



By Scott Hewitt CEO and Vincent R. James Ph.D. CTO  
Community BioRefineries,

## **OpEd – Community BioRefineries The Minnesota Star Tribune**

### **Could your future flight be fueled by cheese?**

*By Matt Winsand*

Here's a riddle for you:

What do you get when you combine cheese, busy airports and an environmentally committed farmer-owned cooperative?

The result is not a tasty in-flight dairy snack. We believe the answer you'll find at the confluence of these three seemingly unconnected things is sustainable aviation fuel (SAF).

In early August, United Airlines became the first major airline to establish a sustainable, bio-based fuel depot at Chicago's O'Hare International Airport. You might be surprised to know that more than 400 miles away at our homebase of Grantsburg, Wisconsin – where our village-owned airport consists of one paved and one turf runway – sustainable aviation fuels are also top of mind. The spotlight will be on the Twin Cities Sept. 11-13 as St Paul hosts the North American Sustainable Aviation Fuels Conference.

Our cooperative believes sustainability means evolving our dairy and cheese production businesses – which supply customers in Wisconsin, Minnesota and nationwide – to be here long-term for the farmers and consumers who count on us and, at the same time, make sure we're protecting the environment for our members, employees and neighbors today and tomorrow. We're already demonstrating that commitment. We recently used a Dairy Business Innovation Alliance/USDA grant for wastewater treatment innovation research to identify a natural adhesive product made from cheese processing waste. We're currently exploring next steps for commercialization.

Now we're ready to explore our role in sustainable aviation fuels. Like many bold steps, we know this one requires innovation and partnerships. That's why our co-op's farmer board has endorsed formal exploration with Community BioRefineries (CBR) whose mission is to construct and operate sustainable biorefineries in local communities throughout the U.S. CBR has perfected a process to create bio-butanol, made totally from organics, which is the basis ingredient of SAF. Together we'll consider how construction of a true biorefinery at our rural location could benefit our cooperative members and our entire Wisconsin/Minnesota region while helping to meet the growing demand for sustainable aviation

fuel. The federal government's Sustainable Aviation Fuels Grand Challenge sets a production goal of 3 billion gallons annually by 2030 and 35 billion gallons per year by 2050.

What do we mean by "true biorefinery?"

Simply put, think microbrewery and low impact. The patented approach we're considering is very much like that of beer-making and is a continuous process totally contained within buildings. The process centers on fermentation, rather than cooking or steeping as with ethanol. It's a small, downscaled process suitable for local use close to feedstocks – in our case byproducts from cheese processing and other plant-based materials.

The non-volatile biorefining process results in the creation of advanced biofuels like sustainable aviation fuel, along with value-added food and ingredients; bioplastics, nutraceuticals and other products that can be made in the same biorefinery. The end game is we'd not only be creating important products, but we would also do it without smoke, steam, heat, chemicals, emissions or waste. In addition, every bit of what goes in at the front end of biorefining exits as something useful – including water which is purified for re-use.

We're optimistic that this exploration will lead to construction of a biorefinery to benefit our cooperative members and our region and help meet the growing demand for sustainable aviation fuel and other products. We also see potential to serve Grantsburg and other area government operations, schools, and other institutions with local access to homegrown biofuels to support their own sustainability efforts.

We know the road from exploration to production reality may be a long one, but we're convinced the journey to a sustainable future is worth taking.

And who knows, maybe your future flight will be fueled by cheese!

*Matt Winsand is chief executive officer of Burnett Dairy Cooperative, Grantsburg, Wis. In addition to its cheese manufacturing and agricultural supply businesses, the co-op supplies cheese and cheese ingredients to customers nationwide and operates consumer cheese stores in Grantsburg and Cady, Wis., and Duluth, Minn.*