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Dairy/Livestock

Future of meat found in petri dish?

By ALIYA HALL
Capital Press

By the year 2021, a San Francisco company says some meat production will look different.

Very different.

Instead of animals raised on ranches, meat will also be produced in laboratory petri dishes.

Variously called "clean" meat or "cultured" meat, it is produced using stem cell technology.

Memphis Meats in San Fransisco and Cultured Beef in the Netherlands plan to compete with traditional meat for a spot in grocers' refrigerators.

"We're going to bring meat to the plate in a more sustainable, affordable and delicious way," said Dr. Uma Valeti, co-founder and CEO of Memphis Meats, in a press release. "Meat demand is growing rapidly around the world. We want the world to keep eating what it loves.

However, he said, "The way conventional meat is produced today creates challenges for the environment, animal welfare and human health."

In 2016, the Americans ate 25.668 billion pounds of beef, according to the National Cattlemen's Beef Association, whose members raise most of the nation's cattle.

The World Health Organization estimates that today 70 percent of arable land worldwide is used for livestock agriculture, and in 2050 meat consumption will be 70 percent higher than it currently is.

"That would mean that we don't have enough land on the planet to increase livestock volume to match that demand," Mark Post, a researcher at Cultured Beef, said on the company's website.

Memphis Meats

Uma Valeti, Memphis Meats CEO and co-founder, center, and Nicholas Genovese, Memphis Meats co-founder, with a an employee. They expect to offer their products to the public in 2021.

The process of producing cultured meat starts with removing specific muscle stem cells — undifferentiated cells that can turn into specialized cells — from a cow, a harmless procedure resembling a blood draw.

The stem cells then divide to give researchers trillions of cells from the original sample. After enough cells have grown, they are assembled in groups of 1.5 million cells to form small muscle tissue, similar to muscle fibers in steak.

From 10,000 of those fibers, a patty can be formed by adding salt, breadcrumbs and binder, according to Post. The process takes four to six weeks.

"We are currently focusing on hamburgers because we rely on self-organization of the muscle cells to form muscle tissue or fibers," Post said. "That process results in small tissues that are large enough for minced meat applications, which accounts for 50 percent of the meat market."

Memphis Meats can now grow a pound of meat for less than $2,400 — a steep drop from the $18,000 it took to produce it in 2016. The company was co-founded in 2015 by Valeti and Nicholas Genovese, who is also the chief security officer.

Post expects the price to be about $10 per hamburger once the production is at scale. As technology improves, however, it will come down to a price that's competitive with beef, the company predicts.

Post joined Netherland research teams in 2007, after gaining funding from the Dutch government. Even though the grant expired in 2009, Post continues to work on cultured meat through the Cultured Beef company.

In 2016, the cattle industry was second among Oregon's agricultural commodities, bringing in $701.2 million. Nationally, the industry had sales of $64.4 billion.

Post said surveys in European countries and the U.S. have shown that 20 to 50 percent of consumers are willing to try cultured meat, but Jerome Rosa, executive director of the Oregon Cattlemen's Association, hasn't seen any data to prove that traditional meat eaters will switch to cultured meat.

"I find it hard to believe; I think that's a real stretch," he said. "Consumers seem to

David Parry/PA Wire

Mark Post holds a burger made from cultured beef. Post said the motivation behind the development is food security, the environment and animal welfare.

be moving toward an anti-lab sentiment. All the concerns we hear about anti-GMOs, and with the continued increase of organic products out there, we see an increase in natural. To come out with a petri-dish product, it's something that seems to not be the direction of what consumers are wanting."

Rosa is also concerned about the food waste issue if cultured meat were to gain momentum. Byproducts from food processing and even making beer are now fed to cattle.

"These (food waste) byproducts are fed to cattle. If there's not a demand for cattle feed out there, these products are going in the landfill," he said. "We're taking food waste products and turning them into first-class protein to feed people; that's a significant environmental benefit."

He used malts as an example. The microbrewery industry is a large business sector in Oregon, and the malt from the breweries goes to feed cattle.

Rosa also said that ranchers are able to "make food and protein to feed the world on land that is unusable for other food production."

"Fundamentally the discussion has led to: We really believe that meat comes from an animal raised by a farmer or rancher — there's no substitute for that," he said.

Dairy prices remain mixed

By LEE MIELKE
For the Capital Press

Dairy Markets

Lee Mielke

U.S. dairy markets took last week's Dairy Products report and Global Dairy Trade auction in stride in the Labor Day holiday-shortened week.

The block cheddar closed Friday at $1.6425 per pound, up 10 1/4-cents on the week but 6 3/4-cents below a year ago.

The barrels climbed to $1.58 Wednesday, then relapsed and finished at $1.54, still 2 cents higher on the week, 6 1/2-cents below a year ago, but 10 1/4-cents below the blocks.

Twenty-two cars of block and 62 of barrel traded hands on the week.

The blocks inched down a quarter-cent Monday and stayed there Tuesday at $1.64. The barrels were unchanged Monday but jumped 3 cents Tuesday, to $1.57.

Reports on milk availability for cheese production are mixed in the Central region, according to Dairy Market News. Some producers reported that expected milk supplies were reduced by bottlers for school intakes. Spot milk prices into Class III ranged from $1.50 under to $1 over Class. Cheese sales are slower for Midwest cheesemakers but some pizza cheesemakers are still reporting heavy orders. The market tone is unstable.

Western cheese output is active with plenty of milk finding its way into the vat. Contacts describe domestic demand as steady or solid; however, some indicate a short term lull on either side of the last summertime holiday weekend. Food service demand is picking up slightly as schools resume. Inventories are larger than typical, but some participants feel this is a new norm. International buyers are watching U.S. prices and as the price fluctuates, so does their level of interest.

It was a weak week for butter, which dropped to $2.4375 per pound Tuesday, lowest price since June 1, 2017, then recovered some, but finished at $2.4575, down a nickel on the week and the fifth consecutive week of decline, but is still 42 1/2-cents above a year ago.

It lost 4 3/4-cents Monday but regained 1 3/4-cents Tuesday, inching back to $2.4275.

Butter makers are taking advantage of favorable cream prices and butter output continues as peak demand season draws near.

Western output is following the previous week's trend and inventories are sufficient to meet the needs of buyers and end-users.

Grade A nonfat dry milk closed Friday at 82 1/2-cents per pound, down 3 3/4-cents on the week and 8 cents below a year ago.

Monday took the powder down a half-cent and it held there Tuesday at 82 cents per pound.

Where did milk go?

USDA's latest Dairy Products report shows July cheese output totaled 1.03 billion pounds, down 0.3 percent from June but 1.0 percent above July 2016. Year-to-date output stands at 7.2 billion pounds, up 2.5 percent from a year ago.

Italian cheese totaled 449.5 million pounds, down 0.1 percent from June but 1.2 percent above a year ago, with YTD output at 3.1 billion pounds, up 1.3 percent.

Mozzarella, at 352.1 million pounds, was up 1.1 percent, with YTD at 2.4 billion pounds, up 0.8 percent. Total American type cheese production hit 401.8 million pounds, down 0.4 percent from June but 0.2 percent above a year ago.