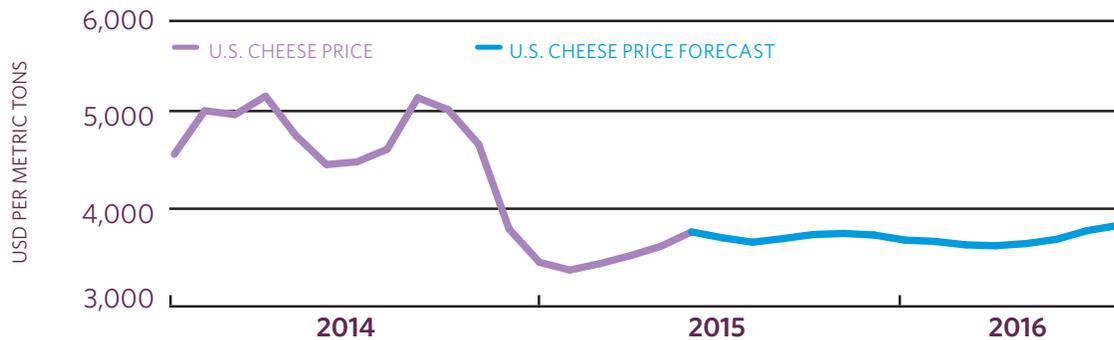


Source: AMS, CME



U.S. Cheese Price CME Futures Example

2014-2016



Source: AMS, CME

11 contracts (each CME cheese contract is 20,000 lbs., roughly 9 mt) at the market price of \$1.70/lb. (\$3,750/mt).

In January 2016, you will source your physical product from a U.S. supplier and provided the Futures correlate to the physical market they will be protected against an adverse price movement.

For example, if the physical market price (as published by the U.S. Department of Agriculture's Agricultural Marketing Service (AMS)) increased to \$4,000/mt, you will pay close to this higher market price for your physical product but will receive \$250/mt profit from your Futures trade to compensate for this price movement, yielding a true cheese cost of \$3,750/mt.

However, if the market price decreases to \$3,500/mt, you will source your physical product close to this lower price but will have a \$250/mt loss on your Futures contract, bringing your net price back up to the \$3,750/mt.

In summary, a Futures contract has a similar end result to a Forward contract but with additional flexibility, anonymity, liquidity and less counterparty risk.

2. BUYING U.S. DAIRY USING CME DAIRY OPTIONS

Assume you are a buyer in July 2015 and you are considering your purchase requirements for the start of the following year. You forecast that you will need to buy 100 metric tons (mt) of U.S. Non Fat Dry Milk (NFD) in January 2016. The market price for NFD has dropped significantly over the previous year and at the time you are making your decision the spot market is at its lowest level since 2009, trading at roughly \$2,000/mt.

You want to secure the current low prices for your January 2016 purchases but the Futures market is higher in January 2016 where the sellers are looking for roughly \$2,250/mt. Since you think the market will remain weak for the foreseeable future, you decide to purchase a Call option for your January requirement instead of locking in the Futures price.

A Call option is the right but not the obligation to buy a Futures contract at a pre-agreed upon price. If you buy a Call option you pay a premium for this right to buy a Futures contract at the strike price if the market is higher, but unlike with the Futures contract if the market is lower you are not obliged to buy at the higher strike price; meaning you can protect while benefiting from lower prices as well.





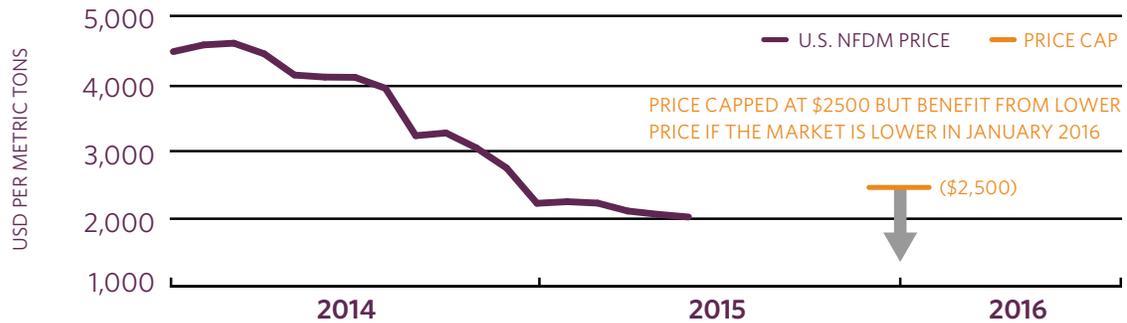
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Non Fat Dry Milk Call Option Example

2014-2016



Source: AMS, CME

You decide to buy a Call option at \$2,500/mt which means you have the right but not the obligation to buy Futures in January 2016 at \$2,500/mt and for this right you have to pay a premium of \$50/mt to get the protection (premium calculation is indication only and subject to change based on market conditions.)

If in January 2016 the market price (AMS) is \$2,950/mt, you will have to pay close to this for your physical product but will exercise your option at \$2,500 and gain \$450 profit to compensate for this higher price (less the premium \$50 you paid initially). The upside price risk is capped at \$2,550/mt. If, however, in January 2016 the market price is \$2,000/mt, you will choose not to exercise the option but simply source the physical product in the market at the lower market price, that is \$2,000 plus \$50 or \$2,050/mt. There is

no bottom to how low the price can fall, but you are still protected against a large price rise.

Interested in Exploring Risk Management Solutions?

In order to access the CME, you must go through a licensed and regulated entity most commonly known as a broker. Buyers interested in connecting with a broker may search for such service providers on our U.S. Dairy Supplier Directory at ThinkUSAdairy.org.

Buyers are also encouraged to talk to their U.S. dairy suppliers about the tools available to mitigate their financial exposure.



BEGIN YOUR JOURNEY

Visit **ThinkUSAdairy.org** today!

- Find U.S. dairy suppliers and risk management service providers.
- Download the *USDEC Price Finder* mobile app to track a variety of USDA dairy commodity prices.



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