Julius Bär

Feeding the world

At a glance

In order to feed the world post-2050, farm production will have to rise substantially. With increasing scarcity in resources like arable land and water, sustainable production methods will be required to ensure the availability and affordability of food. At the same time, producing greater amounts of food while using fewer resources is a challenge that opens up room for innovation and promising investment opportunities.



Farms of the future

FoodTech and AgTech (agriculture technology) will be important drivers in making the food supply chain more efficient and sustainable. Below are some key areas of innovation to watch.

Precision agriculture: producing more with less

- Overarching goal: use **inputs efficiently** while **maximising output,** with the help of data and technological advances such as automation, robotics, and artificial intelligence.
- Common applications include: aerial imagery to map changes in fields and grid soil sampling to assess the distribution of nutrients, allowing for more-targeted use of fertilisers and crop chemicals.
- Studies have shown an **improvement in crop production, lower fuel and water use,** and increased fertiliser efficiency.

Vertical farming: saving critical resources with greater yield

- Vertical food planting not only **saves space,** but allows farming in urban areas. This innovation shortens transportation distances and **reduces the environmental impact.**
- The use of hydroponics or aeroponics means that water used stays in a closed system. With these technologies, plants also take in nutrients directly, which leads to **quicker growth rates.**
- Some challenges remain, including significantly **higher expenses** and a limit to the production of herbs or leafy greens.

Alternative proteins: hope or hype?

- With **changing food consumption habits** driven by environmental, health, and animal welfare concerns, demand for alternative proteins in general and alternative meat in particular is growing.
- Due to the availability of alternatives like **plant-based** and **lab-grown** meat, a significant shift in our meat-eating habits is about to start.
- While we see significant long-term growth potential for alternative meat producers, competition will also intensify.

Food security

Agriculture markets have suffered a series of shocks during the past years, fuelling food inflation and fears of food insecurity. Food security encompasses not only financial affordability but also physical availability. These aspects are constrained by factors such as corruption, climate change, and biodiversity loss. However, important innovations in the areas of FoodTech and AgTech are contributing towards our ability to feed the world.

Interested in learning more?



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