

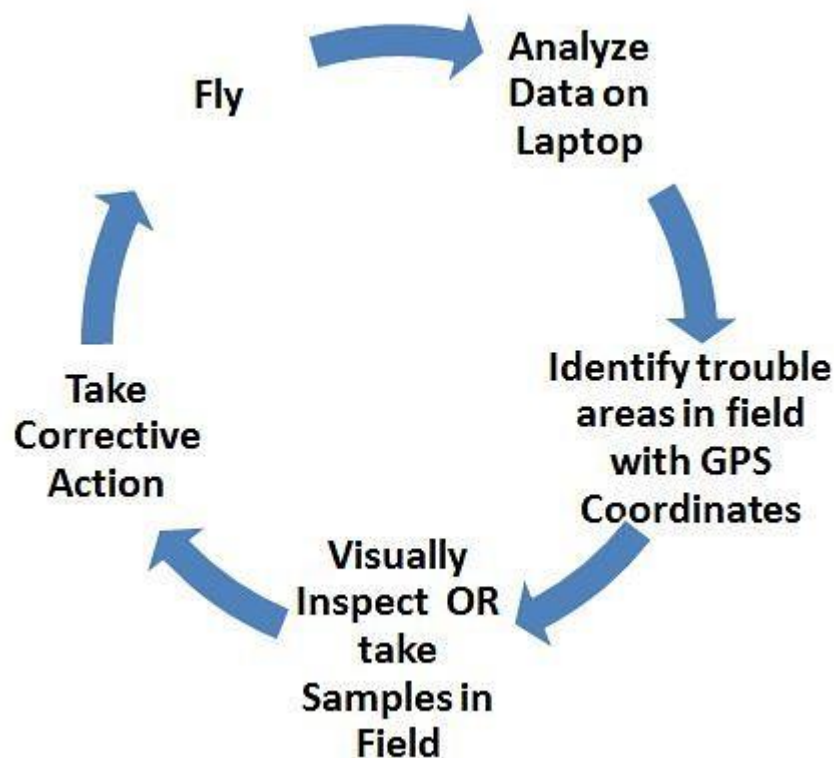
HOW CAN AERIAL NDVI MAPPING BE USED IN MY CURRENT WORKFLOW?

Unlike satellite remote sensing, UAV remote sensing is timely (i.e. can be taken precisely when needed for example during critical growing season events such as plant emergence or pollination), high resolution (i.e. centimeters squared versus tens or hundreds of meters squared), and less affected by environmental conditions (i.e. can fly under cloud cover).

The progression of the crop can be altered by remote sensing by:

- Detecting and locating gaps in the crop during plant emergence and providing the information needed to reseed the affected rows
- Detecting and locating drainage problems and providing information needed to take corrective action (i.e. reseed affected areas, level fields, insert drainage tiles etc.)

Detecting and locating diseased or stressed crops so that corrective action can be taken (i.e. identify where pesticides, fertilizer or water should be applied). Early detection and corrective action will impact crop yield and the progression of the crop.



The GEMS system helps optimize the workflow. The GEMS hardware and software enables rapid processing and analysis of the imagery data to identify trouble areas. The GPS coordinates of selected image pixels are output to a file to enable easy return to the troubled areas using a handheld GPS receiver. The GEMS system enables the imagery data to be processed in the field on the user's personal computer. This eliminates the need for expensive and time consuming uploading and downloading of the imagery to the cloud, expensive licensing fees, and expensive per acre cloud computing fees. The data remains securely in the user's hands. The processing can be done in the field and a

crop consultant can be in the loop during the entire process. After GPS coordinates are identified the expert can be directed to the exact location for further visual inspection.

