MPC FRIDAY MARKET UPDATE

CHICAGO CHERDAR CHEESE

<table>
<thead>
<tr>
<th>Blocks</th>
<th>$+.0325</th>
<th>$1.7150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrels</td>
<td>$+.0400</td>
<td>$1.5400</td>
</tr>
</tbody>
</table>

CHICAGO AA BUTTER

| WEEKLY CHANGE | $-.0275 | $2.3600 |
| WEEKLY AVERAGE | $+.0160 | $2.3725 |

DRIY WHEY

| DAIRY MARKET NEWS w/e 05/31/19 | $.3600 |
| NATIONAL PLANTS w/e 05/25/19 | $.3752 |

NON-FAT DRY MILK

| NAT’L PLANTS | $1.0286 | 18,741,757 |
| PRIOR WEEK ENDING 05/18/19 | $1.0253 | 20,815,194 |

CALIFORNIA FEDERAL MILK MARKETING ORDER PRICE PROJECTIONS

<table>
<thead>
<tr>
<th>PRICE PROJECTIONS</th>
<th>CLASS I ACTUAL (RANGE BASED ON LOCATION)</th>
<th>CLASS II PROJECTED</th>
<th>CLASS III PROJECTED</th>
<th>CLASS IV PROJECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAY 31 EST</td>
<td>$18.02 - $18.52</td>
<td>$16.47</td>
<td>$16.38</td>
<td>$16.26</td>
</tr>
<tr>
<td>MAY 24 EST</td>
<td>$18.02 - $18.52</td>
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<td>$16.26</td>
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</tbody>
</table>

Milk, Dairy and Grain Market Commentary

By Sarina Sharp, Daily Dairy Report

Sarina@DailyDairyReport.com

Milk & Dairy Markets

“Tariff Man” is living up to his self-proclaimed moniker. President Trump announced that the U.S. will impose a 5% tariff on all Mexican imports beginning June 10. The tariff will rise five percentage points each month until it reaches 25% in October. It will hold at 25% “until such time as illegal migrants coming through Mexico, and into our Country, [sic] STOP,” Mexico’s Deputy Foreign Minister for North America, Jesús Seade, promised that Mexico would respond “strongly.”

Even if Mexico does not retaliate with a tariff on dairy products – as it did until Section 232 steel and aluminum tariffs were waived less than two weeks ago – there are important consequences for the U.S. dairy industry. The Mexican peso fell nearly 3% against the U.S. dollar today, immediately weakening the buying power of the U.S. dairy industry’s most important foreign customers. The new tariffs may also jeopardize the U.S.-Mexico-Canada Agreement (USMCA), which must win approval from legislators in all three nations. If the USCMA fails, Canada will maintain the underhanded milk pricing schemes that have simultaneously shut down an outlet for U.S. filtered milk and pushed large volumes of cheap Canadian skim milk powder (SMP) on the global market. If the trade war escalates further, investors worry that it could trigger a global recession, which could hamper demand for dairy products.
Chinese imports of fresh milk also impressed. They jumped 75.3% from the prior year in April to a new record high. China’s appetite for cheese has rebounded after waning in 2018. However, Chinese butter imports are falling short of last year’s robust pace. And Chinese whey imports have slumped. African swine fever, which has decimated the nation’s hog herd, is likely to blame. Whey is a popular ingredient in piglet rations. Chinese whey imports are down 25.2% for the year to date.

Global milk output is surely not keeping pace with demand. Production is down hard in Oceania and only recently on the mend in Europe. In India, the world’s second-largest producer of cow’s milk, a disappointing start to the rainy season has depressed milk production. A timely assessment of national milk output is unavailable, but the Gujarat Cooperative Milk Marketing Federation reports milk collections down 5% to 6% from a year ago. Last year at this time, India’s dairy producers campaigned successfully for government aid to move excess dairy products. Subsidies helped boost India’s SMP exports to four-year highs. The Daily Dairy Report posits, “India could soon join the ranks of many of the world’s other major dairy producers who have also chipped away at milk powder inventories as production slows.”

Canada is in a similar position. Despite its rigid supply management system – or, more precisely, because of their creative classification workarounds – Canada has fostered the world’s fastest-growing dairy sector. Canadian milk output jumped 4.5% in 2015, 3.2% in 2016, 6.5%
in 2017, and 2.8% in 2018. But through March 2019, Canadian milk output has fallen short of the prior year in five of the preceding six months. Canada’s SMP exports, which soared in 2017 and 2018, have come back down to earth. The ferocious competition to move milk powder to someone else’s shores has been subdued.

In the United States, dairy producer margins are starting to recover, but on many farms misfortune continues. USDA’s Dairy Market News reports, “Weather is causing consternation amongst farmers and industry participants throughout the Central region. Hay and feed supplies are dwindling, and contacts suggest this will continue to push smaller dairy farms out of the picture in the Upper Midwest... In the southern, and some eastern parts of the region, crops are taking a beating from a medley of calamities.” It’s unbearably hot in the Southeast, and milk yields are starting to drop. In the West, some dairy producers are worried that unseasonable rains will reduce the quality of their hay. Forage issues are likely to work their way through dairy rations in the coming months, resulting in higher feed costs and perhaps in lower milk yields.

Amidst rising feed expenses and tightening milk supplies, the dairy markets will likely remain well-supported. Summer temperatures may cause prices to heat up further. This week Class III futures were mostly higher, with second-half contracts posting double-digit gains. The September through November contracts are trading higher than $17 per cwt. Class IV futures, in contrast, were steady to a little lower, but most contracts still top the $17 mark. The CME spot markets offered a mixed performance. Spot nonfat dry milk (NDM) added a penny and reached $1.055 per pound. Cheddar diverged. Blocks climbed 3.25ȼ to $1.715, near the calendar-year highs. Barrels fell 4ȼ to $1.54. Butter retreated, dropping 2.75ȼ from last Friday to $2.36. Spot whey lost 0.75ȼ and closed at 35.25ȼ.

**Grain Markets**

The sun is finally shining in the Corn Belt, but for many farmers it is too little, too late. Millions of acres of prime farm ground remain mired in the mud, or completely underwater. The forecast calls for off-and-on rains for the next couple weeks. That’s better than the daily deluge of the past month, but it won’t accommodate a big planting push anytime soon. Prevent Planting dates for corn are either already passed or near at hand. In 2013, farmers took insurance and did not plant 3.3 million acres of corn, the highest total ever. This year’s lost acreage will far exceed that total. A Bloomberg survey of crop analysts’ projects that 6 million acres of corn will go unplanted, and some private analysts say 10 million acres have been lost. Yields will suffer for crops that are planted late into muddy ground.

Furthermore, it’s turning hot and dry in the Black Sea wheat region, and China – the world’s second-largest corn producer – has an infestation of army worm. The world has long been burdened with a surplus of grain, but stocks will surely tighten this year. The markets
moved higher accordingly, although they took a big step back today on the heels of the latest trade news. July corn settled at $4.27 per bushel, up 22.75¢. July soybeans jumped nearly 50¢ at $8.7775.

The Sustainable Groundwater Management Act – What Does It Mean for Dairies in the Central Valley?

By Geoff Vanden Heuvel, Director of Regulatory and Economic Affairs

Geoff@MilkProducers.org

One year ago, the Milk Producers Council Board of Directors charged me with the responsibility of being the dairy industry’s eyes, ears and advocate in the implementation of the Sustainable Groundwater Management Act (SGMA). Over the past 12 months of traveling Highway 99, I have attended nearly 300 water meetings – sometimes as many as 4 or 5 per day – to cover the water story in dairy areas of the Central Valley. We have dairies located south of Bakersfield and all the way up to Stockton that are in parts of the Central Valley considered by the state of California to be in a “critically overdrafted” condition. This “critically overdrafted” designation triggers a requirement under SGMA that these areas produce a plan that will, by the year 2040, eliminate overdraft and create a situation that prevents the occurrence of the “undesirable results” caused by mining groundwater.

Every acre in California that sits over groundwater is part of a Groundwater Sustainability Agency (GSA). GSAs in “critically overdrafted” basins must complete a Groundwater Sustainability Plan (GSP) by January 31, 2020. This plan must identify how much native water there is in their area and how it is currently used. And it has to contain a plan for how the undesirable results that come from being in a “critically overdrafted” condition can be eliminated by the year 2040.

Here is what I have learned that is relevant to dairies. First, the amount of native groundwater that can be sustainably pumped in this part of the Central Valley ranges from about 4 to 10 inches per acre, per year depending on where you are specifically located. Many areas have access to surface water that can be used, which is in addition to the native groundwater. All the GSPs in development include projects that seek to obtain more surface water, particularly in wet years like this one, to put into the ground to supplement the native groundwater. Access to surface water is not evenly distributed throughout the Central Valley, so some dairies are in pretty good shape and others are much more vulnerable to any coming restrictions on groundwater pumping. Knowing what GSA you are part
of is very important. I can help you with that if you do not know. You can also locate your GSA at the Department of Water Resources SGMA Portal at [www.sgma.water.ca.gov](http://www.sgma.water.ca.gov).

Secondly, an important reality not widely understood is that the actual footprint of your dairy itself – the corrals, the milking barn, the feed storage pads and feed alleys – have zero consumptive water use. The only water that is lost on a dairy operation is in the milk that is sold off the farm and the water contained in the body of the cow when it is shipped off the dairy for culling. This is a minimal amount of consumed water. The water that is provided by your wells for the milking part of your operation is not consumptively used until it ends up in your lagoon and is then put on a crop for irrigation water. This means that if a dairy imports all of its feed and exports all of its manure nutrients it can operate in a post SGMA world where pumping is restricted to the native groundwater only. But that is not where we want to go. And we have until 2040 to fully comply with SGMA. Groundwater pumping restrictions are likely to be phased in over time to provide a glide path to ultimate SGMA compliance.

**Dairy Takeaways**

First, every dairy that is in a vulnerable position needs to be thinking about how it is going to handle its manure nutrients if ultimately the land area you use today cannot continue to be actively farmed because of groundwater pumping restrictions. The need to export more manure nutrients is likely going to be a requirement of the Central Valley Regional Water Quality Control Board Dairy Permit for dairies that don’t have sufficient crop acreage for balancing manure nutrient applications with crop nutrient demands. SGMA just accelerates a process that is already going to be necessary.

Secondly, you should be proactive about taking advantage of whatever surface water opportunities might be available in your area. In years like this one, where there are flood water opportunities in many places, getting that water and percolating it into the ground is something that should be done. **Be sure to keep records of what you have done**, i.e., how much extra water you took and when and where you recharged it into the ground. This will have potential value down the road when GSAs actually put their plans in place, possibly giving you credit for this water. Right now, before the plans are in place, there is no way to give you credit, but ultimately the success or failure of a Groundwater Sustainability Plan will be judged on what actually happens to well water levels. So anything that can be done to keep those levels from falling will be a good thing for you and your neighbors.

SGMA will change the Central Valley. My observation is that most GSAs will spend the next few years improving their understanding of what is going on with the groundwater and working on supplemental water supply projects. Some GSAs will implement specific pumping rules right away but will allow extra pumping over the native yield for some time, letting people figure out how to adjust.

The actual plans will be released by all the GSAs by late summer and will be subject to a public comment period. At that time, we will have more specifics on the make-up of the plans. In the meantime, I am happy to share what I’ve learned with you to help you figure out what you need to be doing. I can be reached at [Geoff@MilkProducers.org](mailto:Geoff@MilkProducers.org) or 909-730-1240.

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**Dairy Alternatives: Converting Cattle Methane Into Renewable Energy**

*By KCET’s Earth Focus*

From Kevin Abernathy, MPC General Manager

Earlier this week, *KCET* published a video feature about Arioso Dairy, a 2,900-cow dairy located in
Tulare. Dairy farmer Joey Airoso discusses his adoption of innovative technology to reduce the carbon footprint of his dairy while remaining economically viable by using a dairy digester.

The video details Airoso’s commitment to installing a digester and converting methane into renewable energy for the dairy and beyond. You can watch the video here.

Sacramento Bee: Turning Poop into Power: California Dairies Appeal For More State Climate Change Money
By: Adam Ashton and Andrew Sheeler

THE SACRAMENTO BEE

Joey Airoso last year hooked his dairy into a huge California renewable energy project, a network of farms that turns the gas leaking off manure from 35,000 cows into a biofuel.

It wasn’t cheap. The total project cost more than $30 million, but a grant from the state’s cap-and-trade program that’s meant to help dairies slash greenhouse gas emissions and comply with a global warming law made Airoso’s decision an easier call.

“None of this stuff is free. It’s important to support the dairy farmers who are trying to be sustainable,” the Tulare County dairyman said.

So far, California has steered at least $260 million in those grants to methane digester projects like the one Airoso joined. The California Air Resources Board projects they’ll remove millions of tons of greenhouse gas emissions from the atmosphere, and Gov. Gavin Newsom is asking lawmakers to put another $35 million into the dairy grants.

Read the full article here.

April 2019 CDQAP Newsletter: Protecting Our State’s Milk Supply, Keeping Cows Cool, Tips for Your Annual Report
Courtesy of CDQAP

From Kevin Abernathy, MPC General Manager

Last week, CDQAP released its May 2019 e-newsletter. Please follow this link to view the update. Topics included the dairy industry’s continued commitment to maintaining food supply security, the important of Heat Stress Prevention and tips for writing your annual report.
From Kevin Abernathy, MPC General Manager

MPC holds a seat on the Agricultural Energy Consumers Association (AECA) Board of Directors, which represents the interests of more than 40,000 agricultural operations from Redding to San Diego. The primary goal of AECA is controlling the rising costs of energy. This article was forwarded to me by AECA and we thought it was worth sharing with our readers.

A federal judge in San Francisco ruled Tuesday that if PG&E doesn't meet aggressive goals aimed at preventing future wildfires, the utility won't be able to pay dividends to shareholders after it emerges from bankruptcy proceedings.

At a probation hearing related to the utility’s deadly 2010 gas pipeline explosion in San Bruno, Judge William Alsup said the embattled utility hasn't done enough to prevent wildfires through tree trimming and other maintenance work — even while its shareholders made millions.

“PG&E pumped out $4.5 billion in dividends and let the tree budget wither,” Alsup said.

But the judge declined to impose more sweeping changes that he’d earlier floated, including requiring PG&E to inspect its entire electrical grid. Lawyers for PG&E said that would take years to complete and be prohibitively expensive.

PG&E remains on probation for the 2010 pipeline explosion, which killed eight people and leveled a neighborhood. State fire investigators also blamed PG&E for 18 of the more than 170 wildfires that swept Northern California in October 2017. And the utility has acknowledged that its equipment likely started the 2018 Camp Fire in Butte County, which destroyed nearly 14,000 homes in the town of Paradise and killed 85 people.

While the probation is related to PG&E’s gas infrastructure, Alsup intervened following those fires.

On Tuesday, the judge also directed a federal monitor to conduct random inspections of the tree-trimming program.

Read the full article here.
PG&E: Convicted Felon
Courtesy of Agricultural Energy Consumers Association

In 1997 PG&E was convicted of 739 misdemeanor counts of criminal negligence.

In 2010 they were convicted of felony obstruction of justice and other serious charges in connection with the San Bruno pipeline disaster, crimes for which they remain on probation.

The utility is now being investigated by Butte County and state prosecutors for criminal negligence in the most destructive wildfire in California history – a fire that killed 85 and left tens of thousands homeless.

Californians can’t afford to have a convicted felon running our energy grid.

3 strikes . . . you’re out.

Policymakers Must Hold PG&E Accountable
Time for REAL Reform

Agricultural Energy Consumers Association