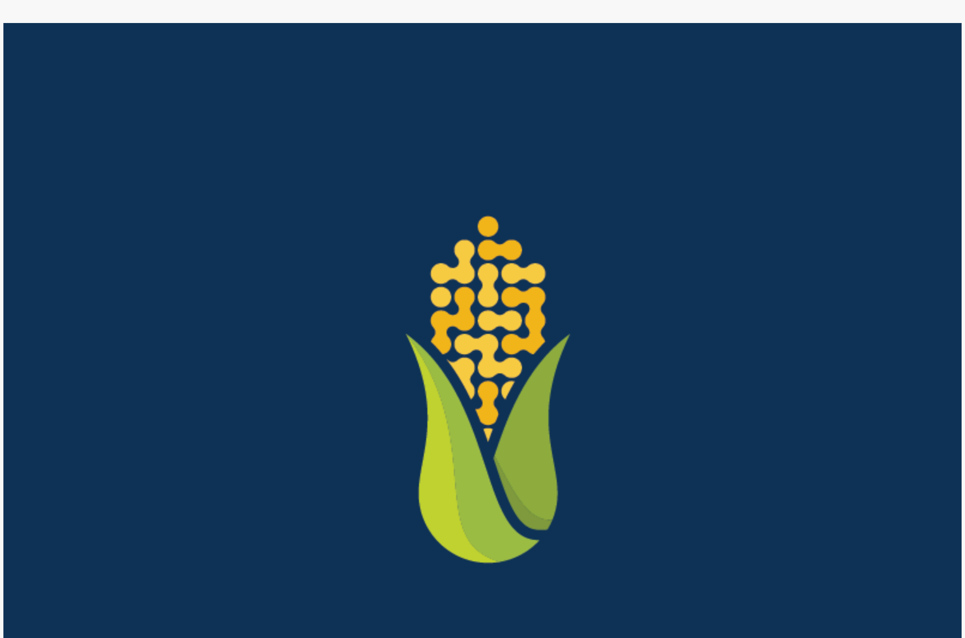
SUNDAY AUG 23, 2020

Future of FoodTech & Agriculture in a post-Covid World



Perhaps nothing bought and sold in the modern economy (with the notable exception of water) **is more fundamental to human life than food.** What we choose to eat is a deeply personal decision, and one that most fortunate people likely make at least three times per day. Food nourishes our bodies, comprises the building blocks of our energy, and even becomes us as its nutrient components are integrated into our own cells. As the saying goes, 'You are what you eat.'

Like the accelerated shifts taking place across many economic sectors, food technologies today are changing faster than perhaps at any time since the first agricultural revolution itself, when neolithic humans transitioned circa 10,000 BC from hunter-gatherer societies into settled communities. As challenges to the sustainability of the modern industrial food system become increasingly apparent, **innovators are rising to meet the new opportunities and transform human food systems in unprecedented ways.**

If you're a pre-seed stage food-tech or agricultural entrepreneur, apply now to the currently-enrolling Founder Institute Food Vertical program. Headquartered in Helsinki, like all FI accelerator programs in 2020, this program cohort will be held completely virtually, which means for the first time, enrollment is open to food technologists and agri-preneurs worldwide.

Pre-Covid Food Trends:

Locavores: Local is Best

What we can choose is a previous lifetime, but was in reality little more than six months ago, pre-Covid the food system was already changing in important ways. In the rich world, the rise of the 'Eat Local' or 'locavore' movement has been ongoing for at least a decade—the concept of 'food miles', or how far a piece of food traveled to reach your plate, would have been almost unheard of a generation ago. But today, consumers are increasingly conscious of their local food systems, and seek to actively support local agriculture with their purchasing power via farmers' markets and specialty shops—and restaurants, likewise, utilize 'Locally Sourced' as a buzzword that truly resonates with their patrons.

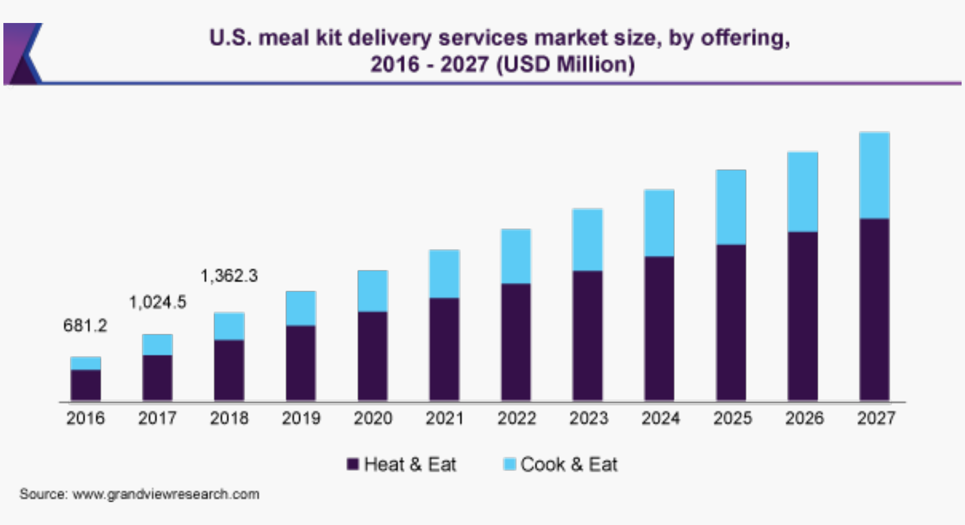
Health-Consciousness Continues

For affluent eaters, health-consciousness has also long been in the ascent, with implications that reverberate across food technology and agricultural sectors. Processed foods, preservative additives, refined sugars, and even meats are in the decline of consumer sentiment; while increased portions of fibrous veggies, antioxidant-rich foods, calorie-counting, and vegetarian and veganism are on the upswing. The same trends are not necessarily true in the developing world—as middle income countries' citizens find themselves with more relative purchasing power, their own meat consumption notably increases in proportion.

Preferentially, Prepared For You

Another notable trend apparent in recent decades is the increasing amount of food consumed that is not cooked/prepared at home: pre-covid, people were going out to eat in restaurants more often than ever, with fast-casual dining becoming a quick go-to norm for many families multiple days of the week.

Even when consumers did choose eat at home before coronavirus, they still increasingly weren't making the trip to the physical grocery store as often—the rise in online grocery services from the likes of retail behemoths like Amazon and Walmart were already happening, as well as the growth in meal kit delivery services BlueApron, HelloFresh and others, even before the pandemic.



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Covid-related Food & Ag Industry Disruptions:

Grocery Gets Along

Especially in the earliest onset days of Covid-19—when strict lockdowns were being enacted simultaneously around the globe, forcing restaurants and small vendors to close their doors—grocery stores seemed more vital to citizens than ever. Grocery may have especially felt disrupted to consumers, simply because it was one of the few places people were actually still going out to visit, while most other retail stores were closed—and the protocols of shopping had suddenly changed to enforce social distancing. Since restaurants were closed, more food was proportionally being bought at grocery markets—due to sudden surges in demand, grocery was impacted severely across the board. The grocery was also impacted in other notable ways at the start of Covid-19, like consumer stock-ups on certain nonperishable and frozen items—but in general, the grocery sector chugged along alright, albeit with shoppers changing their behaviours through a newfound abundance of caution.

Processor Predicaments & B2C Pivots

While less visible to everyday food consumers, some of the biggest disruptions were felt by food processors. While food packaged B2C for consumers was largely unchanged (save the increases in demand), the B2B food processing industry was turned upside down. The fact is that food items processed or prepared for restaurants and the hospitality industry in bulk are very different from the food items processed or prepared for individual grocery consumers. Suddenly, restaurants were no longer buying at the rates they were pre-Covid, because their own customers had evaporated through the economic shutdown periods; and restaurants still haven't bounced back completely upon reopening, given the necessity for continued social distancing. In a restaurant industry that traditionally runs on very thin margins, ~50% table capacity in dining rooms may not be enough for many to hang on and keep the doors open.

Particularly in the case of meat products, whose processing facilities were also adversely impacted by the coronavirus—but true as well for other raw and prepared agricultural products—the differences in how food items are processed for the restaurant industry (versus processed and packaged for grocery store consumers) are very significant. Food for industry B2B sale is often packaged in bulk, with bigger items and less trimmed pieces. Processors of grocery and consumer meat products could not scale overnight to meet the new demand increases, or process all the animal livestock that *used to* go to other facilities to be prepped for restaurants/bulk sale. This constraint in the food supply chain, right at the point of processors, is significant - because for meat processors, the sad result was animals not being slaughtered on schedule. That may sound callous and cruel, but the truth is that livestock meat has a "ripe" and "overripe" equivalence, and product taste can be heavily impacted. A consequence was many farm animals killed, not to be processed for food, but simply because they could not be slaughtered on time; farmers could either not afford to continue feeding the livestock, or the animals aged past the point of consumption.

Restaurant Industry Implosions Imminent?

The impact of the Covid-related shutdown on restaurants and bars has been enormous, not only for mom and pop restaurant small business owners, but on the wider labor market that comprises the cooks, servers, and the whole of the hospitality industry.

Economic rescue packages like the U.S. CARES Act and PPP loans will only go so far for an industry under such strain, and haven't been a huge help to the restaurant industry in particular. The situation for many restaurants is quite dire, and the decision of many restauranteurs will come down to executing a pivot or closing up shop.

It remains to be seen just what promotion of restaurants will ultimately close their doors, particularly in regions that have been especially adversely affected by Covid-19 (or whose response has been inadequate), including across much of the United States, but also in other hard-hit countries like Brazil.

Agricultural Challenges from Trade Barriers & Travel Restrictions

One economic knock-on effect from Covid-19 is a general sense of decreasing strength in the sails of globalization (apparent even pre-covid, and sometimes dubbed 'slow-balization'). Most discussed in relation to PPE manufacturing, through the necessity to create more supply chain resiliencies and redundancies, individual nations' economies and economic trading blocks are attempting to source and build more things closer to home. Agricultural will always be a cross-border trade—but it's likely that at least one era of 'peak' of globalization is now waning.

In the food industry, this shift towards home-grown can in practice mean tariffs and other trade barriers, particularly on commoditized food products like grain staples. And the result is often higher prices paid by the consumers in the countries that erect those barriers. Trade barriers also force farmers around the world to scramble to find new markets for their products, before they spoil and lose the crop.

In rich countries, the labor for agricultural sectors often comes from seasonal workers, comprised primarily of foreigner workers who put in long hours during the planting and harvesting seasons, and accept significantly less pay than rich countries' native populations would, for what is very hard manual work. But travel restrictions due to Covid-19 have posed significant challenges to the import of cheap labor in the form of temporary/seasonal/migrant workers—the effect, again, is likely to be higher prices paid by consumers in the countries erecting the travel or labor barriers.

These effects are general—most agricultural challenges are unique to different areas. These trends represent only high-level generalities, and many other challenges exist within specific food systems, whether those be countries, regions, or economic trading blocks.

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Post-Covid FoodTech Industry Opportunities & Market Predictions:

Hybridized Restaurant Models + Rise of Ghost Kitchens

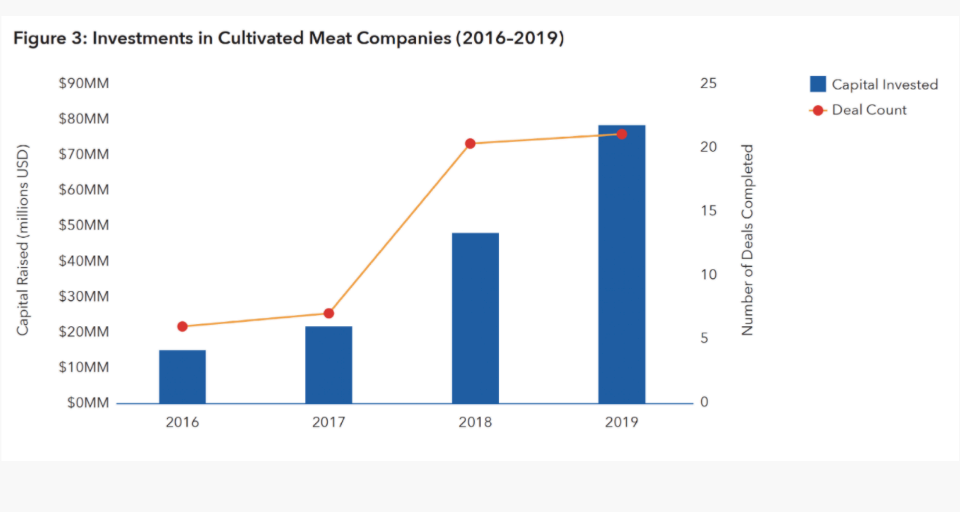
Even with restaurant re-opening, social distancing will mean lower capacities for in-restaurant dining—with a lower table count, even restaurants with re-opened dining will still likely need to increase their takeout and/or delivery business, simply to makeup for lost revenue.

Ghost kitchens are simply restaurants that don't have any in-person dining at all, and are largely limited to delivery-only. Without the need for a public seating space, these ghost kitchens can decrease their physical footprint and focus on the key area of the restaurants business that is currently booming: food delivery.

With ride-sharing plummeting in demand, Uber is essentially now a food delivery business. It's questionable if competitors in the ride hailing space like Lyft, whose focus has traditionally not included food delivery, will even be able to hang on long enough to ride out the pandemic.

Animal-free & Plant-based 'Meats' Get Tastier, Gain Popularity

The innovation space around meat alternatives is truly booming, and has lots of promise and potential for positive outcomes in sustainability and consumer health. Dedicated investment groups and organizations like the Good Food Institute are a great place to dive into all the *meaty* details. But it's not just the Impossible Burger and Beyond Meat anymore—the number of startups and companies using synthetic biology, novel fermentation methods, and other technologies to produce new meat alternatives is truly mind-bending, and likely to create enormously impactful shifts in consumer purchasing habits, at least in the rich world, over the decades ahead.



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Words matter - as "plant-based" and "animal-free" enter into consumers' dietary lexicon, they have social effects. These words carry different connotations than terms like "vegetarian" and "vegan" conjure up in the minds of average eaters. In truth, less meat is already becoming mainstream in the rich world—it's no longer just about animal welfare and ethics: many consumers now regularly prefer plant-based diets for exclusively environmental or personal health reasons, too.

The Rich-World GMO Divide

The United States, both in terms of its regulators and its consumers, is generally accepting of genetically modified crops. But Europe, and the European Union in particular, has much stricter barriers against GMOs within food supply chains.

In terms of a globalized food system, this divide seems among the starkest in the food world—but also one that appears very much unflinching and unchanging. It seems likely that foods produced in novel ways, such as through cell culture and fermentation methods, but that include genetic modification components, will see regulatory and consumer adoptions in the US before Europe.

Accelerated Localization of Food Systems & Locavore Movement

General macroeconomic trends away from globalization will result in positive outcomes, at least for some local food systems producers. Affluent consumers especially will increasingly continue to seek high-quality foods that are grown or produced close to home. But there are also negative effects from increased localization, including higher costs to consumers, and developing countries being cut out of the food supply chains of rich-world consumers.

Increasing On-Farm Automation

If cheap labor cannot be imported seasonally from abroad as easily as in the past, rich countries will see a quicker pickup in automation of planting and harvesting. Some jobs, formerly performed by seasonal migrant workers, will be replaced not by native agricultural workers, but increasingly by robotics and mechanization.

Likewise, increases in food prices paid by consumers may further accelerate the adoptions of other agricultural technologies, like the growth in the long-heralded 'vertical farming' industry, producing hydroponic veggies hyper-locally in greenhouse skyscrapers located right in the centers of cities themselves.

The food system is changing in many exciting and unprecedented ways—and these examples offer only a small sampling of how new food and agricultural technologies will completely revolutionize consumer preferences and industry practices over the coming years.

The entrepreneurial opportunities are more abundant than ever for food innovators to scale the startups that will push forward new ideas and techniques into the shifting globalized and localized food market landscapes. Ultimately, the future of food is likely to be healthier, tastier, and more environmentally sustainable—and **visionary entrepreneurs will be the ones to make that future a reality.**

If you're a pre-seed stage food tech or agricultural entrepreneur, apply now to the currently-enrolling Founder Institute global Food Accelerator vertical program.

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