The Milkweed

Dairy's best information and insights

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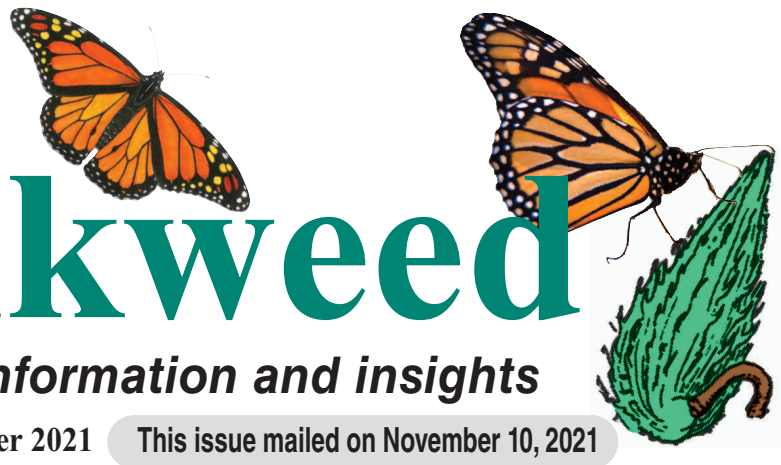

"Float like a butterfly, sting like a bee."
— Muhammad Ali

Dairy Protein Shortages Mirror Food/Energy Supply Chain Woes

by Pete Hardin

Currently, an analyst could write a thick book detailing the vast challenges facing the national and global food supply chains. Take your pick: Ships, congestion at ports, scarcity of intermodal shipping containers, too few truck drivers, warehouses stuffed to the rafters with goods to be shipped out, skyrocketing natural gas costs, skyrocketing fertilizer costs and pending scarcity of fertilizer for the 2022 growing season in the Northern Hemisphere, tight global grain supplies, shortages of packaging materials, labor shortages in food businesses, adverse weather … and on and on. (Regrets if we missed a few major factors.)

Amid all these challenges to national and global food supply chains, let's primarily focus on the evolving scarcity of dairy's most fundamental commodities – dairy protein powders. Take your pick: Nonfat dry milk; Skim Milk Powder; Whey and whey derivatives; Milk Protein Concentrate; Casein products … and a whole array of high-end, high-protein materials such as Milk Protein Isolate.

What's critical about dairy protein powders is that they provide complete proteins (a full complement of amino acids). Humans need adequate, complete proteins in their daily diet for proper mental and muscular function. Dairy protein powders are storable, easily transportable, and enjoy a wide variety of applications in food processing. In normal times, dairy protein powders' availability is simply taken for granted. But these are not normal times.

Globally, supplies of dairy proteins are constricting. And predictably, prices are rising – significantly. Now and going forward, price isn't the only headache for users of dairy proteins. Problems concerning adequate supplies loom. Manufacturers are putting regular customers on allocation … or worse, shutting off some customers. Some dairy protein sellers are also culling – weeding out problematic customers (such as slow payers) or short-term customers.

Simply stated, all three major dairy exporting regions of the world are experiencing present (and future) challenges to farm milk production. Oceania, Western Europe, and the United States are all witnessing milk production slow-downs.

See page 3 for extensive quotes from USDA's *Dairy Market News* analyzing Western Europe and Oceania dairy supply/demand.

New Zealand's milk flow off to slow start …

New Zealand's grass-based pasture season commences in mid-August and features rapid increases towards peak milk flow during October and November. New Zealand's dairy herd is bred to calve and start milking as spring grasses emerge Down Under. However, nearly three months into the current pasture season, New Zealand's milk production is noticeably slower than anticipated – running one percent (or more) below last year's volume and a few percentage points below what marketers had anticipated. With the problematic, early pasture season in New Zealand, what's really becoming important is milk cow physiology. The first two months of a cow's lactation comprise the "rising phase" of her milking cycle. However, the peak established at about the 60-day mark pretty much establishes the potential overall milk volume she'll produce for the entire lactation. Thus, with New Zealand's pastures stressed up to this point in the grazing season, the question becomes: "How much less" farm milk will New Zealand's dairy processors have available for the remainder of this milking cycle?

Fonterra – New Zealand's largest dairy processor – is already advising certain U.S.-based dairy protein customers of steep supply cutbacks in the year ahead. *The Milkweed* is hearing reports of a U.S. customer warned by Fonterra of at least a 75% cutback (vs. volumes sold in 2021) in dairy protein powders in 2022.

Another consideration may be impacting how Fonterra allocates available, limited dairy commodities: trans-oceanic shipping headaches. Let's say that Fonterra faces current turn-around times of six to seven weeks to move dairy products by ship to West Coast ports in the United States. Alternately, moving dairy commodities by ship to China, for example, might require only half the turn-around time as moving product to the United States. If China needs dairy proteins, and the money is solid, then why not keep product moving offshore and the cash flow coming in quicker by allocating products towards China, instead of nearly 10,000 miles across the Pacific Ocean to the the United States?

Milk production in much of Western Europe is slow, compared to last year. This year, Western Europe experienced one of its coldest springs in hundreds of years. That cold spring significantly slowed growth of grasses and annual crops.

In the United States, the significant majority (60%) of nonfat dry milk and Skim Milk Powder (for export) has been produced in western states. Those western dairy states continue suffering under horrid drought conditions, with a drier than normal winter predicted. Less milk production in western states in the coming year is predictable. Locally produced forages are scarce and expensive in the West. Dairy producers are weighing how many animals they may overwinter, given feed supplies on hand and costs for purchased feed materials. Adverse weather events in many parts of the United States and the world have spiked grain prices.

Natural gas costs a big cost factor for dry dairy proteins

Energy costs are a driving factor for dairy protein powders' prices. Natural gas is THE principal energy source used to dry dairy products, globally. Natural gas prices are spiking both domestically and globally. Thus, far higher energy costs are behind some price escalation for dairy protein powders at the production site, even before getting into land- and sea-based transportation headaches. *The Milkweed* is hearing of some dairy plants experiencing energy cost increases as high as 75% in recent months.

In the United States, nonfat dry milk prices have spiked by about 30 cents per pound in the past three months. Grade A nonfat dry milk concluded trading at the Chicago Mercantile Exchange on Friday, November 5 at $1.57/lb. – a high mark for recent years. Industry personnel are cautiously whispering about the potential for nonfat dry milk prices hitting $2.00/lb.

Globally, casein users are experiencing spiking costs. (Casein is not produced in the United States.) Casein is basically the dregs of dairy protein powder complex. So tight milk supplies and rising values for higher-priced dairy protein ingredients mean reduce incentives to produce casein in Oceania and Europe. Less casein produced means higher prices in a tight global market … simple supply/demand.

Whey is another fundamental, dairy-derived protein. Whey prices are pushing into the stratosphere. Dry whey trading at CME on November 5 concluded at $0.66 per pound – the highest price in several years. Whey exports to China have

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Astounding May to September '21 Milk Slow-Down

by Pete Hardin

Milk production data for the nation's top 24 dairy states showed a dramatic, recent slow-down in the percentage of milk production gains.

Every one of the top 16 dairy states registered slower rates of milk production growth, comparing May vs. September '21. (See the accompanying Table A on page 2.)

The accompanying table shows the May and September 2021 increases in milk production for the top 16 dairy states, and then details the percentage of growth differences between those two months.

In May '21, the top 24 dairy states showed a market-busting gain of 4.9%. But by September, those same states only produced a 0.4% increase. It's generally understood that the United States needs a one percent gain in milk production, year-to-year, to keep up with increased domestic demand.

The sharp, coast-to-coast reduction in leading states' milk production gains from May through September '21 reflects several factors at play. Higher grain costs and impaired local production of crops in some dairy locales are causing milk flow to slow dramatically. Even big dairies that booked their grain costs a year ahead in 2020 are now feeling increased feed costs. Western states' drought has slowed production of local forage and other feed materials.

At recent rates of slow-down, U.S. milk production will turn negative (vs. year-ago numbers) in October or November 2021.

Two looks at recent milk production data …

1) Some big dairy states fall backwards quickly. A quick look at several major dairy states' May through September 2021 percentages of milk production gains can be seen in Table A in the upper left corner on page 2.

2) Southeast facing steep losses. As a region, the Southeast has seen steep losses in farm milk volumes so far in 2021. These volume declines are one reason why the Southeast pulled in so much milk from other regions of the nation, starting in late July and early August. Public schools in the Deep South start classes as early as the second week of August, so fluid milk processors needed extra volumes of milk to supply school milk contracts.

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Select Milk Producers Quitting NMPF

by Pete Hardin

Select Milk Producers is terminating its membership with the National Milk Producers Federation (NMPF). Losing Select Milk Producers is a tough blow for NMPF, which needs all the membership dues and other money it can scrounge.

Mike McCloskey, who is a partner at Fair Oaks Dairy in Indiana, heads Select Milk Producers. McCloskey is properly regarded as the most politically influential dairy producer in the country – even though, for income tax purposes, he is a resident of Puerto Rico.

Select Milk Producers' leaders and members expect performance measured in black ink, not red ink or missing moo-la. Example: In 2019, Select sold its share of the Fairlife milk business to Coca-Cola. In the final cash-out, Select's members received a rumored payment of $0.80-$0.90/cwt. on several years' of milk production. That's performance.

Losing the influential McCloskey as part of NMPF's executive committee and board of directors will sting. Select Milk Producers represents primarily larger-sized dairy farms in New Mexico, Indiana, Michigan and Ohio. Besides the fact that Select Milk Producers' dues will evaporate, NMPF will lose contributions to the Cooperatives Working Together (CWT) program's huge legal debts.

Right now, *The Milkweed* may only speculate about reason(s) for Select's exiting NMPF. Suffice it to say, Select Milk Producers' leaders expect results … and the "results" from NMPF in recent months have been paltry.

PVMAP Fiasco Short-Changes for Select Members

Select Milk Producers produces close to 9 billion lbs. of milk annually, with about 100 members. On average, Select's members are very large-sized dairy producers.

The recent NMPF "victory" that gained a supposed $350 million compensation from USDA for milk producers' losses associated with the unduly low Class I (fluid) milk prices during 2020's second half will yield almost nothing for Select Milk Producers' members, barring legal intervention. That $350 million program is the Pandemic Market Volatility Assistance Program (PMVAP). USDA rules for the PMVAP limit payments to producers to the first five million lbs. of milk produced during July-December 2020. Many Select producers produce five million lbs. of milk in a month, or less.

NMPF was unable to sway USDA to change the five million lb. payment limit for the PMVAP. The perception among large-size dairy producers is that they were again short-changed by a federal program engineered by NMPF's lobbying efforts on Vil$ack.

If the five million lbs. payment limitation stands up against political and possible legal pressures, the program would actually distribute perhaps one-third of the highly touted $350 million.

CWT is in a financial bind, due to financial obligations resulting from settlements of two Class Action lawsuits. That pair of Class Action lawsuits combined to settle for an estimated $270 million dollars. In both lawsuits, CWT was accused of operating an improperly structured "Marketing Agency in Common." CWT was structured outside the rules established by the federal Capper-Volstead Act. That 1922 law granted agricultural cooperatives special bargaining powers for pricing farm commodities.

Earlier this year, defendant National Milk Producers Federation ceased contesting a $220 million settlement in a Class Action case involving the Cooperatives Working Together (CWT) program. That settlement follows a similar $50 million settlement involving animal welfare plaintiffs vs. CWT. (Do the math: $220 million + $50 million = $270,000,000.) With 4-cent per hundredweight dues, on about 70% of the nation's milk, the CWT program generates about $75 million per year.

How to pay for those losses? NMPF borrowed funds from the National Bank for Cooperatives (CoBank). NMPF is using a large chunk of CWT's four-cent per cwt. deduct from participating member co-ops to pay off that debt.

NMPF borrowed to meet the $220 million obligation and is bleeding participating cooperatives' monthly payments into CWT to pay off that debt. For the past decade-plus, CWT income has promoted dairy exports, bankrolled massive legal fees, and paid down settlement-related debts. Paying down CWT legal debts is like alimony — feeding hay to a dead horse.

Besides the $220 million in legal settlements, NMPF has absorbed many tens of millions of dollars in legal fees paid to its lawyers.

Vil$ack Awards $10 Million to Develop, Promote Lab-Cultured "Meat"

by Pete Hardin

A story in the October 20 issue of *Farmshine* revealed that USDA recently issued a $10,000,000 grant to Tufts University to develop lab-cultured (fake) meat and to "educate" the public about such products.

The article is titled, "USDA gives $10 million to 'develop' cell-cultured meat industry." (Page 4, October 29 issue of *Farmshine.*) The website is:

www.farmshine.net

With all the untold hundreds of millions of dollars that investors have poured into companies aiming to produce plant-based and lab-cultured "meat" products, one must wonder why Vil$sack feels compelled to pour taxpayer dollars into such "stuff" (for lack of a four-letter word).

For meat producers, Vil$ack is turning out to be a piece of fatty baloney. Earlier this year, Vil$ack's agency approved a program to allow alternate "meat" products into school meals. Now comes the $10 million grant to Tufts University. Vil$ack is fronting for the "fake meat" industry, just like his predecessor, Sonny Perdue.

Meanwhile, Vil$ack is not restoring any teeth to GIPSA, the USDA branch that oversees livestock marketing. Perdue had defanged GIPSA, eliminating some protections for livestock producers. Vil$ack has stated that he is not inclined to restore any of GIPSA's powers removed by Perdue. In fact, sources say that Vil$ack has not yet named an administrator for GIPSA, nor an advisory committee. Despite stated concerns about undue concentration among meat packers, it's hard to see any specific actions coming from the Biden administration at this time.

"Education" component for Tufts' grant

Curiously, one element in the $10 million USDA grant to Tufts University for "lab-cultured meat" involves public education. Why should taxpayer dollars bankroll "educating" the public regarding that "stuff" (again, for lack of a four-letter word).

Education? Swallow these facts, beloved vegans and vegetarians. "Lab-cultured meat" is a biotech product, grown in vats using nutrient-dense media as the source of energy. A common ingredient in the "media soup" in those vats is FETAL CALF SERUM – BLOOD DRAINED AT SLAUGHTERHOUSES FROM UNBORN CALF FETUSES PULLED FROM THEIR MOTHER'S WOMBS. It's been reported that the value of fetal calf serum is about $125 per quart. At livestock sales, "kill buyers" are currently paying top-dollar for Holstein heifers about to calve. Why? They can drain blood from the unborn calves and earn extra income from selling that blood.

What's the special value for fetal calf serum in the media used to grow vats of "lab-cultured meat?" Blood from unborn calves is full of life-spurring components. That energy-dense material is needed to accomplish growing "tissue" in vats Super-dense media is need to spur cell tissue growth in days (or a few weeks) – something that takes Mother Nature much longer on pasture or in the feedlot.

"Lab-cultured meat" is produced using biotechnology. One must wonder why the public (and investors) are so positively excited about "lab-cultured meat" … when the public has been increasingly rejecting biotech-derived foods for the past 30 years (dating back to Monsanto's recombinant bovine growth hormone.)

Biotech foods: No human safety tests needed

Way back in 1991-1992, a White House commission headed by then Vice President Dan Quayle (the ex-newspaper publisher who couldn't spell "potato"), declared that biotech-derived products that were basically the same as their natural counterparts and needed no special safety testing. That policy was engineered by biotech companies to try to counter the sharp, adverse reaction against Monsanto's rbGH. Since the early 1990s, biotech materials used in our nation's foods have had ZERO human safety tests.

We may presume that "lab-cultured meat" also enjoys freedom from "human safety" testing. How can "lab-cultured meat" contain all of the proteins, nutrients and essential amino acids that are contained in natural meat products? Where are the "human safety" tests for "lab-cultured meat" products?

Health concern: allergenic, novel proteins

The past two decades have started to unravel the complex mysteries of the human gut biome – the billions of bacteria in human intestines. A healthy gut biome correlates with personal health.

The gut bacteria may recognize certain proteins, including novel proteins, as allergens – spurring an allergic reaction. Thus, a critical question involving the production of lab-cultured meats is whether those products are exactly identical to the natural product their manufacturers intend to place. If some individuals' gut bacteria regard lab-cultured meats' proteins as foreign substances, allergic reactions could result.

Dairy Cull Cows Update

Through the week of October 23, USDA estimates that 2,580,700 dairy cows have gone to slaughter so far in 2021. In 2021, an additional 56,000 dairy cows have been sent to slaughter, compared to the figure for late October 2020.

Tighter supplies of feeds and forages, plus higher costs for feed and forage materials, are incentives for some dairy producers to cull aggressively in coming weeks. Beef cattle operations face similar challenges, especially in western states where adverse weather events have reduced local crops.

Now into 2021's final two months, we should see the pace of dairy culls accelerate heading towards the over-winter feeding season.

Food/Energy Woes

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been particularly strong – as China attempts to rebuild its hog numbers following struggles with devastating African Swine Fever, which killed off half of China's swine population two to three years ago.

Food is energy, energy is food …

Food is the source of human physical energy. Ultimately, industrialized global food systems all boil down to energy. Globally, energy costs are shooting up, amid scarcity – particularly in Europe. The miracle of modern, industrial agriculture owes a great share of its productivity to fertilizers. A major production input for nitrogen-based fertilizers is natural gas. Nitrogen-based fertilizers are a major source of global agricultural productivity.

Europe is in a very difficult situation, relative to natural gas supplies and costs. Facing what's feared to be a cold winter and already sky-high natural gas prices in place, European governments are starting to ration use of limited natural gas supplies. Fertilizer production is one early casualty of high costs for and limited supplies of natural gas in Europe. Much fertilizer production in Europe has been shut down – to conserve supplies for heating homes and businesses this winter. Some other nations that normally export fertilizer components (example: Egypt) are starting to stockpile, even hoard supplies.

Like natural gas, fertilizer supplies and costs tend to be global – particularly on the uptick. As European fertilizer production shuts down, alarming questions must arise regarding how agricultural production will be limited in 2022 in Europe … and beyond. Global grain supplies are already tight – knocked down by adverse weather events. Constricted agricultural output in 2022 is a prescription for even greater costs for agricultural production … and ultimately, higher food costs for consumers.

Food is energy. Energy is food, in our modern agricultural systems. The world is just beginning to fathom the depths and complexities of our modern food systems. As an energy-dependent, principle source of complete proteins, the U.S. dairy industry is caught squarely in the swirling vortex of global energy and food scarcity.