
From: Jason Brixey <Jason@pinecreeknutrition.com>
Sent: Friday, December 05, 2014 3:32 PM
To: Compost Transfer Regs
Subject: Comments Regarding rules to Composte Vegetative Materials

To Whom It may Concern;

As an Animal Nutrition Consultant I feel it is imperative to add my comments regarding the composting rules that are being considered by the state in handling the by-products from food industries. I strongly feel that these proposed rules, that may come with good intentions, will be burdened with some unattended consequences. It is important to know not only the history of how these products have benefited the Agriculture industry, but also the economic impact, environmental impact, and the impact on the personal level.

Lets first realize that the state of Ca is the 8th largest Economy in the world! The reason for this, is it's ability to produce food not only for the country it's in but also for a large part of the world. California's fertile soil and mild climate allows the Agriculture industry to thrive and prosper. More over, the largest revenue generating entity within the Agriculture field is the "Dairy Industry". A study released by the California Milk Advisory Board (CMAB) showed this industry to be responsible for creating 443,574 jobs and \$63 billion in economic activity. The typical CA dairy farm generates \$33.1 million in economic activity and 232 jobs in the state, including on-farm and beyond-farm jobs like milk tank drivers, grocery store clerks, feed farmers, and employees at processing facilities. Compared to other industries in the state, the dairy industry provides more economic stimulus and jobs to the state yearly then either the iconic motion picture/television or wine industries. The most recent statistics show that the picture/television industry contributes \$35 billion and 208,230 jobs and the wine industry provides \$59 billion and 330,000 jobs.

And the dairy industry is doing so in a sustainable manner. The CA dairy industry are subject to the most stringent environment regulations in the United States. California is the nations leader by providing more then 41 million pounds of milk, a figure that is projected to reach 46 billion by 2020. There are currently 1,908 dairies with 1.8 million dairy cows providing milk to 117 processing facilities. As it is well noted this industry has played a vital role in California's success as a leading state not only from a fiscal standpoint but also as the nations food supply.

The on-farm dairy business success has in large part been due to the level of resilience that the producer has portrayed. As markets react positively or negatively to the businesses bottom-line the producer is able to adapt to these changes in the market place to stay viable. In the dairy production side of the business 50% of the production cost, is in feed, needed to feed all milking cows and support stock. Our basil ingredients are alfalfa, silage, corn, and soybean meal. Alfalfa hay and silage is grown locally, however, corn and soybean meal is shipped on rail from the Midwest to Ca resulting in grains that are higher priced then the same feeds fed from neighboring states. How we as producers have been able to stay competitive with other regions of the country is the feeding of by-products.

These by-products give the producer the ability to substitute high priced feeds for lower priced feeds that bring the same nutrient contents to the diets. A great example of this is pomegranate pulp. Pomegranate is 17% sugar and 13% crude fiber, nearly all of it's caloric value is in the form of sugar. The ability to use sugar to replace starch from corn gives the producer an opportunity to make extreme cost savings. When the moisture adjustment is made the producer is able to feed 3 lbs of pomegranates for every 1 lb of corn. Pomegranate is \$28/ton and corn is \$225/ton resulting in a savings on a 4,000 cow dairy farm of \$21,140 per month and

\$253,680 savings annually. There are many examples of these types of products mainly from fruit and vegetable industries that provide nutrients to dairy cow diets. California is the leader in the production of vegetables and now is home of half of all fruit produced in the United States. So it begs the question if the waste product does not end up on a dairy farm...then where would it go?

The proposed rules on such materials that are mentioned above indicate that a better home for these vegetable and fruit products would be either in a land-fill or through a digester to produce energy. This sounds great in theory but we are not considering the ramifications of such actions. Consider the amount of these materials foremost...we are talking about tonnages of waste products just from the Citrus Industry (grapefruit, oranges, tangerines, other) that amount to 5,008,500 tonnes annually. There is currently no landfill that has the capacity to handle such volume's and if there was, the amount of productive ground that would have to be reserved would not be a responsible measure for the citizens of the golden state. To take ground that would otherwise be used for commercial, residential, preserves, parks, refuges, or agriculture purposes is not the most efficient use of a place needed for material to decompose adding methane and carbon dioxide into our atmosphere. As the sugars become degraded through the fermentation process the result is alcohol production that through the process methane gas is released which is 3X more detrimental then CO2. I assume this knowledge is paving the way for these digesters that demonstrate the ability to capture the methane gas off these decomposing products and convert it to energy. But how efficient is this process really?

Just the concept of taking food, decomposing it, capturing the gas released, burning off the gas, heat then producers the energy necessary to run engines to produce electricity just seems like a very inefficient way to produce energy. Especially now that the price of oil is dropping and production is increasing. I have my doubts that the market will allow this alternative energy source to out compete the use of fossil fuels. Not getting political or philosophical, but if the free markets are allowed to work, energy made from rotting food will not be economical. Improved efficiency is why agriculture in general will not only be a profitable endeavor but also the reason why we will meet the food demand to feed 8.3 billion people by 2050.

A more efficient way to use these waste products while producing more human edible food is to put these fruit/vegetable waste products through a dairy cow. The cows ability to convert fiber into energy is unlike no other creature on earth. Those feeds that contain high levels of indigestible fiber are not consumable through a monogastric digestive system. The dairy cows rumen vat full of fiberlytic digesting bacteria gives her the ability to convert these fermented feeds in the gut to glucose that is in then used for milk production. Take this for example: 100 lbs of oranges = 50 lbs of juice (human food) + 50 lbs of citrus pulp (cattle feed), cow then produces 2.5lb of milk (human food). There is no more efficient use of a waste product headed for a landfill that has no value then to allow an animal used to produce human edible food the opportunity to convert waste to food. In turn lessing the competition of human edible food (grains) used in the cattle production of human edible food (milk and meat). This unique efficiency is only possible through the four stomachs of a cow.

Without the ability to substitute lower priced by-products for high priced grain the California dairy Industry will loose it's ability to stay competitive with surrounding markets. In turn producing less food to accommodate an ever growing human population. Thank you for considering my comments and I urge those lawmakers that seek to establish new needs for fruit and vegetative waste to truly investigate the impact it will have on the businesses, economy, lifestyles, and people of California.

Best regards,

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