202\_24 HSV Farming Solutions

<https://www.youtube.com/watch?v=Qmla9NLFBvU>

The Future of Farming and Agriculture 00:00 – 08:50

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**I. Watch the video and take notes on the following questions.**

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| **1** | **Autonomous Farming** |
|  | What major changes has agriculture undergone over the last century? |
| * *Farming with horses* 🡪 *with machines* 🡪 *with robots* * *Fewer farm workers feed more people.* 🡪 *more efficient* |
| Why have they happened? |
| *because of engines and electricity* |
| Name two examples of autonomous farming robots. |
| * *autonomous pickers* * *robots removing weeds / robots using less pesticide than before / weed killing laser* * *monitoring via cameras,* * *soil sampler* |
| How are drones and planes used in farming? |
| * *they spot unhealthy vegetation and alert the farmer* * *they monitor crops* |
| Who can use electronic data in farming? |
| It can now be available to more farmers, not just to “mega famers” (via data sharing). |
| **2** | **Vertical Farming** |
|  | What is the big obstacle in vertical farming? |
| high cost of energy |
| And what are the advantages? |
| Because of the artificial light, crops grow day and night all year round  🡪 more than outdoors (but at the moment just expensive herbs are profitable) |
| What will cause a “turbo-boost“ growth of plants? |
| the use blue and red light wave lengths to optimize photosynthesis |
| What is the idea behind the “catalogue of climates“? |
| to recreate original environment/ conditions for all crops locally |

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| **3** | **Livestock** |
|  | Why has the demand for meat increased? |
| There are now more people in the middle class worldwide who want to eat meat |
| Name two technological gadget used in cattle farming. |
| * smart collars * breath measurement * cameras monitoring illness/movement * microphones to detect cough |

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| **4** | **Fish Farming** |
|  | What is the surprising fact mentioned at the beginning? |
| consumption of farmed fish has surpassed consumption of fish |
| Describe the innovation about fish farming and its “closed system.“ |
| * saltwater fish farms can be built inland 🡪 fresh fish for everyone, less energy used for transport * self-sustainable and self-powering system / no interaction with environment * no waste (thanks to bacteria) |
| **5** | **Alternative Proteins** |
|  | How can insects be useful even if people do not really want to eat them? |
| protein powder / flour, animal feed |
| Why is it necessary to at least start to think about lab grown meat? |
| * better for the environment as less resources are used * feed the entire planet * avoid killing animals |

**Stop at 08:50**

Please add a personal comment.

*Indivudual answers*