



**SWATMAPS**

*Unlock Your Yield Potential*

FARMER BROCHURE | 2024

## UNLOCK YOUR YIELD POTENTIAL

What is the Yield Potential Package (YPP)? This is the next stage in the SWAT MAPS process, it allows full-farm SWAT MAPS farmers take the next step in their precision agriculture journey. It provides premium in-crop services and industry leading yield analytics.

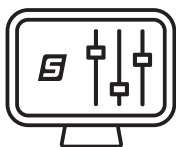
## THE BENEFITS

Throughout the season and in preparation for future refinements, these benefits and services will take your farm management to the next level of profitability.



### Better Data for In-Crop Decisions

SWAT WATER maps, SWAT CAM crop and weed imaging, and satellite imagery provide high resolution details on the soil moisture, crop establishment and biomass density of your fields. This data along with the SWAT MAPS and Yield Analytics provide a deep level of knowledge about in-crop decisions.



### In-Crop Prescriptions

Utilizing VR/on/off prescriptions for any in-crop application provides a significant opportunity for reduction of pesticide and fertilizer use. SWAT WATER, satellite imagery and SWAT MAPS could be used as base layers for these prescriptions.



### View Your Entire Field from Your Phone

With SWAT CAM mounted on your sprayer, you'll capture images of your field every 50-70ft, this gives you the ability to view plant establishment throughout the season and analyze your seeding rate vs plants per square feet.



### Industry Leading Yield Analytics

Our yield cleaning and subsequent data analytics provides detailed field by field performance evaluations to aid in profitability assessments.



### Compare Analytics Year After Year

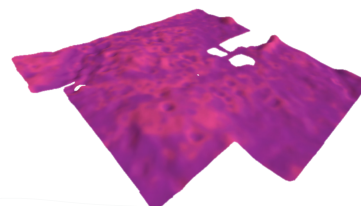
Choose more accurate target yields and make decisions on how to allocate resources based on zones and real data from your fields. See which areas require further investigation with additional soil or tissue testing.

## THE PACKAGE

Crop variability is influenced significantly by soil variability, therefore the Yield Potential Package is only available to farmers who have already unlocked their soil potential.

### 1 SWAT WATER

Using SWAT MAPS as the base layer, SWAT WATER takes detailed soil moisture sensor data, to create a soil water map. SWAT WATER calculates your field's moisture holding capacity, plant available water, and days to stress by zone. This information can be used for fertilizer top-dress applications, fungicides, growth regulators, and variable rate irrigation. To implement SWAT WATER on your farm, a weather station and soil moisture probe are required.

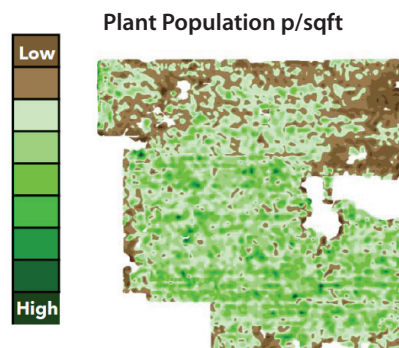


## 2 SWAT CAM

SWAT CAM is an automated imaging system designed to capture, assess, and evaluate crop establishment and weed pressure. The SWAT CAM is mounted to a sprayer (one SWAT CAM on each boom) and captures images every 50 to 70 feet. These images are automatically uploaded to SWAT RECORDS where our software isolates the crop versus weed leaf area as well as plant stands for certain crops.

### Plant Population Maps

Plant population maps are generated using the data collected from SWAT CAM. It provides a more accurate biomass map because it only includes the crop in the seed rows.



### Correlation Report

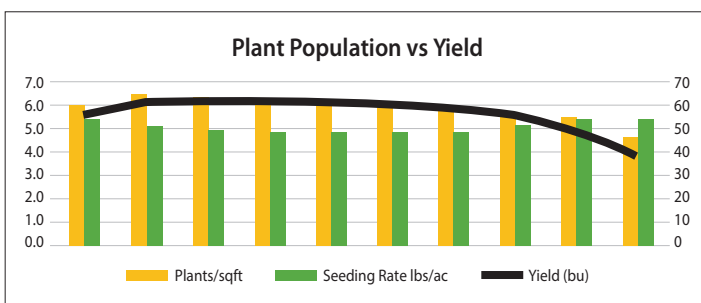
Correlation shows if the plant population, weed, or crop coverage has significant impact on yield. Correlation values of 0.7 or higher are considered 'strong'; values above 0.3 and 0.5 are 'weak' or 'moderate'. Anything below 0.3 is insignificant. Rating the correlation is important because values considered not significant or weak indicate yield is being limited by something other than weeds or plant establishment. For example, yield could be limited by disease or insects that occur after plant and weed coverage is measured.

### Correlation Report

	Yield
Plants/sqft	0.346
Weed % Coverage	-0.305
Crop % Coverage	0.307

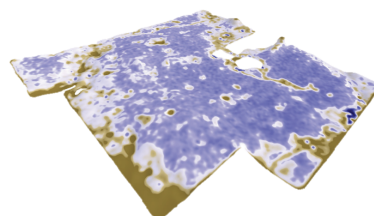
### Plant Population vs. Yield Report

Compare plants per square foot seeding rate and yield by zone. This shows how mortality rate differs in each zone and whether it could be effecting crop yield. Fewer plants and higher seeding rate is considered bad. More plants with a lower seeding rate is considered good.



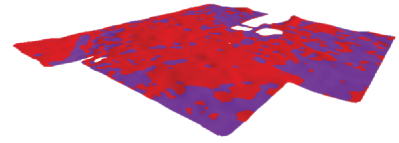
## 3 SATELLITE IMAGERY

In season imagery can be helpful for monitoring all factors of your crops variability, not just soil and water. NDVI based maps are a great resource for writing VR on/off fungicide, crop desiccation, and plant growth regulator (PGR) prescriptions. When incorporated with your SWAT MAPS data layers, they can be used to enhance nitrogen topdressing prescriptions as well. One image is provided per field during your growing season.



#### 4 CROP PRESCRIPTIONS

Maximize your yield potential with real time crop variability and responses. Incorporated with SWAT MAPS data layers your SWAT MAPS service provider can write prescriptions for applications like on/off VR fungicide, plant growth regulators, top dressing, and crop desiccation. You'll have access to unlimited in season prescriptions. This step is crucial for increasing your yield and cost savings as well as using real time variability for treating relevant areas of your field(s).

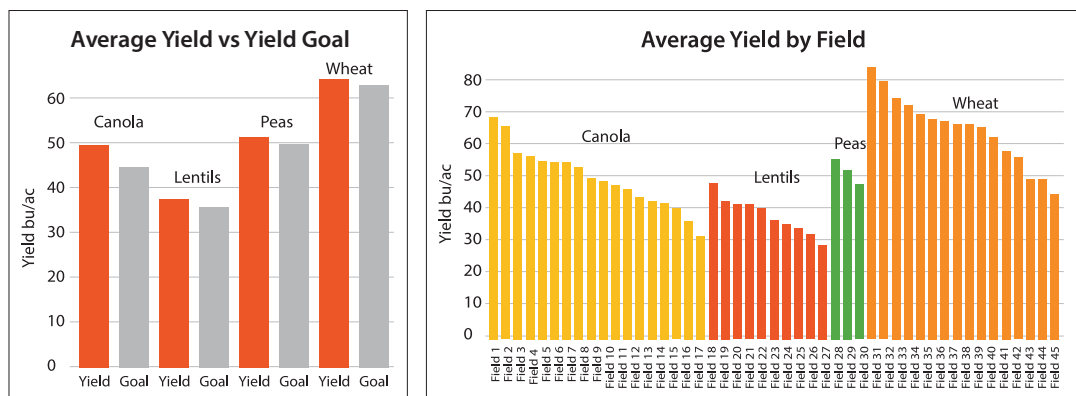


#### 5 YIELD ANALYTICS

This is the heart and soul of the Yield Potential Process. With properly cleaned yield data, yield analytics allow you to compare target vs. actual yields to adjust future targets to be more accurate, forecast profit and compare actual profit by crop and zone to identify zones with poor return and use this to adjust future strategies. Linking your yield to SWAT zones will help you understand yield trends by zone, by field, and spatial yield stability for better performance by zone and risk.

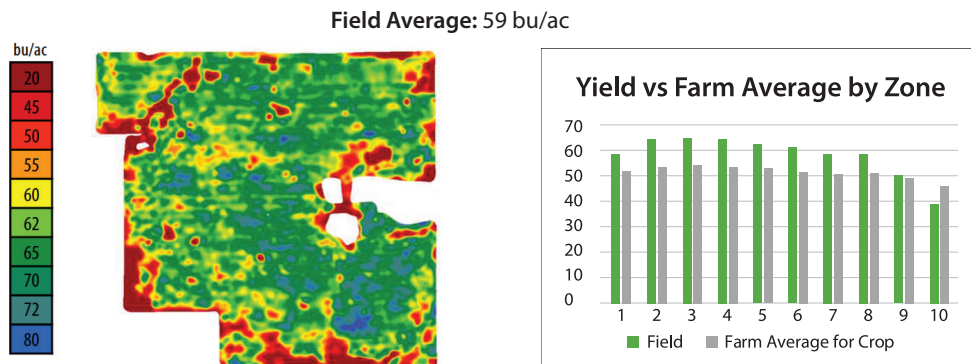
##### Farm Report

The Farm Report section of the Yield Potential report is a higher level overview of your year. It gives a summary of the acres per crop and zone, compare actual yields to targets, soil test trends across zones, variety performance, and yield by zone for all fields.



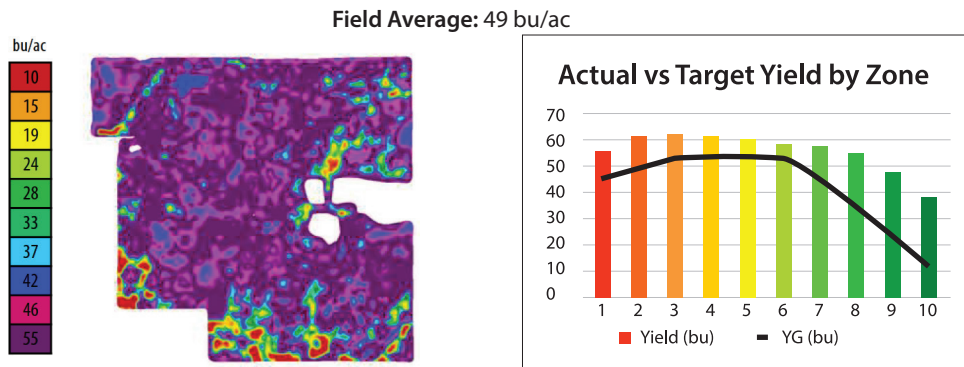
##### Yield Maps

The adjacent chart compares the average yield by zone for the field with the average for all fields of the same crop for the current year. This allows you to compare the field performance against the rest of the farm. Knowing whether this is an above or below average yielding field can influence further management decisions.



## Target Yield Maps

In the Target Yield section the map has been created based on the target yields set by the agronomist at the beginning of the season. This allows you to see how the field preformed based on what was predicted and fertilized for. The associated graph shows the average yield in each zone compared to the target yield in the black line.



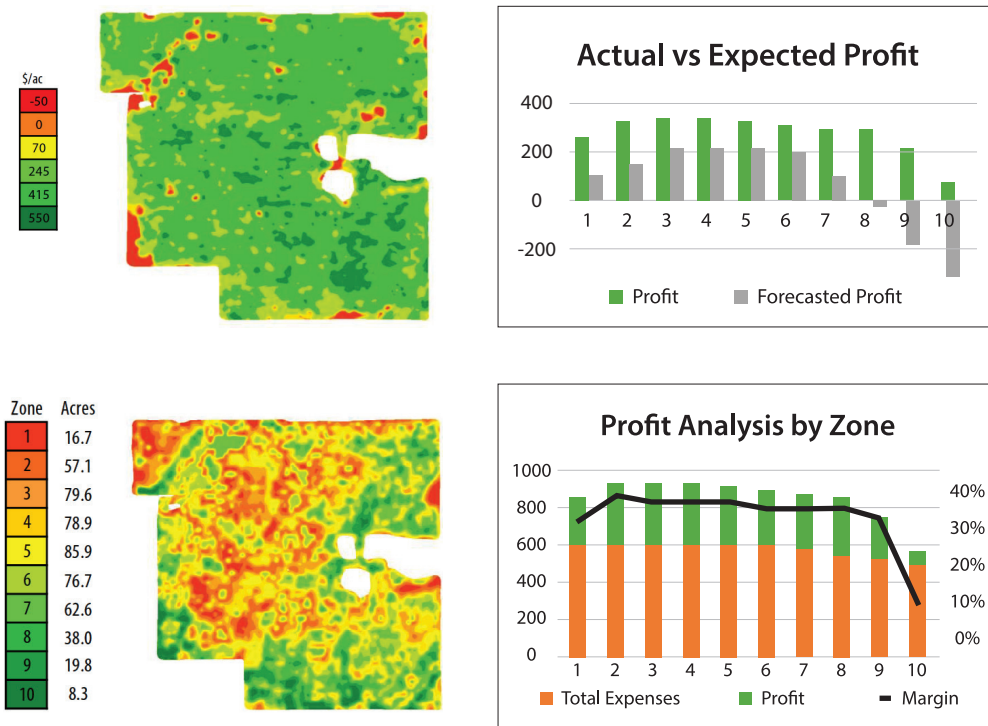
## Profit Reports

Calculate what the profit would be for each zone based on the target yields at the beginning of the season and calculate margin by zone to identify parts of the field or specific SWAT zones that consistently have poor returns to guide future management.

**Average Profit: \$295.82**

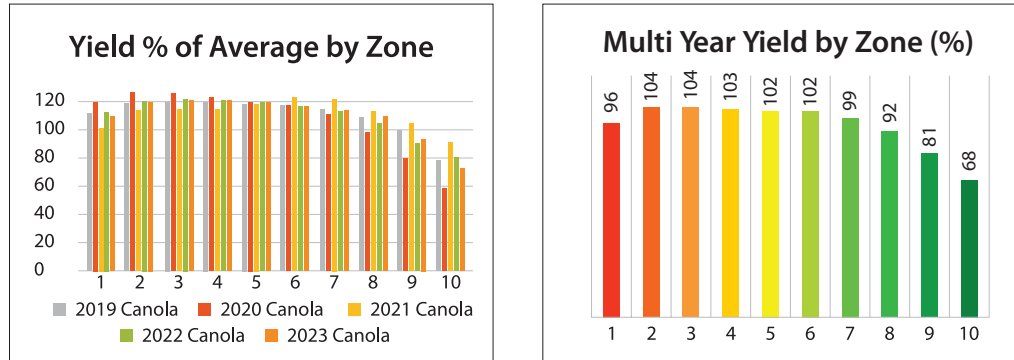
**Average Income: \$888.97**

**Average Expenses: \$594.14**



### Multi Year Maps

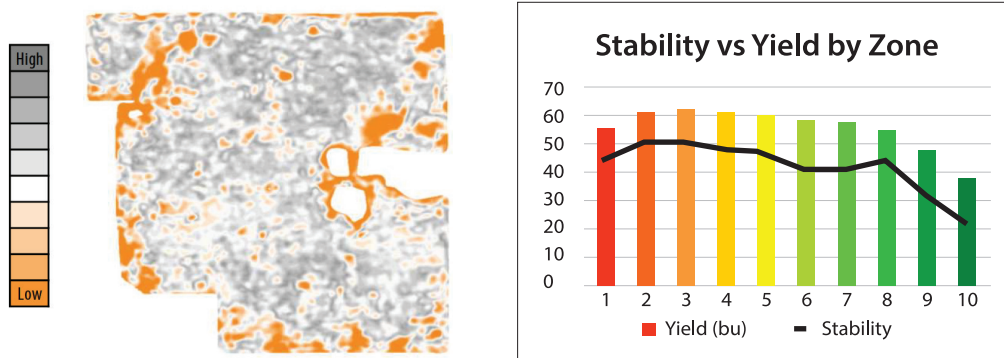
This report requires a minimum of three years of yield data to complete. To create this report, yield maps for each year are normalized by dividing the yield values by the mean. Normalizing allows us to compare yields between different crop types and environmental conditions without bias. Next, normalized yield maps are averaged together to create the Multi-Year map which is then summarized by SWAT ZONE.



### Multi Year Stability

The Multi Year Stability Report was created to identify the areas in the field that swing from low to high yielding depending on the year. These are also areas that can get lost in a regular Multi Year map because they may appear to be average yielding over many years.

The stability map is created using a statistical analysis of each year of yield data. The orange areas of the field are those that are most likely to change from year to year. The areas that are dark grey are the most stable and will either always yield high or low year after year. The stability map is then analyzed by zone to show which zones are most likely to behave this way. The colour range from grey to orange is relative to each field. So even if all zones are less stable than the farm average the map will still highlight the areas in the field where yield is least stable. The field can be compared to the farm average using the bar graph at the bottom of the report.



## 6 SWAT CERTIFIED

If you implement SWAT MAPS on your entire farm and follow the list of qualifications (available online), you're eligible to be SWAT CERTIFIED, recognizing your commitment to environmental stewardship. An Advanced 4R Report is available to validate your farm practices.

## THE SWAT RECORDS APP

SWAT RECORDS is our software that runs the entire SWAT ECOSYSTEM, think of it as the foundation. Our mobile app is free to download in the App Store and Google Play Store. Use SWAT RECORDS with ease from your phone, tablet or computer.

### You Own Your Data, Always

We take your data seriously and are committed to protecting your privacy. You will always own your data

### Rural Connectivity

The app works without a cellular or wi-fi signal; any changes made are saved in the app and synchronized when connection is re-established.

### Access All Your SWAT MAPS and Files in One Place

View the SWAT MAPS for each of your fields. The maps can be viewed in the app and are georeferenced for ease of use when scouting. View all the fields and farms you manage on one screen. Colour code your field outlines by crop. Navigate easily for scouting and sampling.

### Farm Record Keeping

Record details for fields, farm equipment, seeding, fertilizing, spraying, harvest and other jobs in the app. Track the history of all your field operations by year.

### Field Scouting and Recommendations

Input your field scouting data for weeds, insects, and diseases and view recommendations from your SWAT MAPS service provider directly in the app.

### View Soil Sample & Tissue Test Results

Soil sample and tissue test results will be directly imported to SWAT RECORDS by your lab or service provider. SWAT RECORDS connects with many labs globally, with more labs added regularly.

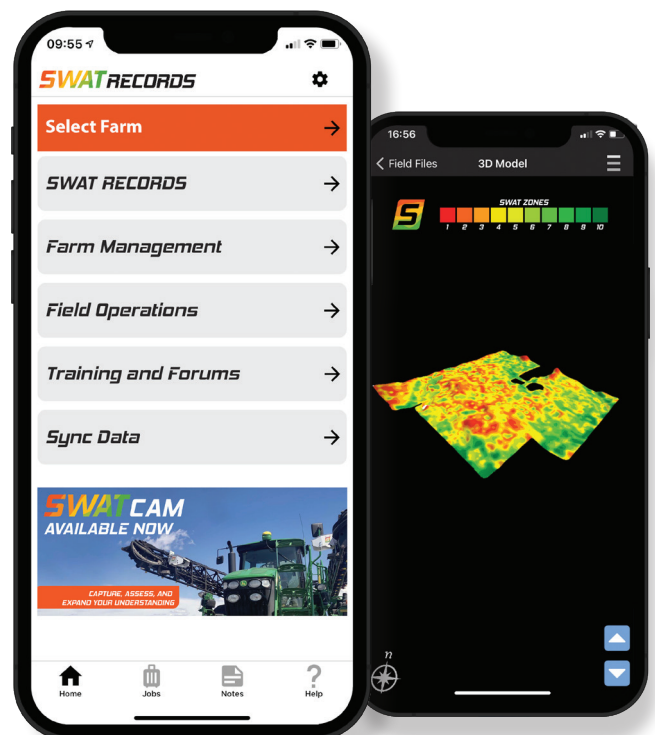
### Connections

Share your SWAT MAPS, SWAT WATER maps, flow paths and more with the apps listed below. With more connections being added regularly, get the most out of our software and unlock your soil potential today!

### Access the SWAT SUPPORT Portal

View frequently asked questions, quick start guides, blogs, and other SWAT MAPS content directly from your app. Check it out online: [support.swatmaps.com](https://support.swatmaps.com).

Download the FREE app today!





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