



So-called clean meat advocates are hoping FDA will come away from Thursday's meeting with a positive impression of the budding industry. | Getty

Lab-grown meat's Washington moment is now

By HELENA BOTTEMILLER EVICH | 07/12/2018 12:51 PM EDT

The federal government is diving headlong into a regulatory effort that could shape the future of lab-grown meat products — innovations that some believe have the potential to radically change how the world eats meat.

The FDA on Thursday is hosting an all-day public meeting to get input on how to regulate the

nascent sector, which takes cells from animals that have traditionally been raised for food and grows them into tissue that can be used to make burgers, chicken nuggets and even spicy tuna rolls.

The FDA forum is an unusually proactive step for Washington, which tends to lag behind in regulating new technologies, and one that could have enormous implications for the burgeoning industry. What might typically be a staid regulatory meeting is expected to draw hundreds of people, from die-hard animal welfare advocates to longtime cattle ranchers and scores of food industry lawyers. The FDA is asking for input on what should be considered to ensure cultured meat and seafood products are safe to eat, including ingredients that might be used and how the process works.

Lab-grown or cultured meat companies have attracted a huge amount of interest and earned financial backing from billionaires like Bill Gates and Richard Branson as well as meat giants Tyson Foods and Cargill. But there's no clear regulatory path for bringing the products to market in the U.S. — and a turf battle is playing out within the federal government over which agency should take the lead in developing one.

Both FDA and Department of Agriculture regulators believe they have jurisdiction over the products, and they are jousting in remarkably public fashion for control. FDA tried to stake a claim last month by declaring it has jurisdiction over the products and calling Thursday's public meeting — a surprise move that angered USDA officials and many in the meat industry.

“I don't care if they make it, but they should come up with their own name,” said Maggie Nutter, a cattle rancher in Sweetgrass, Mont., who flew into Washington to speak at the FDA meeting. Many producers like Nutter fume over what they see as Silicon Valley startups trying to upend their industry — and livelihood.

“Their goal is to eliminate animal agriculture — they clearly state that — how can you not feel some animosity?” she said.

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The National Pork Producers Council is out with a statement Thursday slamming FDA's declaration of jurisdiction as "a regulatory land grab" that comes at a terrible time for an industry that is coping with new tariffs on its exports as President Donald Trump accelerates his trade confrontations with China and other major importers of pork, like Mexico. NPPC and other trade groups representing the meat and livestock industry — collectively known as "The Barnyard" in Washington — are trying to use influence to ensure USDA will have control over the new class of products.

The lab-grown or cultured meat sector, which prefers having its products referred to as "clean meat," has a lot on the line as Washington kicks off debate at the FDA this week. Many of the industry's leaders want FDA to take the lead due to fears USDA could stifle the sector's development to appease the meat industry, which USDA is charged with promoting.

Chipping away at even a small slice of the multitrillion-dollar global meat market could mean huge profits for companies that develop lab-grown products, but Silicon Valley first must reckon with Washington and earn consumer trust.

"The worst thing you can do to a startup is not to give it strict regulations — it's to not spell out the process," said Mike Selden, CEO of Finless Foods, a San Francisco-based company that is working to grow blue fin tuna and other seafood without the need to catch fish. "If there isn't a robust regulatory system ... we don't want to market in America," he added.

There are at least a dozen companies across the globe working on cultured animal products, and a handful are based in the United States, like Finless; Memphis Meats; JUST, Inc.; Wild Type and Wild Earth. Wild Type is working on lab-grown salmon, while Wild Earth is zeroed in on pet food.

A handful of tech companies are also focused on producing material goods, including Modern Meadow, which is working to develop animal-free leathers, and Bolt Threads, which produces fabrics from spider silk.

But lab-based efforts to produce food face a higher barrier to entry, both in terms of regulation and consumer perception.

"How should Americans be thinking about meat production in the next one — five, 10, 50 years?" said Josh Tetrick, CEO of JUST, formerly known as Hampton Creek. "Should we continue to do the

same thing, or have an entirely different approach?”

Tetrick and others insist their efforts aren't at odds with the meat industry — an argument that seeks to avoid the Silicon Valley vs. rural America storyline that cattle ranchers and other producers are already rallying behind.

“All the meat processors I'm talking to have an openness to this,” Tetrick said.

The fact that Tyson Foods and Cargill have invested in Memphis Meats and other plant-based companies makes the political situation in Washington slightly more complicated, because both companies are power players in the very trade associations that go to bat for the meat industry.

The National Cattlemen's Beef Association and the North American Meat Institute are walking a fine line on the issue, though both are fighting to ensure USDA is put in charge of the process.

“Ultimately, I think the biggest issue that needs to be resolved is the legal ambiguity here,” said Danielle Beck, NCBA's director of government affairs. “Are these products meat products?”

One of the biggest concerns for meat producers is whether lab-grown products will ultimately be labeled as run of the mill meat, donning labels like beef and chicken, or whether they are clearly differentiated. Some in the meat industry believe there's a better chance USDA will take a stricter approach to labeling. USDA did not respond to questions about its involvement in the FDA meeting. USDA officials are slated to attend, but are not listed on the agenda.

The U.S. Cattlemen's Association, which represents cattle ranchers, has petitioned USDA to limit the labeling of meat and beef to products from livestock "raised, and harvested in the traditional manner." NCBA and NAMI have taken a somewhat more nuanced approach, arguing that adopting a narrow definition, like USCA has proposed, could stifle innovation and ultimately lead to FDA having jurisdiction over the products.

The National Pork Producers Council, which had been relatively quiet on the issue until this week, is also putting its weight behind the argument that USDA should have jurisdiction. Dan Kovich, NPPC's director of science and technology, contends it's possible FDA could have some type of role in the regulatory process, perhaps by overseeing inputs used in cultured products; but he argues that the final products belong under the purview of USDA's Food Safety and Inspection Service.

“We just want reasonable, consistent regulation and a level playing field,” he said.

NPPC is also adamant FDA should not be involved in how products are labeled — a question that is certain to be part of the discussion on Thursday. "I think, absolutely, that's inappropriate and outside the scope of what FDA should be looking at at this point," Kovich added. "It suggests to us

that the FDA is claiming complete oversight — and that we feel is strongly inappropriate."

While JUST and Memphis Meats say they are almost ready to bring their products to the masses — Tetrick has said he'll have product ready by the end of the year — there are skeptics who question how close these companies really are to putting products on store shelves. There doesn't seem to be much doubt that lab-grown meat can be produced, but whether it can be done at a large enough scale to be competitive with conventional meats is one of the central questions surrounding the sector's future.

The first lab-grown meat burger, unveiled by Mosa Meat in 2013, famously cost \$325,000, and earned the Netherlands-based tech company mixed reviews. The cost of production has come down significantly — Memphis Meats subsequently got its chicken product down to \$6,000 per pound — but the most advanced companies in the sector closely guard their processes and technology.

There are a number of technical challenges to getting cultured animal proteins into the global food system at scale even before potential regulatory hurdles. One biggie: The sector had for years been reliant on using fetal bovine serum as a growth medium for the tissues it grows, but the pricey input undermines the sector's goal of making meat without the need for animals to be part of the equation. Both JUST and Memphis Meats are believed to have found other mediums.

Ryan Bethencourt, a co-founder of the biotech startup accelerator IndieBio, who is now CEO of the cultured-meat pet food company Wild Earth, said he sees biotech as playing a key role in perfecting the media that the field needs.

Wild Earth is currently making pet treats from cultured koji, a type of mushroom, and also developing cat food made from cultured mouse meat. Bethencourt noted that both Nestle and Mars, massive players in the pet food space, have expressed interest in the technology.

Bethencourt said he's hopeful the Trump administration is headed in the right direction in terms of regulation, adding that he's been pleasantly surprised by FDA Commissioner Scott Gottlieb's approach. Gottlieb made waves with last month's statement that outlined FDA's jurisdiction claim and planned today's public meeting — apparently without USDA's knowledge. The White House has since worked to bring USDA and FDA together on the issue, but it is unclear whether those efforts have produced a working plan.

"He's been a nice middle ground," Bethencourt said of Gottlieb. "He's open to innovation and common sense regulation. That's a great sign."

More broadly, so-called clean meat advocates are hoping FDA will come away from Thursday's meeting with a positive impression of the budding industry.

“This is a responsible industry; they want to do things the right way,” said Jessica Almy, policy director at the Good Food Institute, a nonprofit that promotes plant- and lab-based meat and dairy alternatives. “They recognize it’s important to have consumers' trust.”

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