Precision agriculture

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Definition

"...a management system that is information and technology based, is site specific and uses one or more of the following sources of data: soils, crops, nutrients, pests, moisture, or yield, for optimum profitability, sustainability, and protection of the environment."

USDA, Agronomy Technical Note No. 1, June 2007

Purpose

Maintain productivity and profitability of the agriculture system while attempting to maximize yield.

Mike Krivit

Techniques

- Soil testing to determine the amount of nutrients available and the amount needed to grow a specific crop
- Hybrid or variety selection specific to the conditions under which it will be grown (climate, soil type, etc)
- Pesticide choices to address specific pests within a field
- Using data from all of these techniques to make future decisions

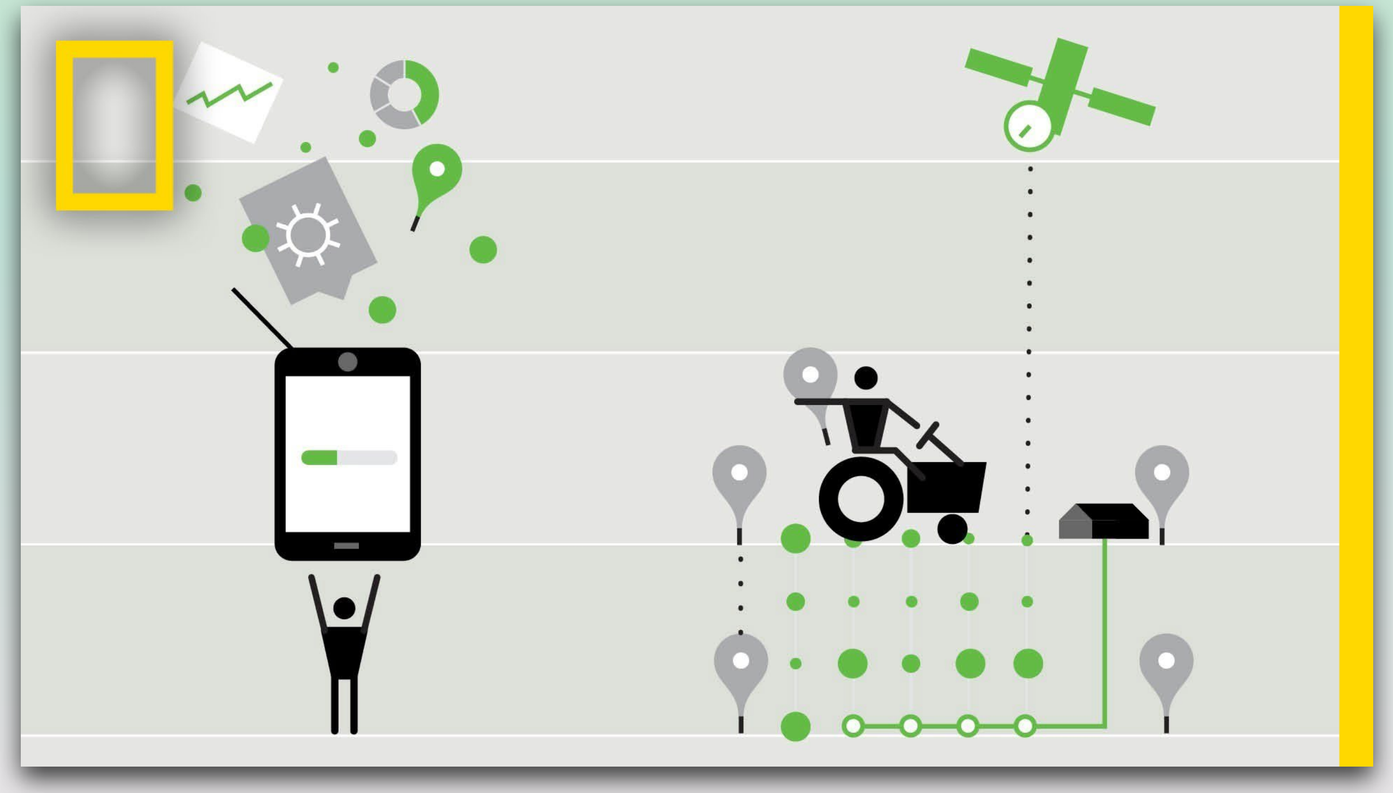
Technologies

- Auto-steering of equipment
- Maximize field use and decrease overlap of crop planting and fertilizer and pesticide application
- GPS systems of various types
- enable auto-steering and other technologies
- Variable rate seeding, fertilizer and pesticide application
- Yield monitoring systems mounted to harvesters
- Remote sensing to collect data about field health and responses to management strategies

Benefits

- Precise nutrient applications
- Precise pesticide application
- Variable rate irrigation
- Ability to see what is happening in the field
- Limiting trips over the field
- Lowers compaction
- Reduces fuel consumption

For more information



What happens when farming goes high-tech?

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