R’ Yitzchok Hisiger: Hello everyone and welcome back to Let's Talk Kashrus presented by the Kashrus Awareness Project in conjunction with Torah Anytime. Today I am privileged to be joined by Rabbi Mordechai Stareshefsky, Rabbinic Coordinator at the Orthodox Union. Thank you Rabbi Stareshefsky for returning and coming back to speak to us once again.

R’ Mordechai Stareshefsky: Good to be here again, thank you.

R’ Yitzchok Hisiger: So last time we spoke about baby formula and other... *Pesach* Right, *Pesach*, some other interesting topics and it's great to have you back and for you to bring your expertise to the table to discuss about another very interesting topic that was raised and that is lab-grown meat. There are many articles that have been written about it. If people look into it, it's a very, very interesting topic. So first of all, tell us what it is and then take us through the *halachic* ramifications of such meat.

R’ Mordechai Stareshefsky: So lab-grown meat is otherwise known as clean meat, cultured meat. It just refers to the... There's two parts to it. They capture the DNA of a cow, of a chicken, of a duck, anything, and that can be done through scrapings of the feathers, that can be done through the skin, that can be done through the actual meat and they put it into a serum to grow it. Now, it sounds pretty simple, but first let's talk about why they do it. Untold billions have been spent on it and it still hasn't gotten very far. They still haven't mastered the secrets of creation. So it used to be when we were children and maybe we’re dating ourselves a little bit, so when we were children, we met a vegetarian, a vegan, either because he had some philosophical difficulty, why should I eat a cow, maybe a cow... who said, I'm more important than a cow, or he felt bad for the cow. Today's vegetarian is not that. It might also be that, but today's a new type of vegetarian. Cows give off methane and global warming. By him eating meat, he's literally destroying the planet. So it's like a religious exercise almost with a zeal to create alternate forms of meat. And it's not just meat. They create plant-based whey to take... Also genetically indistinguishable. They make it out of a plant and they ferment it in these fermenters. And it's officially... I never tried it, but officially they give an allergen warming because it can trigger an allergen, a milk allergen, anaphylaxis, the whole nine yards. And they're going to be... They have to put an allergen warning on it. Okay, now we digress. So in terms of meat, they're trying to create this meat in order to get... They want to get rid of these cows. That's not trying to save Elsie, They're trying to kill Elsie, the cow. So they've invested a lot of money, a lot of time, a lot of expertise into something which is really space age, which happens for free since *sheishes yemei bereishis*. What they're doing is is that every cell... If you take a cell, a human cell, a skin cell, it constantly replicates itself. Cells have an innate ability, put in by the *Aibeshter,* to make one become two, two become four. So a person is constantly in movement. A person's cells don't stay the same. They're constantly growing. So they use that same technology. They take a scraping of a cow or a chicken, whatever it is, and the cell grows and replicates and replicates out of the animal in a growth medium. That's the theory behind it.

That's actually in practice what they're actually doing. The issue is that you can't just... There's one technical issue before we get to *halachic* issues. One technical issue which they have so far not yet been able to solve, at least not on a large level. It's scalability, what they say, to make it affordable. A few years ago, they had a taste. They had a burger that they made out of this. The burger cost $350,000. It was sponsored by one of the founders of Google. Definitely not cost effective. But to make it scalable, somewhat economical, what they need to do is they need to... In this, you can get... For example, they can get a chicken nugget. You get just the cells of chicken that's replicating, replicating, replicating until you have enough mashed chicken you can put together. But to put together a steak, *k’shmo kein hu*, you need not just meat. You need fat. You need muscles. You need skin. You need marbling. You're looking for grain. You're looking for... Now, an egg, stem cell research comes up in the political world. They can use stem cells and embryos to... Stem cells have the... All cells in an egg look exactly the same. And they are told by the master plan that you're going to become the leg and become the wing. But the cell in the egg looks the same. So they're trying to not just to do that. That's already a feat in and of itself, take stem cells and make the *yesh me’ayin* from there, so to speak. But they actually are looking at taking a cell of meat and trying to reprogram it in this growth medium that they have and make it into a fat cell. A meat cell to a fat cell is unbelievable. I don't think... I'm not up to date on the science of it, but I don't think they've been able to solve that problem in small doses perhaps, but not in large doses.

R’ Yitzchok Hisiger: So basically what you're saying is as they're working to replicate it so far, the lab-grown product, the cultured meat, as good as it may be, it hasn't achieved the perfection that they're looking for yet anyway. Right. But whatever it is that they're producing, and I guess it's not... Could it be bought? Is it even for sale?

R’ Mordechai Stareshefsky: Not for sale.

R’ Yitzchok Hisiger: It's not for sale. But it's out there in some laboratory somewhere. So I guess this conversation is more theoretical at this point than it is practical for our viewers. But that's what we're here for, you know, to learn and to be informed and to be educated. So this item, this cultured meat, this lab-grown meat, if we were to have one right here, obviously the first question people probably would want to know, is it considered real meat? Is it considered *fleischigs*? Right? And what would the answer be?

R’ Mordechai Stareshefsky: So with regard to the *halachic* sense of it, you know, *fleishigs*, the *R’ Asher Weiss* writes a whole *teshuva* saying why he considers it to be a *fleishigs*. He writes a *Raya* from a *Gemara* in *Sanhedrin* a *Gemara* in *Menachos,* a *Tosfos* in *Menachos.* It’s meat, it looks like meat, it walks like meat. That's his feeling on it and really, it's the most conservative approach. That's the approach, the OU would take if it would ever become feasible because the *shailos* that would crop up otherwise, has real meat, it tastes like meat, it looks like meat and it's *pareve*. I mean, that's like a...

R’ Yitzchok Hisiger: Even though there are things like the Impossible Burger, which people who had it and people who eat it say that, you know, it's pretty good, it feels like meat, it somewhat tastes like meat, it resembles it. So, you do see there are imitations that are pretty good.

R’ Mordechai Stareshefsky: Imitations are imitations. Everybody understands that they take pea protein or whatever it is, chickpeas and make them possible beyond meat, whatever. But, you know, there's a whole flavor industry making chemicals that replicate... The real thing, right. So, now we understand that somebody has no issue with. They understand that's not what it is, you know. A lot of butter products and milk products are not actually milk and butter That's fine. But, when it comes to... It actually looks like meat, tastes like meat. It actually is indistinguishable from regular meat. You never, you have the same sizzle on it, in theory where they're hoping to get it.

So, I'll just tell you one fascinating discussion. R’ Hershel Schachter of the OU and the OU *Baruch Hashem* has been *zoche* throughout the years to have *Rav Belsky* and Schachter *yibade* *l'Chaim* and *Rav Asher Weiss* is a *posek*. So, this is not something you open up a *Shulchan Aruch* and find, obviously. You have to go back to the *sugya* and try to find a *ra'ayah* and really *boi ois*, it’s like *R’ Moshe* style to *boi ois* something *yesh me’ayin*, a *Rash”i* somewhere. So, R’ Schachter said like this. He doesn’t subscribe to it. It's not meat. It's not meat. What you would do at the end? I don't know. We'll have to wait about that. But, as R’ Schachter said, when it comes to chicken, however, you take something from a chicken cell, from an egg cell, make a chicken out of it, imitation chicken. That, he holds, is going to be the same *halachah* as chicken. Because meat, *basar b’chalav,* is from the Torah, *Oif* is a *derabanan*. Why were *Chazal* *gozer derabanan* on chicken? Because it looks like meat. This also looks like meat. It's the same thing. It's the same *halachah*. When I take regular meat, OK, regular meat is not meat. So, it wouldn't even have it's a *derabanan*. It's... But here, I'm making chicken, and chicken is itself a *gezerah*.

It's not a new *gezerah*. It's that chicken that *Chazal* *asur*, he feels I would have the same *halachah* over here. When it comes to chicken, he would hold it's a real problem with *derabanan*. That's a problem.

R’ Yitzchok Hisiger: Right. But that's a fascinating distinction that he has. That's interesting. So, he would hold that chicken is a problem, meat is not a problem. We're talking about lab-grown.

R’ Mordechai Stareshefsky: We're talking about lab-grown. You can't make your own *gezeros*. Meat, the *Chachamim*, the *Chachamim* didn't *asur* meat. And that's not a *gezerah* *l’gezerah*, because it's the same thing. That's one of the *Chachamim* *asur*, because it looks like meat. This also looks like meat. So, that's one, that's really the style that we deal with at the end of the day. But really, it's good they came to the OU in the beginning, because these cells have to be taken from a *behemah tehorah*. They can't be taken from a *behemah temei'ah*. They have to be taken from a ge*shuchtene* *behemah*. It shouldn't have a problem of *ever min ha'chai*.

Even when a *behemah* is ge*shuchten*, it shouldn't have been a *neveilah* or a *tereifah*. Interesting. And even though you can provide a *shtickel Torah* with each thing, you know, my *shver* says over,

R’ Yitzchok Hisiger: Your *shver* is?

R’ Mordechai Stareshefsky: *Rav Hillel David*. A *talmid* of *Rav Hutner.* So, he says over, that *Rav Hutner* liked the *Veitzner Rav* from Chicago, *Rav* *Meisels*, because of the following story, that he built a *mikveh* in Chicago, and the *ba'alei batim* came to him and said, We have a *mikveh*. A kosher *mikveh*. We sent the *shayla* to *Rav Moshe* and *Rav Moshe* wrote a 20-page *teshuvah* saying it's *mutar*.

So, *Rav* *Meisels* said, I'm going to send my, I'm going to describe my *mikveh* to a *Rav Moshe*. And if a *Rav Moshe* takes more than a half a page to say it's *mutar*, I'm going to use your *mikveh* instead of that. So, you know, the OU has to give a *hechsher*, *lechatchilah*. I can't come with a *shtikel Torah* of 20 pages and say why it's, it's particularly interesting when it comes to the fourth question.

So, we're done with three questions.

R’ Yitzchok Hisiger: Well, let's review the three again.

R’ Mordechai Stareshefsky: Number one, it has to be *behemah tehorah*. Two, it has to be *shechted*, so it shouldn't be *ever min ha'chai*. And three, it has to be a kosher if it's *shechted*. I'm saying kosher that it was *nivdak* and it wasn't a *tereifah*.

The fourth issue is the serum. It grows, and this serum is really the secret behind the whole thing because you have the DNA and it has, this thing that the *Aibeshter* did for free by the way, to make an animal with blood going through it and the blood grows the meat. This is all in the laboratory, these geniuses, and I said it without any sarcasm, they're really geniuses. They are geniuses. Yeah, they come up with, to replicate and they can send the growth medium and sends a message to the cell how to reproduce and what to reprogram it before. So far, I believe they're still doing it with blood. I don't think there's found a way to do it without blood.

R’ Yitzchok Hisiger: The serum is blood?

R’ Mordechai Stareshefsky: Yeah.

R’ Yitzchok Hisiger: It's blood from the same animal?

R’ Mordechai Stareshefsky: Or not the same animal or maybe a derivative of it. And you're saying the blood would also have to come from... Even the blood, the blood, it's an ingredient. Right.

When something's in a *behemah*, the blood is kosher. Once it's an ingredient to something, it's obviously going to be *asur*. And again, you can say a *shtikel torah, its zeh v’ze gorem*. So that's the fourth thing that they have to be careful with. And of course, so before the O.U. would give a heads-up that it has to meet all those four criteria. And it's good they came to us because even though it's not yet scaled up, but the cell banks are already there. that they have already. Wow. That was all done on the under the OU to make sure it was kosher.

R’ Yitzchok Hisiger: And it sounds like it's an evolving field where they're probably learning new things and things are changing. So, I would tell our viewers to stay tuned. This is just our first conversation with R’ Stareshefsky. But when you have an update on how they're doing, well, maybe the next time... Yeah, you'll come. The next time you come, I want to have a sample so we can check it out, we can feel it and really learn more. But thank you again for being here. It is a fascinating, fascinating topic. It sounds like something really definitely beyond my pay grade. *Takeh* something for the *Gedolei Poskim* and something that's going to change over time because as they learn new things and as the *kashrus* field, which is the OU is together with these large *kashrus* organizations really at the forefront of staying on top of these changes within the food production field, you know, we'll look forward to hearing more. Thank you.