

A COLONIAL LEGACY OF CULTURED MEAT

Producing meat in laboratories, global biotech companies promise to revolutionize agriculture, improve animal welfare, and decelerate climate change. Outside of California's Silicon Valley, Israel is the biggest hub for cultured meat. But in Israel, cultivating meat is not only about the future – it is also about the colonial past.

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Cartoon published in the Israeli newspaper *Ma'ariv* in 1949:
“We’ve been informed of the invention of “synthetic meat” in our land, produced from mushrooms and eggplants...”
“What type of animal is this?”
“Behold, it’s a synthetic cow!”

In March 2022, a new Israeli company rang the NASDAQ bell in New York. The event marked a new partnership between *Tnuva*, Israel's largest and most iconic food corporation, and *Pluristem*, an Israeli biotech company specializing in cell-culture. The sole purpose of the new partnership: to commercialize "cultured meat".

To make meat using cell culture, scientists first sample cells from animals. They then encourage fat and muscle tissue to grow into separate strands, before merging them to form a product that resembles ground meat. The challenge today is to scale up and reduce the cost of these technologies to allow for mass production. Though that goal is still far from sight, startups are already promoting cultured meat as an environmental alternative to the traditional meat industry.

Israel is where the world's first cultivated steak was created

Israel is a major hub for cultured meat. Outside of California's Silicon Valley, Israel is home to the most biotech startups and pilot plants in the world dedicated to the production of cultured meat. Israel is where the world's first cultivated steak was created. It's where the world's first cultured meat manufacturing plant was launched. It's where former Prime Minister Benjamin Netanyahu became the first head of state to taste cultured meat. In 2022, one Israeli startup alone raised USD 347 million – a record-breaking figure in this sector. Almost 40% of all global investments in cultured meat are injected into Israeli companies. And recently, this figure included investments from Switzerland's Nestlé and Migros as well.

Israel's prominent position in a tech field isn't surprising. The country is a self-proclaimed "startup nation" and Israelis fondly refer to their tech industry as "Silicon Wadi" (*wadi* meaning *valley* in Arabic and Hebrew). Indeed, the country has a history of mobilizing technological solutions – also to address environmental challenges.

Yet the choice of investing in cultured meat is not simply due to Israel's technological prowess, and cultivating meat is not only about a sustainable future. Technologies are tied to the histories of the places in which they emerge and develop. In Israel, that history

is submerged in the colonial legacy of its meat industry, embedded in a century of longing for meat in a natural environment that doesn't support it.

Following World War I, the history of meat in Palestine shifted

In Palestine until the end of the 19th century, only the very wealthy had regular access to meat. Located on the eastern coast of the Mediterranean, with its long hot and dry summers, the country's climate and environment were incompatible with intensive livestock farming. Most peasants cultivated cereals and used livestock primarily for labor. For its meat supply, Palestine was part of a network of regional trade whereby merchants drove animals across the Middle East. They purchased livestock from local breeders and brought them to regional markets. Gradually, with rising levels of urbanization and prosperity due to the booming citrus industry, more locals incorporated meat into their diets.

Following World War I, the history of meat in Palestine shifted. British forces conquered Palestine, ending 400 years of Ottoman rule. Palestine's newly formed British government ruled over a diverse community of Muslims, Christians, and a minority of (mostly) Sephardi Jews. In the broader region, British and French administrators divided former Ottoman territories between them. They defined their new territories by using new borders, which controlled the movement of humans as well as livestock. Along borders, quarantine stations were established, imposing new rules and regulations on the movement of animals across the region, and artificially severing historical livestock trails.

While the pathways of entry to Palestine for regional livestock narrowed under British rule, the migration of humans to the country expanded. As a result of British policy in Palestine, and mounting institutional antisemitism in Europe, European Jewish settlers arrived in Palestine in unprecedented numbers between the two world wars. The demand for meat during this period soared. Though the many communities of Palestine valued meat for its nourishing and satiating qualities, European Jewish middle classes were accustomed to eating meat in greater proportions and regularity than most Palestinians or local Sephardi Jews.

Rising Jewish immigration accelerated intercommunal tensions in the country, leading to the Palestinian Revolt of 1936-1939. This was a watershed moment in Palestine's history. The Palestinian general strike affected ports, roads, and markets, cutting off Jewish settlers from various supplies. For Zionist leaders in Palestine, the revolt highlighted the Jewish settlement's dependency on Palestinian agriculture and infrastructures, particularly for the supply of meat.

European bovines were imported to Palestine three times the size of local species

In Europe, Jews had been associated with the cattle trade since the Middle Ages. But in Palestine, consuming meat depended on Palestinian peasants and regional Arab breeders. Jewish actors (importers, butchers, religious authorities, urban officials) tried to gain more ground in the country's meat trade. In the 1930s, Jewish cattle dealers began to import cattle from Europe, relying on their old continental networks. By shipping in animals from overseas, Jewish dealers expanded Palestine's regional trade into a transcontinental trade. This maritime exchange never obviated – and was never entirely separate from – the Arab regional trade. But it allowed Jewish dealers to penetrate the country's meat trade by importing to Palestine European bovines three times the size of local species.

While Jewish dealers invested in imports, Zionist leaders made no attempts to promote local Jewish beef production. This was because Palestine's environmental conditions were incompatible with intensive breeding for meat. Hence, while Zionist leaders envisioned a separate and self-sufficient settler economy, its meat supply continued to rely on Palestinian breeders, regional Arab merchants, and on overseas imports from Europe. All of which were in stark contradiction with Zionist aspirations for an autarkic economy.

Import records show, however, that European Jewish consumers continued to purchase meat from various sources and devour large quantities of beef despite their leaders' economic plans. Tel Aviv, for example, was the settlement's most important city financially, demographically, and also in terms of meat consumption. Its emerging meat infrastruc-

tures – especially its slaughterhouse built in 1931 – facilitated the expansion of the city, and by proxy, the entire Jewish settlement.

Rather than *a land of milk and honey*, settlers hankered for meat as the material manifestation of arriving at a utopia of prosperity and plenty. Increasing Jews' access to meat in Palestine under British rule may have been against economic ideals, but still served the Zionist goal: the expansion of the settlement and the colonization of Palestine.

The disruption of war meant that meat supplies dwindled

The end of British rule in 1947 gave way to the 1948 Arab-Israeli war. As Israeli brigades pushed Palestinians from their lands, they also pillaged their livestock. The disruption of war meant that meat supplies dwindled. In its aftermath, Israel's newly established Ministry of Agriculture appointed *Tnuva* to centralize the local meat trade. By then, *Tnuva* was already the country's largest food distributor, mainly associated with the Jewish dairy industry. On its website, the company recalls how it entered the meat business: Until 1948 meat supplies depended on "Arab agriculture and nomadic Bedouins. But with the creation of the state, this main source of meat disappeared". Echoing the hegemonic Israeli stance, *Tnuva's* website reduces Palestinians to a "source of meat" and their forced exodus to a "disappearance".

For Jewish Israelis, meat scarcity was one of the defining features of Israel's first years. During those years, known as the austerity period, food rations allowed for approximately 100 grams of meat per person per week. Letters of complaints poured into the Ministry of Supply and Rationing. Citizens took to the streets protesting diminishing meat portions. The black market was thriving. Illegal meat trade was so lucrative that intercommunal hostilities did not deter some Jews and Palestinians from collaborating in trafficking meat across enemy lines. Some smuggled meat from Palestinian villages into Jewish-populated areas. Others drove livestock across the borders of neighboring Arab countries. With this, historical regional livestock trails – active since the Ottoman period and throughout British rule – were revived, even if redefined from habitual to illicit.

Israeli cooks and consumers were encouraged to find solace in eggplant as the meatiest of local vegetables

In the kitchen, meat scarcity shaped the emerging Israeli cuisine. Cooking instructors, nutritionists, and housewives experimented with various vegetarian creations to mimic meat. In the 1950s, one Israeli chemist claimed to have invented “the new meat”, or as the press called it: “synthetic meat”. The creation was largely plant-based, fermented, and promised to taste like the finest cut of beef with a hint of duck fat. But “the new meat” never reached commercial production. The Ministry of Supply and Rationing denied the inventor’s request to import the necessary ingredients.

Instead, Israeli cooks and consumers were encouraged to find solace in eggplant as the meatiest of local vegetables. Replacing meat with various substitutes was emblematic of the type of sacrifices that were asked of the new Israelis. As the country’s most famous nutritionist asserted: “The new immigrant must not only learn, he must also forget”. As often is the case with national foodways, some “ersatz”-dishes gradually became an integral part of the national cuisine. A popular eggplant stew, made to replicate the taste and texture of the Eastern European delicacy of chopped liver, is still sold in Israeli supermarkets today.

Despite recent vegan trends, Israel is one of the top meat consumers in the world

Only following the 1990s economic boom and the opening of the Israeli market to international imports did meat become a dietary staple in Israel. Despite recent vegan trends, Israel is one of the top meat consumers in the world. In 2021, it ranked fourth place in beef consumption among OECD countries, after the United States, Argentina, and Brazil. But unlike these countries, Israel still does not produce much beef. Its local meat industry depends on imported chilled meat and shiploads of imported live animals. The company that still holds the largest share in Israel’s meat industry is continues to be *Tnuva*. Some 70 years after being called upon by the state to centralize the meat industry, *Tnuva* is entering the

field of cultured meat. As Israel’s largest food producer, with the widest distribution network in the country and approximately four million of its products sold daily, *Tnuva* has the potential to shift the cultured meat industry. In April, the Israeli Innovation Authority announced that *Tnuva* will lead a national “cultured meat consortium” consisting of 14 companies and 10 academic laboratories. The consortium will receive an initial installment of government funding in the amount of NIS 60 million (about CHF 17 million), a globally unprecedented show of government support in the cultured meat sector.

A magical solution to multiple longstanding problems

The government’s backing of lab-grown meat in Israel stems from the desire to lead the development of a cutting-edge and potentially profitable food technology. In addition, promoters of the *Tnuva*-led consortium also claim that procuring sustainable protein sources is part of a national effort towards food security and sovereignty. After a century of longing for meat, the emergence of a technology that allows to grow meat regardless of the local natural environment as well as forgo the dependency on imports, is imagined as a magical solution to multiple longstanding problems. Yet in ringing the NASDAQ bell, *Tnuva* also reminds us of how cultures of meat have historically often cultivated colonialism.

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FURTHER READING

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