Intro to Ag
Precision Ag - Lesson 1, Part A

What is Precision Agriculture?

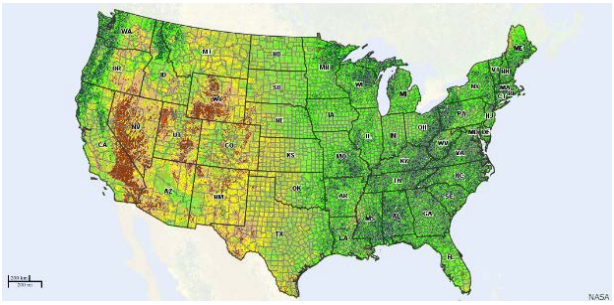
- A method of farm.
- Includes planting:
  - The right
  - At the right
  - At the right
  - At the right
  - With the right _____ and other _____.
- _____ is often used to help the operator make _____ _____.

Precision Agriculture History

- _____ Information System (GIS)
- _____ and _____ Monitor
- Global Position System (_____)
- Advanced _____, _____ and _____
- _____ Sensing

Geographic Information System (GIS)

- Allows user to _____, _____ and _____ information about individual points on a map.
  - Created by _____ in 1960s.
  - Only government and large industries could _____ it.
  - Now in almost every aspect of _____, _____, research and _____.



Yield and Moisture Monitor

- Introduced in the _____.
- Mass _____ Sensor
  - Captured the _____ and _____ of grain being harvested.
- _____ Sensor
  - Took _____ on the moisture in the grain and _____ of combine.
- Displayed the _____ being harvested.
- Did not record _____ for _____ use.

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Does the moisture of grain matter?

- One _____ of corn weighs _____ pounds.
- Determine the amount of corn you are actually purchasing in the following situations:
  - 100 bushels at 15% moisture = _____ pounds of actual corn.
  - 100 bushels at 23% moisture = _____ pounds of actual corn.
- Does knowing the moisture matter? Explain why or why not. ***(T,P,S)***

Global Position Systems (_____)

- GPS became available to _____.
- GPS was added to Yield _____ Systems.
  - Could now track _____ of crop being harvested.
  - _____ could now be _____ for future use.
  - _____ could now be created and printed.
  - Maps could be used for year-to-year _____.

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Advanced Sensors, Monitors and Meters increased the "precision" in Agriculture

- Sensors can:
  - Track:
    - _____ of seeds planted per foot
    - If _____ seeds are planted at one spot
    - Seed _____
    - _____ planter
    - _____ of seed
    - _____, _____ and _____ of soil.
    - Type of _____
    - _____ level
  - Drive our tractors _____
  - Etc.
- Meters:
  - Allow users to _____ the rate of delivery of "_____" on the run.
    - Uses of a "_____"
    - Spreaders, sprayers, planters and irrigation units have _____ that can vary _____ rates based upon prescriptions.

Remote Sensing

- _____ are collected
  - Identifies variation in plant _____ and _____ conditions
- Introduced in the late 1990s
- Slow start
  - _____ and _____ delivery
    - Few satellites for _____ use
    - Sky needed to be _____
  - Very _____
- More _____ and _____ now
- Unmanned Aerial Vehicles (UAV) aka "_____" now being used
  - Higher _____
  - Less affected by _____

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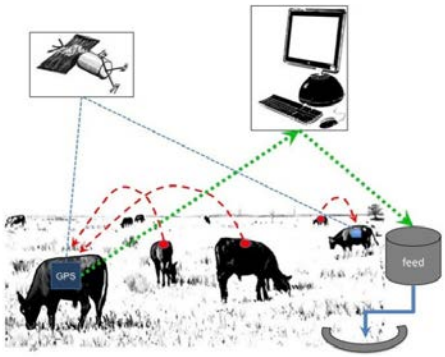
What about the Future?

- Detection "_____":
  - _____ health
  - _____ utilization
  - Soil _____
  - _____ utilization
  - Weed, insect, disease _____
  - _____ condition
  - Rotate _____ using GPS
  - Virtual _____
  - Etc.



Precision Agriculture Vocabulary Fun

- Use the following link to learn and practice vocabulary related to Precision Agriculture.
  - https://quizlet.com/join/mPXWZnyG3

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