

Innovations in Sustainable Farming

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Environmental Moments

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The creation of sustainable, high-yield farming techniques is vital because global warming, decreased pollinators, and the growing global population makes producing enough food a challenge. However, agriculture is already a risky financial enterprise that provides little excess for the bulk of farmers to improve their station, let alone experiment with environmentally conscious methods. The adoption of any innovation is a hard-sell to many, as allocating any land for a potentially less efficient methodology could cost them their margin, and many innovations require steep short-term costs for the hope of long-term gains. While social change and better wages for those who labor to provide the food that crowds supermarket shelves may be an important precursor to wide-scale change, the following innovations may also help improve crop output while maintaining the environment.

Drones

Unmanned aerial vehicles (UAVs), commonly referred to as drones, have been adapted to benefit many industries. For sustainable farming, they are being used to collect more data that can be used to perfect techniques and optimize yields. Remote sensing projects, which can capture the physical characteristics of plants by measuring emitted and reflected radiation is, “helping scientists to observe how plant life develops and evolves across landscapes over time through characteristics such as biomass, nutrient content, disease and water use.” (Farming First) This allows them to study wider areas in less time, and may lead to a greater understanding of how to produce greater quality and quantity of crops.

A more unique application for drones is pollination. With pollinator populations sharply decreasing, the need for a mechanical substitution has been growing. “Fortunately, drones are now being used in experiments to, hopefully, supplement the pollination efforts that bees have traditionally completed.” (Disruptor) While the perfection of a cost-effective drone for pollination may still take years of development, it is encouraging that this process has begun.

Vertical Farming

Vertical farming is a space efficient method of growing crops as they are stacked into a column rather than horizontally on the ground. This has been found to have ten times the output per square foot compared to the traditional layout. “Vertical farming doesn’t promise to radically change the way we farm, only make it more efficient, productive, and take up less space.” (Futurism) As the need for greater quantities of food increases with the world’s booming population, methods like this that diminish the needed area become more necessary.



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Works Cited

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