

Eric Williams Appointed Research Coordinator at UF/IFAS Dairy Unit

Eric W. Williams was appointed to the position of Research Coordinator II at the UF/IFAS Dairy Unit in February 2020. The Research Coordinator is responsible for overall day-to-day management and coordination of research, teaching and extension activities at the Dairy Unit, one of the animal units of the Department of Animal Sciences. The Research Coordinator oversees approximately 21 staff members.



Earlier in his career Eric Williams was general manager at LeeCo Dairy (January 2018 to January 2020) and Oak Hill Farms (September 2016 to December 2017) both in Leesburg, Georgia. From March 2013 to August 2016 he worked for the Florida Department of

Corrections. Prior to this position, Eric Williams was president of Pine Grove Dairy in Jacksonville, Florida. He attended the undergraduate dairy science program at the University of Florida in the late 1980s.

The UF Dairy Unit is currently milking approximately 400 cows, raises all of its young stock and farms 250 acres under pivots and 150 acres dry land. Planning is underway for construction of new young stock facilities. The transition to robotic milking systems is also being investigated. Contact Eric Williams at ericwilliams@ufl.edu

Does Preventative Mastitis Treatment Impact the Developing Oocyte or Embryo?

Elizabeth A. Jannaman, Yao Xiao, and Peter J. Hansen

Imrestor® is a product sold by Elanco to reduce the incidence of mastitis in cows and heifers in the first 30 days of milk. The active ingredient in Imrestor is a cytokine variously called G-CSF or CSF3. Cytokines are molecules produced by cells of the immune system that act to enhance an animal's ability to prevent infections. One way that G-CSF functions to reduce mastitis is by increasing the number of neutrophils in the blood that function to ingest and destroy bacteria.

One of the characteristics of cytokines is that they can act on many different cell types in the body. We performed a series of three experiments to test whether G-CSF3 can affect the oocyte (i.e., the cow's egg) or the developing embryo. In this way, we could ascertain whether G-CSF might have additional positive or negative effects on the cow by acting directly on two important cell types of the cow's reproductive system.

The experiments used oocytes and embryos that were cultured in the laboratory with various concentrations of G-CSF including those that are probably higher than cows treated with Imrestor would

be exposed to. There was a slight negative effect on oocytes but only at the very highest concentration tested. There was no effect of G-CSF on development of embryos in culture.

The result of this study, which will be published soon in the Journal of Animal Science, suggests that treatment with Imrestor is unlikely to have negative effects on the developing oocyte or embryo when given at therapeutic doses. There could be other effects of Imrestor on reproductive function, either because of the reduction in mastitis or because of other actions of Imrestor on cells of the immune system or reproductive tract that were not considered here.

For more information contact Pete Hansen, pjhansen@ufl.edu

UF/IFAS Dairy Unit and the Corona Virus Situation

Albert De Vries, Eric Williams, and Bruno do Amaral

The COVID-19 pandemic has also affected operations at the UF/IFAS Dairy Unit. In the middle of March, when the University of Florida started to take more drastic measures to help combat the spread of corona virus, we split the employees at the Dairy Unit into a team A and a team B. Each team member works 10 hours per day for alternatively 4 days or 3 days before taking 3 or 4 days off. The teams do not overlap in work days. Within each team, no more than 2 people are working constantly together unless the job requires it, for example 2 people that work in the parlor or push cows. Everybody else maintains a 6 foot distance from other team members. The motivation for this strict separation was to prevent the spread of corona virus in case anybody got sick, and to prevent that other team members had to stay home for a UF mandated self-quarantine if this happened. A large number of absentees would severely compromise the ability of the staff to get basic animal care and milking accomplished. Fortunately, nobody has been reported sick thus far.

The University of Florida also moved all classes to online teaching, postponed Extension events, and limited non-essential research at UF facilities. These restrictions affected teaching, Extension, and research at the Dairy Unit. Practicums have been cancelled, events like Family Day at the Dairy Farm postponed, and research trials such as with our Calan individual feed

intake system put on hold. We regret we cannot offer these experiences to our undergraduate and graduate students at this time. We are currently trying to quantify how research is being delayed so our sponsors will better know how much longer they should wait for results. It is currently unclear when these restrictions will be lifted.

As a member of Southeast Milk Inc, we were asked to dump a load of milk. The Dairy Unit is also dealing with the policy that only 90% of the base milk made in March 2020 will be paid for in April 2020. In our case, we made 904,000 pounds of milk in March with almost 400 cows. For April 2020, we expect to get paid for 788,000 pounds of milk. In addition, we expect the milk price to be quite a bit lower in April, and the following months, than in March.

Our approach is to aim to cut milk volume by 10% but not more. We do this by drying off cows earlier and adjusting rations. All cows scheduled to calve in April and May have now been dried off. The earliest dry off was a cow that was 184 days pregnant. The number of cows dried off these last 2 weeks is about double what it would be normally. Together, we expect the amount of milk not made through early dry off to be about half of the 10% cut in milk volume we aim for. The other half of the cut we hope comes from changing rations while maintaining cow health and their ability to ramp up production quickly if we chose to do so. We are fortunate to have a large pile of corn silage that normally would last us another 1.5 years. As usual, we worked with our regular nutritionist Bruno do Amaral from Progressive Dairy Solutions.

For our fresh and high cow rations, we reduced purchased feed cost through a reduction in energy and increase in the levels of forage in the diet. In the pregnant cow ration, we added weigh back from the fresh and high cow rations as an ingredient, and added more corn silage. Together, the cost of the high cow ration decreased by \$1.10 per cow per day while the cost of the pregnant cow ration is reduced by \$1.93 per cow per day. The major goals of these ration changes are to reduce feed cost per cwt milk, maintain peak milk and feed efficiency at reduced purchased feed cost, and maintain BCS. We hope that this strategy will best prepare us for a quick rebound in production should the market warrant such. Now we need to see how the cows respond to the ration changes and further tweaking may be needed.

We decided not to cull more cows for now, in part because we are understocked and cull cow prices are low or there is no market. The herd is normally milked twice per day and we did not change milking frequency.

Long term, a threat to the Dairy Unit is persistent low revenues such that our costs are significantly greater than our revenues. In the past the Dairy Unit could sometimes call on IFAS for financial support, but those days seem over, especially with the anticipated decrease in the IFAS budget as a result of the impact of the corona virus on the Florida economy.

Contact Albert De Vries, devries@ufl.edu

COVID-19 Impact on Dairy Markets- April 16th, 2020

Izabella Toledo

Among agriculture commodities, the COVID-19 crisis is causing a greater impact on the dairy industry. The short shelf life and perishable nature of dairy products means the effects of the coronavirus have hit them harder, and faster, than many other agricultural industries. A great contributor to this major disruption includes the fact that the dairy industry had just begun to emerge from a half-decade of low milk prices. Since 2015, milk prices paid to farmers have been well below their costs of production. Despite that many farmers have struggled to keep milking cows even when losing money, a great number of them have failed. According to the USDA, from 2014 to 2019 more than 11,000 dairy farms have shut down, including 3,200 dairies in 2019 alone. Meanwhile, overall milk production and the total number of milk cows have increased, continuing a trend towards larger farms and a growing milk supply.

In addition to milk surplus and low milk prices, many in the industry are concerned about further impacts of the COVID-19 on the supply chain as the virus spreads. There may be both blockages and shortages as farmers, truckers, and processing plant workers get infected. The future of the dairy export market is also unknown, as economies around the world decline as a result of the virus.

Milk prices were expected to rise in 2020, as this year's forecast was projected to be very strong for the dairy industry. This was the year in which producers would be able to build equity and financially recover from the previous several years of low milk prices.

However, unexpectedly, the forecasts have reversed as the impacts of the coronavirus pandemic began to disrupt the dairy supply chain. As a result, dairy prices have begun to fall again.

As most people are staying home to slow down the spread of COVID-19, there has been an increase in fluid milk sales by as much as one third. However, the situation is more complicated. Even though grocery stores are struggling to keep dairy cases stocked, in the beginning of April farmers across the country have begun dumping milk because their processors have no room for this milk. Restaurants and schools have cancelled orders, leading to obstructions at processing plants and a larger overall milk surplus, as food service and institutional purchases alone account for about 30 percent of milk sales. In addition, some supply chain blockages are due to cold storage facilities being full of dairy products packaged in large restaurant-size containers, which cannot be immediately reused for grocery shelves.

In order to try to diminish the negative impact of the COVID-19 crisis in the dairy industry, across the country, dairy associations and coops are joining forces to get truckloads of milk and cheese to those in need. Dairy products are being delivered to food pantries, schools and non-profit organizations supplying free meals. However, realistically, a 1-2 percent milk supply surplus of milk can result in a major collapse in prices, thus, despite the collective effort to help the industry, the volume of milk being distributed is way lower than when school is in session, and restaurants and institutions are fully operating.

Collective government action and support for dairy producers to reduce production in coming months can speed dairy's recovery from coronavirus driven price declines and rebalance supply and demand. With the situation changing daily, dairy producers are being asked to decrease their production to meet the new market demand.

According to SMI, in Florida, about 135 tankers truckloads full of milk have been dumped earlier this month. However, as reported by SMI, currently, milk is not being dumped in Florida. The present situation is due to increases in fluid milk sales and decreases in milk production as a result of producers adjusting to market demand. Nonetheless, the situation is changing on a daily basis, thus, it is uncertain when and if milk will be dumped again.

Taking a closer look at the economic impact, we see that the Class III and Class IV future prices have dropped due to the impact of COVID-19. From its quarterly average peak of \$17.88 per hundredweight (cwt) in January, Class III for April-June 2020 averaged \$15.52 per cwt as of March 25, a drop of \$2.36 per cwt. Likewise, after peaking at about \$17.50 per cwt, second quarter 2020 Class IV milk future prices averaged \$13.84, a drop of \$3.66. The American Farm Bureau calculated milk prices down as much as 36 percent from mid-January, and last week National Milk Producers Federation (NMPF) estimated gross income for dairy farmers at \$6 billion less than it looked two months ago.

May-20 CME Milk Contract Prices Over Past 120 Days

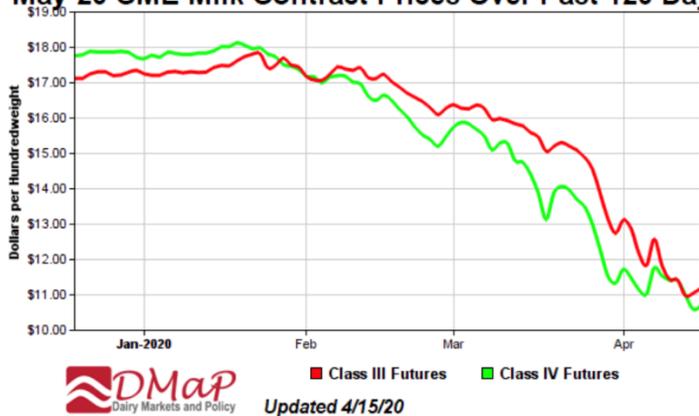


Figure: <https://dairymarkets.org>

As the price drops have become clear in the month of April, relief proposals are being developed. Some provisions in the \$2.2 trillion CARES Act pandemic relief package and previous stimulus bills will help dairy farmers, including additional funding for the Supplemental Nutrition Assistance Program (SNAP) and other nutrition programs and relaxed rules on to-go school meals, which could help in increasing dairy purchases. The CARES Act also has \$9.5 billion to help dairy, livestock, and farmers who sell in local markets and has allocated another \$14 billion to the USDA.

According to Agriculture Secretary Sonny Perdue, the USDA intends to make direct payments to farmers as part of a roughly \$15 billion effort to protect the nation's food supply due to the COVID-19 crisis. In addition, the federal government wants to purchase as much milk products as possible and move them to where they can be utilized in food banks and possibly even international humanitarian aid.

On April 6th, the National Milk Producers Federation (NMPF) and the International Dairy Foods Association (IDFA) submitted a request called for an assistance "Milk Crisis Plan for USDA" to Agriculture Secretary Sonny Perdue. The plan, which also will be presented to Congressional Ag Committee leaders, presents the organizations' objectives to support U.S. dairy through the COVID-19 related crisis. Some of the producer initiatives listed in the plan included pay producers \$3 per hundredweight on 90% of their production if they cut production by 10% from March 2020 baseline. The program is expected to run for 6 months (April through September). The payments during any one of the months would be suspended if the average of the Class III and Class IV prices for that month exceeds \$16 per hundredweight. Additionally, a temporary milk disposal reimbursement has been proposed with the goal to compensate all producers and handlers for milk that must be disposed because of supply chain disruptions resulting from COVID-19 pandemic. The proposal will provide coverage of milk at the USDA Class IV (or lowest value Class) price. The program is expected to run during the peak production season, for three months (April through June).

Additionally, NMPF has asked the Labor and Agriculture Departments to accept and approve H-2A visa applications from dairy farmers offering temporary immigrant farmworker employment for up to 364 days in a 12-month period. The labor crisis in the dairy sector has been ongoing for decades and the COVID-19 disruptions has exacerbated this issue, as fewer workers are available to work on farms.

On April 10th The USDA has reported that their Risk Management Agency (RMA) is ensuring that milk producers are not inappropriately penalized if their milk must be dumped because of recent market disruptions caused by COVID-19. The USDA stated that discarded milk can be counted toward milk marketings for the Dairy Revenue Production (DRP) or as actual marketings for the Livestock Gross Margin for Dairy (LGM-Dairy) programs. This decision will allow dairy farmers participating in those risk management programs not to lose coverage on any milk that can't be marketed and will be helpful in mitigating some of the damage many dairies face due to supply-chain disruption caused by the COVID-19 crisis. The RMA is also extending inspection deadlines, waiving inspection requirements, and authorizing more crop insurance transactions over

the phone and electronically to help producers during the current crisis.

The NMPF has also created a COVID-19 dairy resource page, www.nmpf.org/coronavirus, which has been continually updated with different sections developed to farmers, employers and processors. At this page, a Farmer Handbook is available for download in both English and Spanish. The handbook includes best practices for managing the coronavirus on the farm as well as a template work permit that farm employees may carry. The NMPF coronavirus website also includes a twice a week podcast series with updates on the COVID-19 situation and the issues that this crisis holds for the dairy industry.

Despite all the current challenges, the entire dairy community continues to be united during this turbulent time. Dairy farmers, farm workers and everyone involved in the dairy industry, including milk haulers, processors, veterinarians and manufacturing plants continue to work to process and provide consumers with milk and nutritious dairy products.

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