What Does the Future of Food Production Look Like?

Enhanced crop quality and animal welfare, environmentally friendly farming and affordable food… Does it sound too good to be true? In fact, with the world’s population set to reach 10 billion by 2050, this is **the future of food production**.

Technology is set to help us produce more food for less, even in adverse climates. But, how will this be achieved?

What are the innovations set to change the face of food production? Will this change what’s on our plates? Here’s a closer look at the future of food.

**The Changes to Farming**

To feed the world’s growing population, our farming technology needs to advance drastically. We’ve made some impressive leaps in recent years, however, the demand is only continuing to grow.

When it comes to technology, what’s next for our farms?

**GPS Controlled Tractors**

Satellites already play an enormous role in our day-to-day lives. Why not in farming also?

GPS controlled tractor steering will improve crop yields while reducing soil erosion, due to optimised route planning.

While the wide-spread use of autonomous self-driving vehicles has yet to be implemented, steps are already being made to make the technology mainstream.

For example, 2017 brought [the successful completion of ‘Hands Free Hectare’](https://www.gov.uk/government/news/autonomous-vehicles-for-farming-world-first-achieved). This was a world-first project to plant, tend and harvest crops with the use of autonomous vehicles and drones only.

Against a predicted yield of 5 tonnes, the method returned a yield of 4.5 tonnes.

The project proved that there’s no need for humans to enter the field to deliver a high crop yield.

But what does this mean for our farmers? This technology won’t replace farm workers, rather, our jobs will adapt to include it. Hands-free farming will make the lives of farmers much easier, while allowing for greater crop yields.

**Vertical Farming**

Vertical farming is the process of crops being grown in a controlled environment. Optimum conditions can be maintained, for example light, water, heat and nutrients. These crops will then only be harvested when in peak condition.

This type of farming has other benefits. For example, the use of LED lighting can extend growing seasons, as well as allow for a wider variety of crops to be grown.

This process will also make farming possible in previously difficult places, such as urban areas, where there’s a lack of space.

Also, vertical farming will be beneficial for the environment, as it uses far less water. Integrating hydroponic growing techniques will allow for this water to be recycled, while increasing crop yields by up to 500% compared to traditional farming.

**Farming in New Locations**

Who will benefit from these changes to farming?

Technology will see better farming everywhere, for example in countries such as Canada, where certain areas have adverse weather conditions that make year-round crop growth difficult.

The use of LED lights will benefit these areas, as they can provide the optimum conditions needed to grow crops all year.

**Who Will Benefit from this Technology?**

When it comes to advancements in technology, it’s important that the everyone benefits, not just third-world countries.

But, this technology will make food production possible everywhere in the world, even non-traditional locations. Remote communities such as Inuit in Canada, or third-world countries, will be able to take advantage of this technology, where previously harsh climates prevented year-round crop growth.

This production will be affordable, sustainable, and accessible everywhere in the world.

Interested in finding out more? [Subscribe to Innovate UK’s YouTube channel](https://www.youtube.com/user/Innovateuk) to stay up to date with the latest advancements in science and technology.