DATE: November 17, 2017
TO: Directors & Members
FROM: Kevin Abernathy, General Manager

<table>
<thead>
<tr>
<th>CHICAGO CHEDDAR CHEESE</th>
<th>CHICAGO AA BUTTER</th>
<th>NON-FAT DRY MILK</th>
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<td>Weekly Change</td>
<td>Week Ending 11/10 &amp; 11/11</td>
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<td>- .0400</td>
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<td>Barrels</td>
<td>Weekly Average</td>
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Weekly Average, Cheddar Cheese

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<th>Blocks</th>
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<th>Dairy Market News</th>
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<table>
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Dairy Market News

**Market commentary**

By Sarina Sharp, Daily Dairy Report, sarina@dailydairyreport.com

**Milk & Dairy Markets**

CME spot Cheddar blocks got off to a resilient start, clinging to last week’s gains. But on Thursday their endurance waned and they slipped a few cents. Today their strength gave out altogether. Blocks finished at $1.62/lb., down 9ȼ for the week. The over-supplied barrel market fared worse, dropping 12.5ȼ to $1.6275. Dairy Market News sums up the factors at play. “Overall, the demand in the domestic market is stronger. However, inventories remain plentiful due to production being more than sales... Cheese plant schedules are at close to full capacity in order to fulfill holiday needs and process seasonally discounted milk intakes.” Meanwhile, older cheese inventories languish in warehouses. U.S. cheese is moving overseas but export prospects may be dimming as European cheese prices weaken.

“A malaise overshadows the whole whey protein complex,” laments Dairy Market News. With cheese plants running hard, there is plenty of product. Inventories are already burdensome, and production exceeds demand.
Some product is moving, but buyers know they can afford to be patient. With both cheese and whey prices fading, most Class III futures settled between 20ȼ and 40ȼ in the red. January through April Class III futures settled around $14.50, at new contract lows. Butter demand is strong as befits the season. However, the futures suggest that the holiday cheer will wear off by year-end. The trade is also troubled by the velocity of the selloff in Europe. On the other hand, end users have plenty of butter left to buy. They may be inclined to step in as prices fade. CME spot butter lost 4ȼ this week and closed at $2.215.

The bulls have had little fodder in the milk powder market, but perhaps prices have fallen far enough for now. CME spot nonfat dry milk (NDM) managed to eke out a quarter-cent gain this week, closing at 72.5ȼ. That helped Class IV futures to a positive finish; most contracts were 15ȼ to 20ȼ higher.

There is little chance for a sustained rally in the milk powder market given record-breaking milk production in Europe. In September European milk collections reached 27.2 billion pounds, up 4.1% from September 2016, assuming milk production trends have not changed in Denmark, Greece, and Sweden, which have yet to report output. That growth marks Europe’s largest year-over-year increase since March 2016. Contraction in European milk output accelerated last fall, augmenting the year-over-year comparison. Relative to September 2015, European milk output is up 1.4%, slightly higher than the two-year growth reported in August.

Every one of Europe’s top-10 dairy nations stepped up milk output in September (assuming Denmark, ranked ninth, continued to grow). After a string of months with lower year-over-year output and modest growth in August, top-ranked Germany and France reported growth of 3.2% and 3.4%, respectively, in September. Despite stricter regulations that have reduced the size of the Dutch dairy herd, the Netherlands managed to expand September milk output by 0.6%, with production up 1.6% in October. September milk production was up 8.1% year-over-year in Belgium, 9% in Italy, and 10.4% in Ireland.

For much of the year, European manufacturers have been directing as much milk as possible to cheese vats and eschewing churns and driers. January through August skim milk powder (SMP) production dropped 8.6% from the same period in 2016, while European butter production fell 4.8%. Year-to-date cheese production climbed
1.6%. However, preliminary data from individual European nations showed September cheese output growing more slowly than milk collections. While SMP production declined seasonally on a month-to-month basis in September, it was up sharply from year-ago volumes. Butter production was also higher. The shift in the product mix was likely driven by lofty butter prices which suggests that a similar trend prevailed in October.

In September, Europe exported 14% more SMP and 4% more whole milk powder than in September 2016. Europe’s year-to-date SMP exports are up nearly 41% from the first nine months of 2016. In addition to displacing U.S. milk powder, cheap European SMP is weighing on the whey market, displacing demand for feed whey. Thus, Europe’s milk powder surplus is rippling through the whole dairy complex.

For the week ending November 4, dairy cow slaughter totaled 58,409 head, down slightly from the same week a year ago. However, a cull cow plant in Pennsylvania was dark, which depressed slaughter volumes. In a few weeks, when the plant is back up, slaughter volumes are likely to rebound, continuing the trend of greater year-over-year slaughter volumes. On-farm economics are poor, suggesting that slaughter volumes will remain elevated, planting the seeds for slower growth in U.S. milk production.

**Grain Markets**
The corn market probed new lows yesterday. They rebounded today and closed at $3.43 per bushel, still down a half-cent for the week. Global stocks are ample and the crop is huge.

The soybean market offered more excitement, with large intra-day price swings. However, this was much ado about nothing. January soybeans settled at $9.905, up 3.5ȼ this week. U.S. soybean exports are lagging as they face plenty of competition from South America. Farmers in Argentina and Brazil are planting their crops and praying for rain. The weather has improved in northern Brazil with regular showers. But it’s been a bit dry in southern Brazil and Argentina. The forecast calls for big rains in northern Brazil and some weekend showers in southern Brazil. However, there’s not much rain on tap in Argentina.

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**New learnings from the Groundwater Recharge Forum**
*By Geoff Vanden Heuvel, MPC Board Member and Economics Consultant*

Last week I reported on a forum sponsored by the California Department of Food and Agriculture regarding the need to significantly ratchet-up ground water recharge in California. There were some things I learned at the forum I thought I would pass on.

The Kern Water Bank has been in existence for a couple of decades. It comprises 7,500 acres of land near Bakersfield. That land has been configured with berms to be shallow ponds which slow water down to a point
where it can recharge into the aquifer. Percolation rates are actually pretty low – 0.2-0.3 feet per day – but because of the large area the Water Bank covers, this past year 550,000 acre-feet of water were recharged into the ground by the Kern Water Bank.

The source for much of this water was surplus flows from the Kern River. I was surprised to find out that there are actually a total of 10 formal water banks in the San Joaquin Valley although not all are as far along as Kern. The water bank idea, as well as recharge efforts carried out by individual water districts face challenges in financing the projects, both for the infrastructure as well as the recharge water. It is no surprise that water flowing as surplus flood flow in creeks and rivers and available for free was grabbed by these folks much more aggressively than water that had a price tag associated with it. Measuring how much water made it into the ground was not done with precision by many of the participants. It was suggested that a 10% loss factor should be applied at a minimum when trying to calculate how much of the recharge water could be recaptured through pumping.

Don Cameron is the General Manager of the Terrranova Ranch in Southwest Fresno County. This 6,000 acre diversified farming operation has been the site of aggressive efforts to recharge water on fields, vineyards and orchards that make up the ranch. Don reported that during this past year they were able to put 13 feet of water per acre on wine grapes planted in sandy loam soil with no negative impacts on the vines. Their standing water underneath their ranch is at approximately 220 feet. The Terrranova Ranch has been in the forefront of testing the limits of groundwater recharge on farm land. You can learn more about what they are doing on their website: [www.terranovaranchinc.com](http://www.terranovaranchinc.com)

Dr. Daniel Mountjoy, the Director of Resource Stewardship at Sustainable Conservation is another person who spoke at the forum. He is working with about 100 growers in California to evaluate and learn how much flood water can actually be put on a crop for recharge without risking that crop under a variety of scenarios. His goal is to develop a Groundwater Recharge Assessment Decision Support Tool that can be used by farmers to assist in making the decision about when, where, and how much water could be flooded onto a piece of ground without damaging its productivity. You can learn more about the work of Sustainable Conservation at their website: [www.suscon.org](http://www.suscon.org)

The Public Policy Institute of California has been looking at the state of the groundwater aquifer in the Central Valley for some time. They are the ones who estimated that from the year 2006 to 2016 the average annual overdraft in the San Joaquin Valley was 2.4 million acre-feet. I was able to ask their representative about this past water year and she said they have not yet finalized their research, but they do believe that not only was there no net overdraft this past year, but there was at least several hundred thousand acre-feet of recovery in the aquifer because of the wet winter and the more aggressive efforts to recharge that occurred.

Another tidbit we might not think about but would make a difference in certain locations and applications is the value of more accurate precipitation forecasting. A lot of potential recharge sites are also flood control facilities. The property damage that results from flooding can be catastrophic, so the managers tend to be very conservative in their operation of flood control facilities. Right now, weather forecasts 7 days out are 70% accurate, while 14-day forecasts are only 7% accurate. If the accuracy of forecasting could be improved, the managers could allow water to stay longer in those facilities permitting more percolation to occur rather than releasing that water to prepare for the next storm.

The whole issue of groundwater recharge particularly in the San Joaquin Valley, but also in urban Southern California where the Regional Boards have been using their regulatory authority to drive increased attention to hanging on to flood flows that for decades have been directed to facilities designed to move them efficiently and safely to the ocean is going to be increasingly important to all of us.

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Milk Producers Council extends condolences to the Vander Dussen Family

Mark Sybrand Vander Dussen, 49, of Johnstown, passed away on November 11, 2017.

He was born to Ann and Sybrand June 16, 1968 in Artesia, California. Mark grew up in Chino, California and graduated from Ontario Christian High School. He attended a two year dairy program at Cal Poly San Luis Obispo. Mark then returned to Corona to manage the family dairy.

He met Ranae Randels in October of 1991 and proposed four months later. They were married October 17, 1992. Upon passing, they had been married 25 years. Mark and Ranae were raising four children, John, Wybrand, Kerina and Rhett Mark. They instilled in each of them a strong work ethic, love of Christ, and golden kind hearts.

Mark grew up working on the family dairy and managed Syann Dairy for 22 years. Upon moving to Colorado, Mark built Prado Dairy in La Salle. We could hardly pull him away from the dairy as Prado Dairy was his dream. Away from the cows, Mark spent almost all of his time on two wheels either cycling or riding motocross, usually with his boys.

Mark was a committed Christian and truly believed that all he had was God’s. Mark passed away from cancer 18 months after being diagnosed. He wanted more than anything to watch his children grow up. He will be missed terribly.

Services will be held Saturday November 18th, 2017 at 10 a.m. at Christ Community Church, 1301 15th Street, Greenley, Colorado 80631

Online condolences may be made at www.marksfuneralservice.com.

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MPC Area Meetings scheduled for later this month

Northern Central Valley
1 p.m. November 28
Location: 18630 N. Thornton, Lodi, CA "Next to house"
Hosted by Hank Van Exel

Central Valley
5:30 p.m. November 28
Location: 14874 Road 16 Madera, CA "Red Barn"
Hosted by Rob Diepersloot

Central Valley
11 a.m. November 29
Location: 21744 Road 152 Tulare, CA Rancho Teresita "Dairy Barn"
Hosted by Cornell Kasbergen

Southern Central Valley
3 p.m. November 29
Location: 20400 Old River Road Bakersfield, CA "Conference room"
Hosted by John Bidart

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Make plans to attend an
MPC Area Meeting near you!

Please RSVP
by email or phone
Kevin@MilkProducers.org
209-678-0666
Quota Implementation Plan

Ballots due to CDFA by December 4!

Your ballot is blue and was mailed to you in 9”x13” envelope in early October.