



# The Florida Senate

*Interim Report 2010-101*

*October 1, 2009*

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Committee on Agriculture

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## LOW MILK PRICES CHALLENGE FLORIDA'S DAIRY INDUSTRY

### Issue Description

Florida farm milk prices have fluctuated for years, but the global recession of 2009 has caused the average farm milk price to be historically low, while the cost of production has remained relatively high. The total expected loss for the Florida dairy industry for 2009 is \$99,000,000, or a loss of \$709,000 per Florida dairy farm.<sup>1</sup>

### Background

Members of the Florida dairy industry requested that the Agriculture Committee investigate the recent historically low downturn in prices that Florida dairy farmers are receiving for their milk this year. The goal of this report is to provide information on the various issues impacting the state's dairy industry and to explore possible policy changes that could result in relief for dairy farmers and ensure a local, fresh, safe, and affordable supply of milk for the consumers of this state.

At the heart of the problem is the nature of milk. Unlike grain farmers who can hold out for better prices by storing crops in a silo, dairy farmers must sell raw milk to processors or else it spoils. In addition, cows keep producing whether the economy is expanding or in recession. According to the Institute of Food and Agricultural Sciences, Florida ranks 19<sup>th</sup> in the United States for total milk production. Approximately 2.1 billion pounds of milk are produced annually in Florida on approximately 140 dairy farms. These farms employ approximately 2,000 employees directly and approximately an equal number of people are employed in the allied industry, such as feed, supplies, and milk marketing. Florida has a tradition of local and regional milk distribution, making dairy farmers a base for strong local and regional economies. The loss of Florida farms would reduce spending in small businesses, investments in banks and shrink the community tax base.

Milk prices determine approximately 90 percent of revenues on Florida dairy farms. The projected average price Florida farmers will receive for their milk in 2009 is \$17.08 per cwt. The industry equates level of production and prices they receive for their milk in a unit of measurement called "Cwt-Hundred Weight," in which one cwt equals 100 pounds of milk and one cwt equals 11.6279 gallons. Thus, the projected average price Florida farmers will receive for the milk they sell is \$1.47 a gallon. Revenues from the sales of cull cows and calves are estimated at \$1.00 per cwt, or \$0.086 per gallon of milk produced. Total revenues on Florida dairy farms were approximately \$526,000,000 in 2008, but are expected to decrease below \$380,000,000 in 2009 as a result of very low milk prices. There are several reasons for the implosion: oversupply, falling export demand, the unavailability of adequate credit, and continued high prices for supplies such as feed and fuel.

The following two tables illustrate how the number of dairy farms and the number of dairy cows in Florida have reduced drastically over the years and how Florida's production compares with this region and the rest of the United States. This situation has forced the remaining farms to grow in size to be able to meet local demand and ensure consumers have a local milk supply.

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<sup>1</sup> University of Florida Institute of Food and Agricultural Sciences, "Florida Dairy Farm Situation in 2009"

<b>Year</b>	<b>Number</b>
1992	288
1993	288
1994	315
1995	279
1996	255
1997	254
1998	237
1999	232
2000	231
2001	217
2002	205
2003	190
2004	190
2005	180
2006	160
2007	150
2008	140

	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2008</b>
<b>Florida</b>	136	194	191	187	180	162	157	120
<b>Total Southeast</b>	3,781	2,940	1,858	1,403	1,129	994	805	566
<b>Florida % of Southeast</b>	3.60%	6.60%	10.28%	13.33%	15.94%	16.30%	10.50%	21.20%
<b>United States</b>	21,944	17,515	12,000	10,799	9,993	9,466	167,392	9,315
<b>Florida % of U.S.</b>	0.62%	1.11%	1.59%	1.73%	1.80%	1.71%	0.09%	1.29%

## Findings and/or Conclusions

### Federal Dairy Price/Support Programs

Federal dairy support policy includes four main elements:

- **Milk Price Support Program (MPSP)** This program is a legislated price support for milk that is implemented by government purchases of butter, non-fat dry milk and American cheese. It is mandated in the 2002 farm bill and carried out through the Commodity Credit Corporation. The purpose of the MPSP is to support the price of fluid milk received by dairy producers through purchases of dairy products. Farmers are not paid directly, but purchases of dairy products enable milk processors to pay farmers the mandated support price for their milk.
- **Milk Income Loss Contract (MILC)** The Farm Service Agency (FSA) makes payments to dairy farmers under the MILC program when the price of milk falls below a legislated benchmark. FSA makes payments on a monthly basis when the Boston Class I milk price falls below \$16.94 per hundredweight,

<sup>2</sup> Hoard's Dairyman, USDA. The number of commercial dairy farms data was not collected until 1992.

as adjusted by the dairy fee ration adjustment. Payments under the program are limited by production. Currently, producers are eligible to receive payments on up to 2,985 million pounds per fiscal year.

- **Dairy Export Incentive Program (DEIP)** This program helps exporters of United States dairy products to meet prevailing world prices for targeted dairy products and destinations. Under the program, the United States Department of Agriculture (USDA) pays cash to exporters as bonuses, allowing them to sell certain dairy products at prices lower than the exporter's cost of acquiring them. The major objective of the program is to develop export markets for dairy products where United States products are not competitive, because they compete with subsidized products from other countries.
- **Federal Milk Market Order (FMMO)** This program is operated by the USDA's Agricultural Marketing Service. The FMMO program was authorized by the Agricultural Marketing Agreement Act of 1937 to help stabilize the marketing relationship between dairy farmers and handlers and to ensure a sufficient quantity of fluid milk.

The dairy industry has indicated that many of Florida's dairy farmers do not benefit fully from the above programs. Florida is a unique dairy state compared to other states in that almost all of the milk produced in Florida is used for fluid milk consumption. The majority of milk production in the United States is used to produce manufactured products such as cheese, butter and nonfat dry milk powder. As a result, many federal dairy policy decisions are made based on the manufactured market, not the fluid market, causing Florida farmers to miss out on the benefits of the program. The dairy industry believes that the local market should determine what is best for the dairy producers, processors and consumers in its markets. In addition, individual federal Milk Marketing Orders need the flexibility to better meet the needs of their specific marketing area. For example, individual orders should be allowed, after going through the administrative hearing process, to have different methods of determining minimum milk prices and of pooling returns to dairy farmers.

### State Dairy Price Support Programs

In addition to federal dairy price support policy, many states have their own systems to support the price that dairy farmers receive. States have used several methods to establish farm-level milk prices. Most states use regulatory authority to set minimum prices or mandate over-order premiums to be paid to producers above the federal or state class price. States usually set up "Milk Commissions" to oversee these programs and some states have appropriated funds from time to time to allocate payments to farmers when prices are low. Highlighted below are several states that have active price support programs and other programs to support dairy production in their respective states.

#### Florida

The state of Florida does not have any programs in place that support dairy farmer prices through direct or indirect price and policy mechanisms. At times, there have been funds available for help with the cost of water and waste systems. However, the state does regulate the dairy producers and processors in the state to ensure high quality of product for consumers. Florida's quality assurance program falls under the jurisdiction of the Florida Department of Agriculture and Consumer Services, Division of Dairy Industry and is strengthened by the dairy industry's own standards for high quality milk. Florida regulates the sanitation of the industry primarily by the Grade A Pasteurized Milk Ordinance. This ordinance has been adopted by all 50 states and Puerto Rico. Florida is also a member of the National Conference of Interstate Milk Shipments. The division is charged with ensuring that dairy products purchased by Florida consumers are wholesome, produced under sanitary conditions, and correctly labeled. Its responsibilities begin with milk production on the dairy farm and end at the retail store. It makes sanitary inspections of all dairy farms, milk and milk product processing plants, and frozen dessert plants to see that each is operated in a sanitary manner and in compliance with public health regulations. Milk transfer stations, receiving stations, tank truck washing facilities, and container/closure manufacturers are also inspected. Field inspectors make regular visits to dairy farms and processing plants to inspect, consult, and collect samples.<sup>3</sup>

<sup>3</sup> <http://doacs.state.fl.us/dairy/dairyinspection.html>

**Maine**

Maine has developed the Maine Milk Commission to manage support for dairy prices. Dairy farmers receive financial assistance when milk prices, which are derived from the Northeast Federal Order, cooperative and/or handler premiums and any federal Milk Income Loss Contract payments, are below the calculated cost of milk production. The program is called Maine Dairy Stabilization Program. Funding comes from a state mandated milk handling fee assessed on Class I milk handlers. The fee can range from “\$0” if the Class I price is higher than \$24 per cwt, or \$2.06 per gallon, to more than 40 cents per cwt if the Class I price is below \$15 per cwt, or \$1.29 a gallon. Any shortage between the amount of money generated by the handling fee assessment and the amount to be returned to producers is covered by an appropriation from the state’s general fund. In 2006, the state of Maine paid about \$7 million from the general treasury to fund this program. The Maine Milk Commission also administers a minimum wholesale and retail price program as well as administering the payment to producers and calculating the cost of production. The handling fee assessment is built into the commission’s minimum wholesale and retail price services, which is passed onto the consumer in the form of higher retail milk prices.

**New Hampshire**

In 2008, an emergency dairy assistance program was created to provide dairy farmers with \$2.1 million from the general fund. Dairy farmers were to be paid for milk produced in November 2006, December 2006, January 2007, and February 2007. Payment is calculated based on the difference between the Suffolk County (Boston) statistical uniform price and the base price of \$16.94 per cwt, or \$1.46 a gallon, times the amount produced.

**New York**

Approximately \$30 million in cash grants were given to dairy farmers in 2007 and 2008 through the New York State Dairy Assistance Program. The stated purpose of the fund was to provide compensation for the record low dairy prices during the 2006 calendar year. The program was funded through the Empire State Development Corporation.

**New Jersey**

In 2006, the New Jersey Department of Agriculture administered a fuel adjustment surcharge payable to all New Jersey dairy farmers. Additional assistance was sought when two public hearings were held by the department at the request of cooperatives and producer organizations to determine if further emergency relief should be implemented to help the state’s dairy producers. Testimony was gathered on establishing a rBST (recombinant bovine somatotropin) free premium to all New Jersey producers at a rate of 76 cents per cwt. (rBST is a commercial product designed to increase the production of milk.) Regulations were promulgated by the State Department of Agriculture to institute this program, however it was challenged by the New York State Dairy Foods Association. It was eventually blocked by a New Jersey district court that implied that the concept was acceptable, but that the court could not accept the 76 cents rate as indicative of the appropriate value for rBST free milk in New Jersey.

**Pennsylvania**

The Milk Control Commission was established as a permanent agency in 1937. It was renamed the Pennsylvania Milk Marketing Board (PMMB) in 1968. On September 1, 1988, the Board put into effect the first over-order premium of \$1.05 per cwt, or \$0.09 a gallon, of Class I milk produced, processed, and sold in the state. Over-order premiums are an amount extracted from milk buyers above federally regulated minimum prices. Their existence depends crucially on the inelasticity of fluid milk relative to manufactured dairy products, cooperative market power, successful collusion by cooperatives cartels, and the information provided by federal milk marketing orders.<sup>4</sup> The Board meets regularly to hear testimony pertaining to the level of the current over-order premium. It issued an official general order stating that it would consider a premium for milk produced and processed in Pennsylvania, but sold in and utilized as Class I in another state with a Class I over-order price. In June 2009, the PMMB approved a payment/over-order premium of \$2.15 per cwt, or \$0.1849 a gallon, effective July 1, 2009, through December 31, 2009.

**Virginia**

<sup>4</sup> <http://ageconsearch.umn.edu/bitstream/21607/1/sp99ba02.pdf>

The Virginia Milk Commission was created in 1934 to supervise the producer price, supply, and sale of fluid milk in Virginia. The Commission's purpose is to ensure that Virginia consumers have a constant supply of fresh and wholesome Grade "A" milk at a fair and reasonable price. It establishes monthly producer prices at competitive levels with adjacent markets and it preserves market stability. On July 1, 2003, the Commission was merged with the Virginia Department of Agriculture and Consumer Services. The Commission maintains an allotment (base) to all licensed processing distributors entitling them to an equitable share of the milk supply to satisfy their requirements for fluid milk sales in Virginia. It does not control retail or wholesale pricing, rather, it prohibits any type of distributor from selling at less than cost. This is accomplished by conducting detailed audits of fluid milk processors' financial records. From this information, the Commission calculates the weighted average cost of purchasing, processing, and distributing fluid milk products. Processors and distributors are prohibited from selling below this "presumed cost," in order to establish pricing that guarantees a producer or distributor a profit.

### **Arkansas**

In April 2007, the governor signed a bill establishing the Arkansas Milk Stabilization Board Act. The goals of the Arkansas Milk Stabilization Board are (1) to endure an adequate supply of fluid milk for the population of the state, especially in the case of natural disaster, an act of terrorism or other events that might restrict the flow of milk into the state, (2) to stabilize and grow the dairy industry and (3) to promote economic development in the state, especially in rural communities. The incentives for dairy producers and funding for the incentives are being discussed. The proposed incentives include (1) a 10 percent investment tax credit on money spent to construct, improve or acquire buildings or equipment for dairy animal housing, feeding, milk production or waste management, (2) production and quality incentives based on increased milk production above the previous 2 years with quality incentives for milk below somatic cell count levels of 500,000, and (3) a monthly stabilization payment payable to registered Arkansas milk producers when the monthly average price for milk purchased from Arkansas producers by the Arkansas Dairy Cooperative Association and Dairy Farmers of America falls below 70 percent of the average cost of milk production. This year, a bill calling for an increase of 2½ cents a gallon in wholesale prices passed, which was aimed at protecting the state's dairy farmers. Instead, the Governor identified more than \$9 million in an alternative fuels program to avoid having to fund the program through higher milk prices for consumers.

### **South Carolina**

In 2005, South Carolina enacted the South Carolina Dairy Tax Credit Program. This program offers South Carolina's dairy farmers a tax credit (or tax rebate if no state income tax is due) of up to \$10,000 on the first 500,000 pounds of milk produced during the year and up to \$5,000 on each additional 500,000 pound increment. This credit is available when the Appalachian Federal Milk Marketing Order price for milk falls below South Carolina's 3-year average cost of production, plus the average cost of transporting milk into the state. If for any month the Class I Uniform Production Price falls below the Production Price established by the South Carolina Department of Agriculture (SCDA), the producer will qualify for a payment or credit that quarter to be issued at the end of the year. The amount of the payment is based upon the total amount of milk the farmer produced and sold during the taxable year. The dairy producer is responsible for certifying annual milk sales on a farm issued by the SCDA and for filing for the Milk Producers Tax Credit on the South Carolina income tax return.

### **Connecticut**

In July 2006, the Governor announced the creation of the Dairy Farm Reinforcement Program, which is responsible for the following assistance to dairy farmers:

- Grants—Two million dollars was available from the Connecticut Department of Agriculture to the state's 165 dairy farmers based on production during first 6 months of 2006. The lump sum payment was issued in October 2006 and equaled approximately \$1 per cwt, or \$0.086 per gallon.
- Low Interest Loans—The Department of Economic and Community Development provided \$2 million for energy conservation, machinery and equipment, and farm diversification.
- Loan Guarantees—The Connecticut Development Authority offered \$2 million to lenders to enable them to provide \$7-10 million in financing to dairy farmers in need. None has been used so far. A bill passed in the Senate in March 2007 to establish a Connecticut Milk Commission to regulate milk pricing in the state has since died. It would have required the Commission to pay dairy farmers the difference between the federally set price (Class I) and the target price of \$17 per cwt, or \$1.46 per gallon. In addition, the

bill allowed the Commission to set a system of premiums for particular types or quality of milk, for milk marketed as a specialty or value-added product and to offset unusual market or economic conditions that reduce milk producer profitability. In June 2009, the legislature approved an increase in the filing fee for recording local land records from \$30 to \$40, with a portion of the increase going to fund a safety net program that will help state dairy farmers who are in financial distress. The projected revenue will create a \$20 million fund, \$10 million this year and \$10 million in 2010-11, allocating 40 percent of that money to the Connecticut Department of Agriculture for emergency grants to farmers. The legislation will sunset on July 1, 2011.

### Mississippi

In March 2009, the Governor signed into law a bill creating a loan program allowing milk producers producing at least 300,000 pounds of milk per annum to borrow up to \$20,000 to help pay for hauling costs. The money to be loaned was appropriated from the general fund. The loan program is administered by the Mississippi Development Authority.<sup>5</sup>

## Current and Future Challenges Facing Florida Dairy Farmers

### Market Access/Anti-Competition

Hurricanes in 2004 and 2005 significantly impacted both the production and processing segments of the southeast dairy industry. This experience showed the critical need for an ample local milk supply and the ability to transport it at a reasonable cost. In addition, food miles, the miles food travels from the farm to the consumer is a growing concern, especially as it impacts the carbon foot print. Many dairies feed their animals local commodity byproducts such as citrus pulp, cotton seed hulls, or brewers grain that would otherwise end up in a landfill because it is not economically feasible to haul it large distances. The industry supports dairy policy that promotes lower food miles and encourages local milk production.

Consolidation is usual in most segments of agriculture, and dairy is no exception. The industry does not oppose consolidation as long as there is fair competition among all market participants. However, the consolidated entities should not use predatory practices against smaller concerns, or limit access to markets. All segments of the dairy industry, producers, processors, and the consumer benefit from healthy and fair competition. On the producer side, fair competition encourages new producers and processors, helps maximize competitiveness, and more fairly allocates resources to producers. For consumers it provides a choice and helps ensure that products are delivered as efficiently as possible. Even though USDA has the authority to enforce fair competition through laws governing agricultural marketing orders and the Agricultural Fair Trade Practices Act, more is needed to facilitate a transparent, accessible, open, and fair competitive market in dairy and all agricultural products.

### Economic Challenges

The challenges facing dairy farmers are very similar to other sectors of agriculture. However, the past year has seen input costs at record highs and prices for milk at record lows. Since revenues have increased slower than costs, it follows that margins have decreased. Reasons for declining profit margins are several, but one statistic that stands out from the others is capital investment. The table below gives a good overview of the margins Florida dairy farmers are operating under:

	2006	2007	2008	January-July 2009
<b>Feed</b>	\$9.63 cwt or \$0.828 a gallon	\$10.71 cwt or \$0.921 a gallon	\$12.72 cwt or \$1.09 a gallon	\$10.63 cwt or \$0.914 a gallon
<b>Other Operating Costs</b>	\$3.52 cwt or \$0.302 a gallon	\$3.86 cwt or \$0.331 a gallon	\$4.15 cwt or \$0.356 a gallon	\$3.24 cwt or \$0.2786 a gallon
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>January-July 2009</b>

<sup>5</sup> Information on state assistance to dairy farmers obtained from state department websites and department staff.

<b>Overhead</b>	\$6.80 cwt or \$0.584 a gallon	\$6.87cwt or \$0.59 a gallon	\$7.14 cwt or \$0.614 a gallon	\$6.38 cwt or \$0.54868 a gallon
<b>TOTAL COSTS</b>	<b>\$19.95 cwt or \$1.714 a gallon</b>	<b>\$21.44 cwt or \$1.84 a gallon</b>	<b>\$24.01 cwt or \$2.06 a gallon</b>	<b>\$20.25 cwt or \$1.74 a gallon</b>

<b>PRICE OF MILK PER HUNDREDWEIGHT</b>	\$15.90 cwt or \$1.367 a gallon	\$21.90 cwt or \$1.88 a gallon	\$22.60 cwt or \$1.9436 a gallon	\$16.41 cwt or \$1.41126 a gallon
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<b>NET RETURN PER HUNDREDWEIGHT</b>	(\$4.05) cwt or (\$0.347) a gallon	\$0.46 cwt or \$0.04 a gallon	(\$1.41) cwt or (\$0.12) a gallon	(\$3.84) cwt or (\$0.32874) a gallon
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**Production Challenges**

Florida’s warm and humid climate is not ideal for dairy cattle that were selectively bred in the relatively moderate climates of northern Europe. Heat stress has been shown to reduce production by 25 percent because of reduced feed intake and increased health problems such as mastitis, lameness and reproductive delay. In addition, during the summer months, heat stress decreases milk production and thus reduces revenue for the farmer and makes it necessary for the industry to purchase milk from outside the Southeast to satisfy customer contracts.

**Environmental Regulations**

Dairy farmers in Florida face numerous local, state, and federal regulations/laws. The industry feels that compared to farms in other states, Florida has a higher degree of state regulations due to environmental activism, population growth into rural areas, the large amount of rainfall, proximity and vulnerability of the aquifer, and large amounts of surface waters in South Florida. Compliance to these regulations is very capital intensive, requires farms to remain in operation at existing herd size and in many cases makes it harder to increase revenues. The following are a few of the major environmental regulations in Florida that dairy farmers are either currently required to comply with or will be expected to in the near future.

**Water Quality Regulations:**

- 1. CAFO/NPDES Permit by the Department of Environmental Protection and the Environmental Protection Agency**—The Clean Water Act (CWA) authorizes the Environmental Protection Agency (EPA) to delegate the National Pollution Discharge Elimination System (NPDES) permit program to individual states. However, where states have this responsibility, the EPA requires enactment of statutes closely tracking the CWA. Florida is one of the states that has assumed the responsibility and administration of the NPDES permit program. Although the CWA does not regulate groundwater, the state combines NPDES permits with industrial waste discharge permits which also must address groundwater discharges.

All animal feeding operations designated as CAFOs require an NPDES permit. For dairies, CAFO designation is reached if the annual average of mature dairy cows on a farm is greater than 700 head. Additionally, the DEP may designate a smaller dairy as a CAFO if the operation has a potential to discharge into navigable waters or if there is an actual discharge into navigable waters. In these instances, smaller animal feeding operations would also require an NPDES permit. There are 52 dairies in Florida that are defined as CAFOs.

The DEP permit incorporates regulations in addition to the NPDES requirements. The major component of the DEP/NPDES/CAFO permit is the regulation of storage, treatment, handling and land application of waste. This is accomplished through the permit requirement to develop a Nutrient Management Plan (NMP). An NMP is the environmental operating or management plan for a dairy. Its goal is agronomic utilization of manure nutrients in the cropping system. A well-designed NMP can reverse past manure-related environmental problems and produce future environmental benefits. It can be very costly to develop and implement the mandatory requirements to have the farm in achieve nutrient balance. This could include purchasing additional land to grow crops, exporting nutrients off site and constructing new facilities and manure storage facilities. The permit also requires monitoring of wells. Multiple samples of

well water are taken each year and provided to DEP along with crop and manure sample evaluations. The well water is tested every five years at the time of permit renewal.

DEP is currently rewriting the CAFO/NPDES rule and for the most part the regulations should not see any major changes. The dairy industry has indicated that for dairy farms to come into compliance with regulations, a substantial amount of funds must be invested. Fortunately, the federal government has provided cost share funding to help complete this work, but the cost to the farmer is still substantial and many farms have gone deep in debt to continue operation.

2. **DEP Dairy/Animal Feeding Operations Rule**—As stated above, DEP currently requires all CAFO dairies in Florida to have a permit to operate. At this time, all other dairies are not required to have a permit, but DEP is in the process of developing a rule to require all dairies to be permitted. It is expected that the requirements for the non-CAFO dairies will not be as stringent as the CAFO regulations. However, it will require many farms to spend large amounts of capital to install waste management systems and other facilities to achieve compliance. Many of the affected farms are already operating under a voluntary program called the Suwannee River Partnership. The Suwannee River Partnership was formed in 1999 as a coalition of state, federal and regional agencies, local governments, and private industry representatives working together to reduce nitrate levels in the surface waters and groundwater within the basins, or watersheds. The Partnership now includes 60 federal, state, and local agencies as well as private associations and businesses. The Partnership helps farmers implement Best Management Practices and provides funds to implement conservation measures that improve nutrient management and improve water quality.
3. **DEP/EPA Numeric Nutrient Criteria Rule**—Through the DEP, its water management districts, and the Department of Agriculture and Consumer Services, Florida has established standards and enacted programs to support water quality. In many ways, it leads the nation. For a number of years, the DEP has been working with a Technical Advisory Committee (TAC), comprised of water quality experts from many stakeholder groups, on the establishment of numeric nutrient criteria. This is a technically complex undertaking given the variability of Florida's water resources and the fact that it is difficult to establish direct causal links between the levels of nutrients (phosphorus and nitrogen, naturally occurring elements that are necessary for biologic well-being) and imbalances of fish and plant communities, especially when many other factors come into play with respect to the health of an ecosystem. EPA, in fact, has acknowledged the difficulty in establishing numeric standards for nutrients in its 1998 "National Strategy for the Development of Regional Nutrient Criteria." Working with its TAC, the DEP produced a Numeric Nutrient Criteria Plan in September 2007, which outlined its approach for developing numeric nutrient criteria throughout the state. This plan was submitted to and generally agreed upon by the EPA. In addition, DEP addressed the concern of nutrients through the Total Maximum Daily Load program by setting numeric nutrient standards on a basin specific approach, taking into consideration the unique aspects that soil and geographic conditions play in levels of nutrients a waterbody can handle. These standards are a concern to the dairy industry which feels realistic limits need to be established.

Approximately one year ago, several environmental organizations in Florida filed a lawsuit in federal court against the EPA administrator alleging that the agency had failed to comply with its responsibility under the federal Clean Water Act to force the state of Florida to expeditiously adopt numeric nutrient criteria. As a result of that lawsuit, in January 2009, EPA issued a determination letter to the Florida DEP basically requiring that it meet a strict deadline for adopting such standards (January 2010 for lakes, streams and Class III waters; January 2011 for coastal waters) or else the EPA would step in and establish federal criteria for the state. The DEP has been working with the TAC and interested parties to promulgate its proposed criteria. It plans to present the numeric nutrient standard to the Environmental Regulatory Commission, the body which establishes state water quality standards, in October in order to meet EPA deadlines.

DEP has identified the most pristine lakes and waterways in the state's six different regions. The concentrations of phosphorus and nitrogen found in these water bodies are then being applied to water



bodies and discharges of water within these regions. The industry finds it difficult to comprehend how waters in more developed areas and discharges from commercial, agricultural and public water utilities could replicate absolutely pristine conditions. For example, in the Panhandle, the newly proposed phosphorus concentration is fourteen times more stringent than the current standard for advanced wastewater treatment. Meanwhile, in south Florida, the DEP has decided that numeric nutrient criteria are “To be determined.” Insofar as the agency has not developed a plan for dealing with a region whose water regimes are so based upon and influenced by thousands of miles of canal systems.

The latest development is that EPA has decided to settle the original lawsuit that started this process and has stated its intent to propose their own standards, and it is expected that they will be more stringent than what DEP is proposing. It is also expected that DEP will suspend its rule development since the EPA was not expected to agree to the standards they were proposing and would go their own path. If EPA is successful in this effort, it will almost be impossible for dairy farmers to comply. Setting limits so low that they cannot possibly be met is not beneficial to anyone. It will not make sense for any farming operation to stay in business if some of these limits are set. Legislation must be put in place to protect agriculture from unattainable numeric water quality standards. If dairy farmers are going to have a chance to comply, it will require serious investment of capital and the economics of dairy production would not support such borrowing of capital.

4. **Air Quality Regulations**—From an environmental quality standpoint, much of the public and policy interest in Florida dairies has focused on impacts on water resources. However, there is growing interest in regulating the air emissions from dairy farms. The major concern with dairies is the methane gas generated from cows and manure. Dairies can also produce gasses such as ammonia and hydrogen sulfide.

This year, the largest dairies in Florida were required to make reports of certain air emissions under the Comprehensive Environmental Response, Compensation and Liability Act and the Emergency Planning and Community Right-to-Know Act. These reports were based on estimates because there is currently no clear science dictating formulas to be used to calculate these emissions. The EPA is currently in a multiple year study with dairy farms across the country to better develop the science and formulas used in calculating the air emissions from dairies. However, the EPA still requires the largest dairies, those defined as CAFOs, to make these annual reports. The dairy industry feels, under these conditions, that the farmer receives little assistance with compliance but is left with all the legal exposure.

The EPA has also recently proposed a rule that would use the Clean Air Act to attain reductions in domestic greenhouse gas (GHG) emissions. In addition, the EPA made a formal declaration that carbon dioxide and five other heat-trapping gases are pollutants that endanger public health and welfare. The dairy industry believes that this provides support for the proposed rule and other regulations in the works, that will lead to costly regulation of the gases not only for dairy farmers but also for consumers. Regulation of GHG under the Clean Air Act in its current form will have significant and severe consequences on all sectors of the economy, including agriculture and especially the dairy industry. USDA has stated that any operation with more than 25 dairy cows or 50 beef cattle emits more than 100 tons of carbon and would have to obtain permits under Title V of the Clean Air Act in order to continue to operate if GHG are regulated. Title V is administered by the states, and permit fees vary from state to state. EPA sets a “presumptive minimum rate” for permits, and that rate is \$43.75 per ton for 2008-2009. For states charging the \$43.75 per ton rate, the cow fee for dairy would be \$175 per cow and for beef, \$87.50 per head. These costs could force a vast majority of Florida dairies to close their operations because, the result will be higher prices for dairy and beef products.

Even though many dairies are taking measures to reduce their output of these gases through Best Management Practices, the ability to meet the expected stringent regulations will require major investments of capital to build facilities that capture the gas and then use the gas to create power. Digesters and gasifiers are the main method of capturing gas, and they cost multiple millions of dollars to install, and even more to operate, and require a change in dairy design and management.

In Florida, there has been much discussion about the opportunities that might exist for agriculture to provide additional environmental, economic and renewable energy attributes through the use of anaerobic digestion technology. Renewable energy produced by Florida dairy farmers can provide many benefits. These benefits not only help create new value-added and revenue generating products for farmers, but provide local and distributive power, fuel diversification, jobs, environmental enhancements and sustainability to rural communities.

The use of anaerobic digesters in Florida has great potential for greenhouse gas emission reductions. For Florida dairy cows alone, anaerobic digestion benefits are equal to removing emissions of 123,982 vehicles, planting 176,675 acres of forest, preventing the use of 1.5 million barrels of oil, or preventing the use of 71 million gallons of gasoline. It is estimated that 1,000 to 2,000 homes per county could be powered through the use of this technology.

Although public policy seems to be shifting to help encourage more investment and implementation of technologies like anaerobic digestion, the current electricity market, infrastructure and incentives do not appear sufficient to secure financial success for most Florida dairies today. This is equally true in Europe where there are thousands of operating digesters. Without incentives there is no renewable energy industry.

Utilizing Combined Heat and Power (CHP) units, governmental policy regarding carbon reductions, environmental regulations, or renewable energy policy such as a Renewable Portfolio Standard and/or a Feed-in Tariff will help provide the financial feasibility of agricultural based anaerobic digestion in Florida, and therefore should be continued and studied. Anaerobic digestion is a viable technology and could potentially be a cash crop and a platform for environmental solutions. However, there are several barriers to implementation and financial success.

5. **Financing Challenges**—Dairy production requires a large amount of operating cash. Thus farmers depend on banks to provide these funds, but because of the global crisis in the financial arena, access to capital has become more difficult for Florida dairy farmers.

The monthly costs to operate an average dairy in Florida can be in the hundreds of thousands of dollars. The above environmental regulations also require a lot of capital to operate and to fund expensive construction projects to comply. However, the dairy industry has not seen a concentrated effort by federal policy makers to ensure that more capital is freed up to ensure that Florida dairy farms can survive this economic downturn.

## Options and/or Recommendations

The Legislature may wish to:

- Create a funding source for Florida dairy farmers to pay for designing, installing and operating major environmental technologies. These funds could be used on individual farms or multiple farms to collect dairy solids and bio-fuels. This would capture a large amount of nutrients of concern and capture methane to develop green fuel and promote independence from foreign fuel sources.
- Dairy farms are predominantly located in the Okeechobee and Suwannee regions of the state. In close proximity to the farms are large state correctional facilities that may also be required to upgrade their waste management systems. The state could provide funding for construction of new technological systems that would use bio-fuels to generate energy which could reduce institutional energy needs.
- Consider enacting state law that would provide dairies that are following nutrient management requirements such as Best Management Practices approved by the Department of Agriculture and Consumer Services, a Nutrient Management Plan signed by a professional engineer, a Certified Nutrient Management Plan, or a Natural Resource Conservation Service Conservation Plan with a presumption of compliance with all ground and surface water standards including total maximum daily loads.

Alternatively, if an operation can show compliance of the surface and groundwater standards, waive the requirement to obtain any of the plans described above.

- Ensure that the pending regulations being developed for Florida dairies take into consideration that the majority of the dairies are small businesses. They have limited funds to come into compliance, and they cannot pass the expenses of stringent regulatory compliance on to the consumer.
- Create incentives for use of organic fertilizers. This will improve market demand for manure compost and create incentives for dairy farmers to invest the capital required to capture, process, package, and transport the nutrients.
- Require Department of Environmental Protection rules that regulate disposal of food waste to recognize digesters as a form of composting. Rules for composting should recognize that agricultural use of this technology is different. There should be a separation of the solid waste rules to recognize organic (food) waste as its own category with fewer handling conditions. Each of these technologies reduces the quantity of waste stream ending up in landfills, as they reduce greenhouse gas emissions.
- Invest in renewable energy technology and implementation through financial incentives like Investment/Production Tax Credits, grants and rebates.
- Make available to producers long term, financially sustainable utility and attribute contracts of on-farm renewable energy production. This could come from a requirement of utilities to purchase agricultural based energy production, a Renewable Portfolio Standard and/or implementation of a Feed-in Tariff. Renewable energy producers need a price for electricity based on the cost of production plus a reasonable return on investment, a long-term contract for financing and access to the grid. This will ensure financial feasibility for the energy producer and the least cost to the rate payer while creating the desired increase in renewable energy production and environmental enhancements.
- Require government institutions in Florida to purchase a certain percentage of their milk from Florida dairy farmers. This helps ensure a local and fresh supply of milk by increasing demand for Florida produced milk and provides incentives for Florida dairy farmers to expand.
- Consider tax incentives for dairy farmers that are updating their facilities, expanding their operations or building new farms.
- Help open markets for Florida produced milk in Caribbean countries.
- Eliminate unfair competition. Due to consolidation of the United States dairy industry and to one dairy cooperative controlling a significant amount of the nation's raw milk production, competition in the Florida market is not always fair.
- Encourage USDA to expand the risk management program for dairy to include the state of Florida.
- Recognize the economic importance of the dairy industry to the state of Florida.