The Future of Agriculture: Technology and Innovation

Autonomous Robots

*Can we decrease the demand for farm laborers by using robotic machines to harvest fruits and vegetables rather than picking them manually?*

Describe it...  What are the benefits?

What are the limitations...  See it in Action!
Agriculture Sensors

Can high-tech sensors be used to alert farmers on their smart phone when crops are ready to harvest or need water, nutrients, or pest control?

Tip: Search ‘precision agriculture’ and ‘smart farming.’

Describe it...  What are the benefits?

What are the limitations?  See it in Action!
Arial Crop Imaging

Can drones help farmers pinpoint specific problems in their fields?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
Agriculture Data Systems

How can data analyzing software help farmers interpret and use data from their farms? Can data sharing programs combine data from multiple farms?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
Global Positioning Systems

*What can GPS and GIS technology do to make farming more efficient?*

**Describe it...**

**What are the benefits?**

**What are the limitations?**

**See it in Action!**
Horizontal farming involves growing fresh produce in cities and factory buildings rather than in soil on large plots of land.

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
Livestock Activity Monitors

Are there Fitbits for livestock? How would they help?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
Fish Farms and Aquaponics

Can saltwater fish be farmed thousands of miles from the ocean?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
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Insect Protein

How can we use insects as a protein source in our diet? Why would we choose this?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
Cultured Meat

Could “meat” created in a lab be a feasible method of producing quality protein without harvesting it from animals? Would it be more sustainable?

Describe it...

What are the benefits?

What are the limitations?

See it in Action!
New Seed Varieties

Can a gene editing system (GMOs or CRISPR technology) assist in editing plant genomes to make them more heat resistant, drought tolerant, etc.?

Describe it... What are the benefits?

What are the limitations? See it in Action!
Describe it...

What are the benefits?

What are the limitations?

See it in Action!