

# USING TECHNOLOGY AS PART OF YOUR SCOUTING PROGRAM

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## Scouting



- Scouting is a valuable tool in protecting the yield potential of our crop genetics.
- The adoption of technology has improved the efficiency of scouting.
- High resolution imagery technologies are now available which allow a producer to have their fields flown over and provide a detail map of the crop conditions.
- There are various imaging technologies available but selecting the best for our needs will depend on our end goals.

Current corn and soybean genetics have an estimated yield potential of 600 bu /acre and 200 bu /acre respectively. Scouting is a valuable tool in protecting that yield potential and achieving maximum productivity. The adoption of technology not only to produce high yielding crops but also to improve the efficiency of scouting has made agricultural production more profitable over time. These scouting technologies include predictive modeling, sensors and imagery to monitor plant health and maximize the efficiency of farming operations. There are many types of imagery with different resolution settings to choose from based on your individual goals. That added to the multiple satellites, drones, and fixed wing aircraft options can make selecting the correct package challenging.

We often walk fields at emergence to evaluate stand establishment. This method is logistically time consuming and only provides a small sample from each field to help us

make large scale decisions. High resolution imagery technologies are now available which allow a producer to have their fields flown over and provide a detail map of stand counts across the entire field. Logistically hundreds of acres can be covered more thoroughly in the amount of time it takes to walk a few fields to spot check stand emergence. In addition to stand counts, crop health can also be evaluated using imagery such as NDVI and thermal to detect crop symptoms that aren't visually evident. This can provide spatial information of potential problem areas in your field to then target your scouting and, if needed, remediation efforts to protect yields. As crops grow and mature, walking entire fields becomes more difficult to execute, so imagery results can guide scouting and give you a more accurate assessment of crop conditions.

### **KEYS TO A SUCCESSFUL SCOUTING:**

#### **Use higher quality resolution earlier in the growing season.**

- It seems like common sense but the smaller the plant the higher the resolution required in capturing a quality image. When choosing an imagery resolution remember that the lower the number, the higher the quality of the image.

#### **Think of satellite imagery as a refining tool.**

- As crop biomass shades rows and canopies, satellite imagery can be used to target specific areas in a field to visit or fly with higher resolution.
- Satellite imagery generally has a cost advantage and usually can be utilized on the whole operation for only a few pennies per acre.

#### **Document findings.**

- As we ground truth imagery, document what image(s) best provided a certain type of information. This will be helpful as we interpret future images and develop actions.

#### **Track yield results of applications.**

- When imagery suggests that an action is needed, conduct research that compares yield and ROI from applications.
- Conducting a MiField Applied Research trial with imagery can provide insights into practical applications of these technologies.
- At harvest, layering images generated for yields with other key data can provide farmers with further information that they can utilize in future cropping plans.

Knowing the type, when, where, and how often to use imaging technology will depend upon what results or objectives we are trying to achieve. There are numerous applications available to use but to select them we all should begin with our end goal in mind. How can I achieve the highest yield potential on every acre?