Florida Farm Bureau Issue Brief
Agricultural Policy Division
PO Box 147030
Gainesville, FL 32614
(352) 374-1544

Feasibility of Anaerobic Digestion for Energy Generation on Florida Dairies

June 8, 2009

Issue

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.

In October 2008, the Florida Farm Bureau Federation with 23 collaborating partners received a 2008 USDA Value Added Producer Grant to look at these opportunities by assessing digesters with an eye to enhancing the profitability of dairy farms and the environment.

The study indicated renewable energy produced by Florida agriculture producers can provide many benefits. These benefits not only help create new value-added and revenue generating products for producers but provide local and distributive power, fuel diversification, jobs, environmental enhancements and sustainability to rural communities.

Background

The basis for the grant was that dairy farmers would install commercially proven, modular, complete mix anaerobic digester technology to convert a mixture of on-farm animal manure and off-farm food waste into distributed renewable electricity and marketable co-products in an environmentally-friendly manner. The deliverable of the grant was to develop a bankable business plan road map to obtain future project funding or financing and identify any barriers.

Anaerobic digestion was examined to attempt to rectify existing or additional environmental regulations, help create new markets for Florida dairy producers and sustain rural communities.

Dairy manure is a leading feedstock for renewable energy generation through newly improved and commercially proven anaerobic digestion technology. Marketable co-products like liquid fertilizers and soil amendments have become potentially new revenue sources for producers. The use of food waste significantly improves (gas goes up in the area of three times more than manure

alone) biogas production for renewable energy generation, while at the same time reducing waste that is typically land filled.

Conclusions

Although public policy seems to be shifting to help encourage more investment and implementation of technologies like anaerobic digestion, the current 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 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 to be studied.

Completion of the grant provided some useful insight. The grant found that the technology works and that AD could potentially be a cash crop and a platform for environmental solutions.

However there are several barriers to implementation and financial success.

1. Current management practices by Florida dairies must be addressed to better facilitate the need for higher solids and less sand for digester technology to be successful.
2. Regulations within DEP regarding the disposal of food waste needs to recognize digesters as a form of composting. Compost rules need to recognize the needs of agriculture. And there needs to be a separation of the solid waste rules to recognize organic waste as its own category with fewer handling conditions. Each of these reduces landfills and reduces green house gas emissions.
3. There must be continued investment in renewable energy technology and implementation through financial incentives like Investment Tax Credits, grants and rebates.
4. Long term, financially sustainable utility and attribute contracts of on farm renewable energy production must be made available to producers.

Summary of the grant can be found at:
http://www.floridafarmbureau.org/files/resources/issues/ADfeasibility.ppt

Current FFBF Policy

76. Agricultural Based Energy Production
We support legislation, including tax incentives, to encourage agricultural based energy production.

Agricultural producers should be able to sell renewable sources of energy back to the grid through net metering. These producers should receive a fair price for the energy they produce whether it be through the production of an energy crop, the utilization of waste materials or other means.

Because the utilization of waste materials for energy production provides additional benefits to society, certain incentives should be provided to the producers of such energy. (OVERSIGHT)

77. Alternative Energy Support

We support the development of all sources of alternative energy (i.e., bio-fuels, bio-mass based energy, wind, solar, etc.).

To the extent that waste material or underutilized land can be used to produce energy, we support research and cost assistance to producers by the appropriate local, state and federal agencies to foster alternative energy production or conservation. (OVERSIGHT)

79. Carbon Sequestration

Emission offsets that sequester carbon through soil, forestry and other agricultural offsets are just as effective in reducing atmospheric carbon as are emission reductions and should be fully recognized in any cap and trade system.