



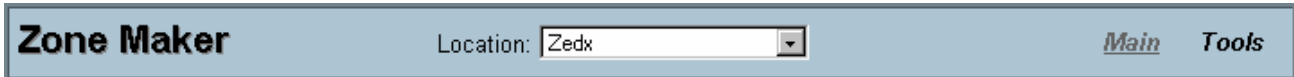
Zone Maker

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Introduction to Zone Maker

The Zone Maker module is designed to create infield management zones based on data sets that have been previously uploaded. A Smart Sampling Tool is also included to create reference points for future sampling locations.

The page header is used as a navigation bar to select the Location from the menu (available only to users with access to more than one location) and to select the Zone Maker components.



Header/Navigation Bar

The Zone Maker module has two components:

- The **Main page** is where you can view analysis data and create management zones. You can also place Smart Samples using the Smart Sample tool. Data can be exported as variable rate controller files from this page or sent to the PDA to use with the AgFleet PDA software.
- The **Tools page** is where you can combine saved zones from various fields and export data gathered from the AgFleet PDA software.

NOTE: In order to create zones in Zone Maker, the Field selected must have a Boundary and have some form of analysis data that has already been uploaded into the system. The forms of data needed to create zones include:

- Lab Analysis data
- Veris data
- Aerial Imagery
- Satellite imagery
- Infrared Reference
- Vegetation Index
- Light Reference
- Soil Zone
- Yield data

Main Page

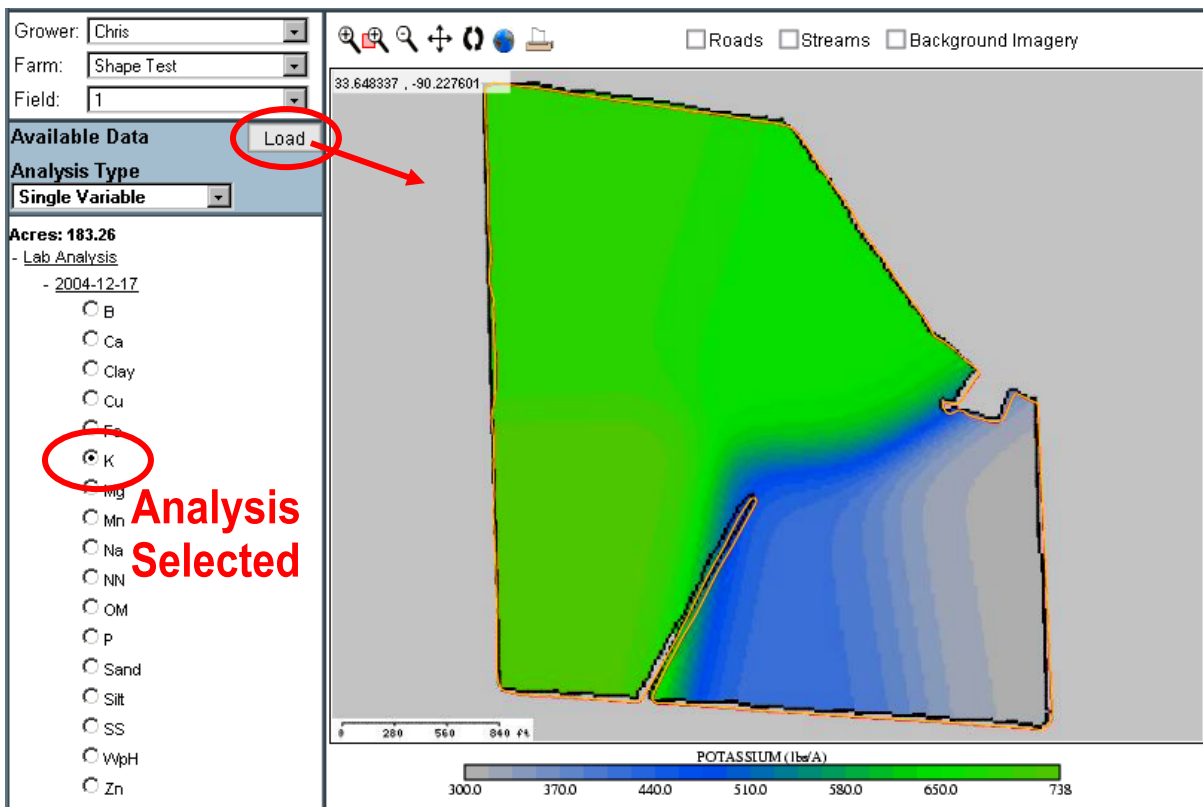
This is where you view the analysis data and generate the zones. The basic step for this page is to select the Profiles from which the analysis data can be selected and zones created. If the Location menu is available on the Header, select a Location first. Then select the Grower, Farm, and Field from the profile menu. If the Field has stored analysis data, it will appear beneath the profile menu.

The Boundary map will also appear on the Map display area. Use the navigation icons above the Map display to adjust the view of the boundary.

Viewing Analysis Data

Choose the analysis data that will be displayed from the list below the profile menu. If it is available, you can choose to select a Single Variable or Multiple Variables from the Analysis Type drop-down menu.

With a **Single variable**, click on a data name to open a list of data, select the correct date (if applicable) and select the radio button of the data you want to display on the field. (e.g. Choose Potassium from the Lab Analysis) Then click the 'Load' button.



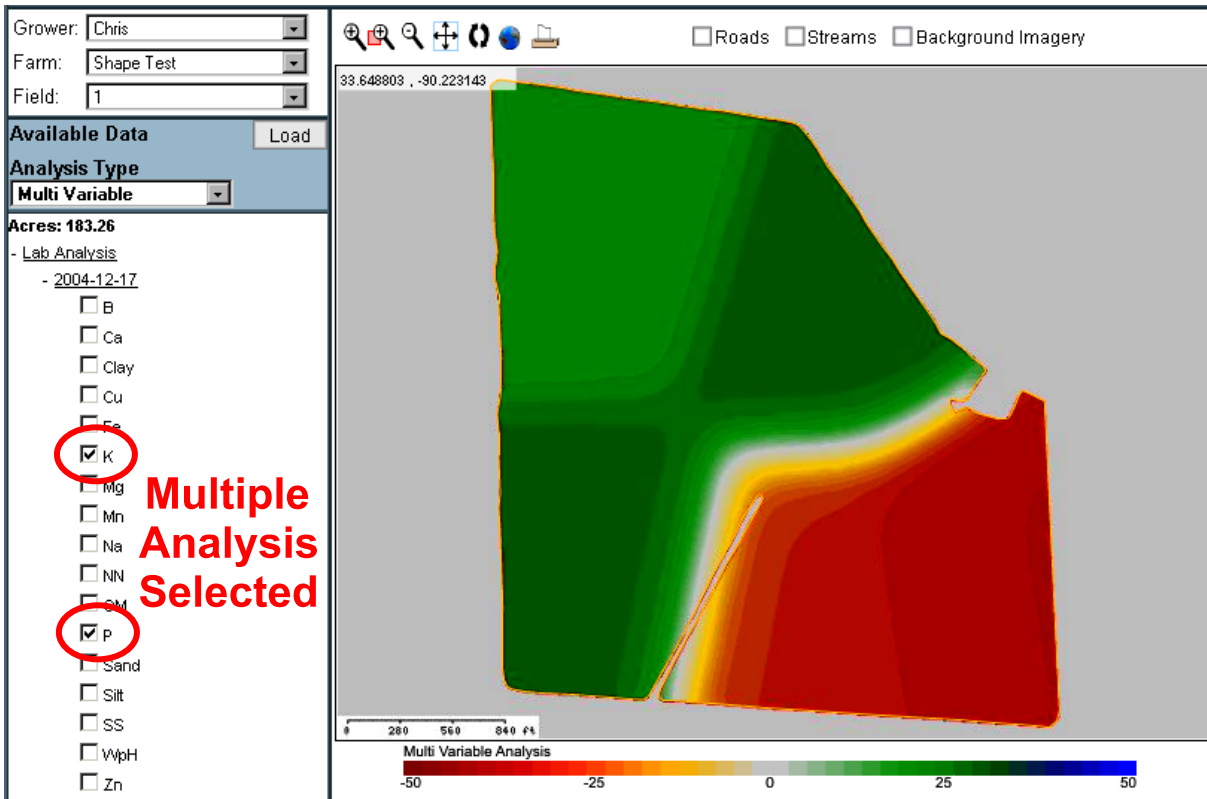
Example of a Single Variable Load of Potassium Data

Observe the number of acres for the field selected below the Analysis Type. The Map display will show the data in the colors set up in the Custom Color Scales tool of Data Manager. The scale is shown below the Map display.

ZONE MAKER



With **Multiple variables**, you can analyze more than one variable of data. Just click the check boxes of all the variables you want to analyze, and then click the 'Load' button. When multiple variables are selected, a relative color scale is used.



Example of Multiple Variable Loads of Potassium and Phosphorus Data

The colors shown on the Map display and the Multiple Variable scale represent how the data is correlated. Select data that can be correlated using the following reference:

- The colors on the left side of the scale represent the correlated data to be the lowest values for the data variables selected.
- The colors on the right side of the scale are correlated to be the highest values for the data variables selected.
- The white color can represent too much variability between the data variables or the values of the data variables are all close to an average amount.

The management zones can be created using the current layer of data, whether you are using a single variable or multiple variables. The management zone is tailored to the data selected. If the data is not available, the management zone will not be generated. Smart Sample Points can also be laid out using the loaded data.

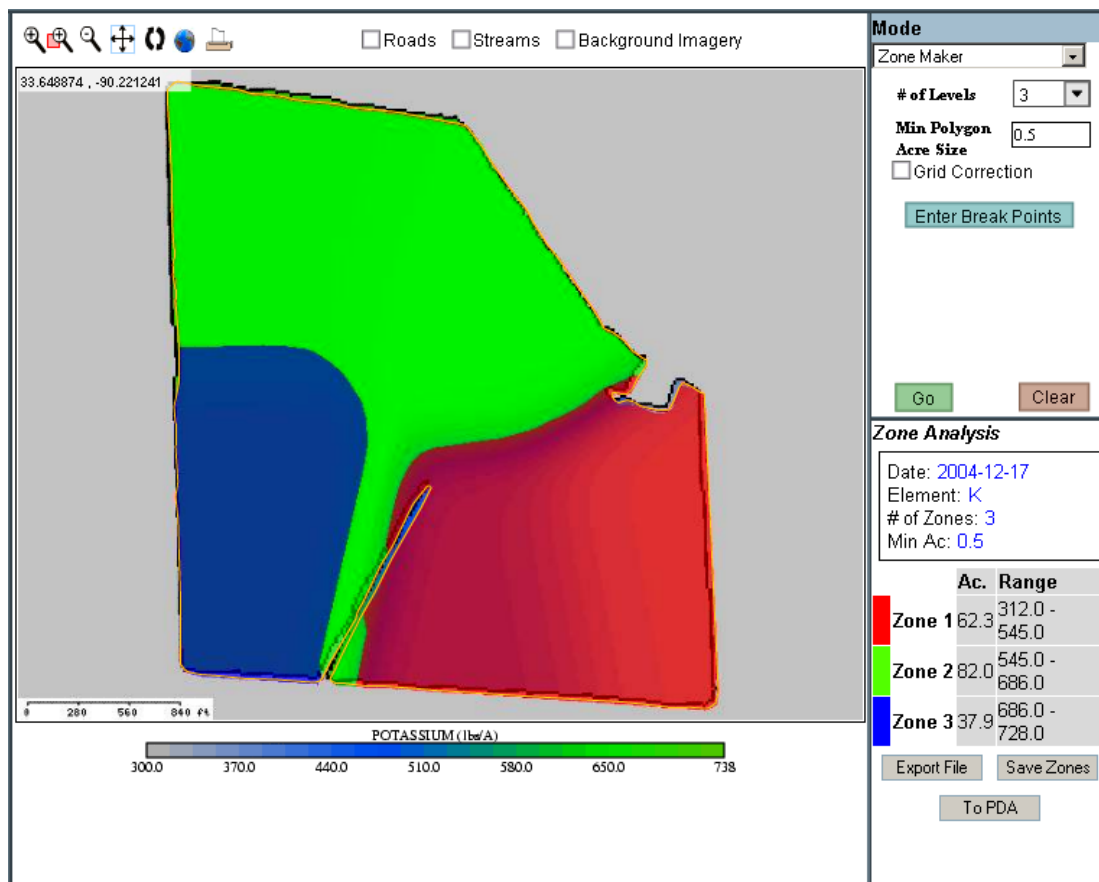
ZONE MAKER



Zone Maker Mode

The management zones are generated using the layer of data currently loaded and will be displayed over the layer of data.

- Select the Number of Levels that will display the number of zones. The default number of zone levels is **3**, and you can choose up to 7 zone levels.
- Select the minimum size per acre of these zones. The default size is **0.5** acres. Type in the desired minimum size of the zones if desired.
- If the application requires grid limitations, check the Grid Correction checkbox. Enter a Heading (from 0° to 360°), as well as a Width and Length (both in feet). The zones will be corrected to include these guidelines, which can be very useful for aerial applications.
- The zone levels are automatically divided into break points based on the current data. When you want to manually enter break points, click the 'Enter Break Points' button.
Do not click the 'Enter Break Points' button unless you are sure you want to enter break points.
- Click the 'Go' button to generate the zones. The map may take some time to generate.



Example of Three Zones laid over Potassium data

ZONE MAKER



The Zone Analysis, displays the information of the zones. To adjust this information you can change the analysis data, zone levels, break points and/or minimum acre size at any time and then click the 'Go' button. Click on the 'Clear' button to remove the zone data from the Map display.

Exporting Zones

The management zones can be used to create application data useful for management practices. You can create controller files to run spreader machines by entering application rates for each zone displayed. There are two ways of entering the application rates for each zone.

Export Zones for Liquid Applications

Click the 'Export File' button to open the Exports window. Read the following steps to understand the exporting process.

1. In Step 1, select 'Liquid Solution' as the Product Type and choose the required Export Format. Start with the 'View PDF' format to view the details of the application rates.

The screenshot shows a web-based interface for exporting zones. It is divided into two main sections: "Step 1: Start Selection" and "Step 2: Select Products and Rates".
In Step 1, there are two dropdown menus: "Product Type" set to "Liquid Solution" and "Export Format" set to "AgChem TIFF". Below these is a green box with white text providing instructions for Deere files: "For Deere Files: Please make a 'Deere Folder/Deere Folder Comined' export. Then enter your correct email address when prompted. A John Deere folder will be created and emailed. A .png graphic file will also be attached to the email for comparison."
Step 2 features a red warning message: "It is the user's responsibility to ensure solutions are mixed in a proper manner in accordance with the manufacturer's guidelines." Below this is a "Number of Products" dropdown menu set to "2" and a "Create Form" button.

2. In Step 2, select the number of products that will be used in the solution and click the 'Create Form' button.

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- Type in the Average Rate of the sprayer in **Gal/Ac**. The Average Rate will always default to 5 Gal/Ac. Then type in a Batch Size in **Gal**. If it is not needed, the Batch Size can be left blank.

Average Rate (Gal/Ac)

Batch Size (Gal)

Category **Base Product**

Product

Select Average Rate Zone

	Ac	Ac/Gal	Chem Oz/Ac	Spray Gal/Ac	Total Oz	Total Gal
<input checked="" type="radio"/> Zone 1	62		or 20	3.33	1240	206.46
<input type="radio"/> Zone 2	82.7		or 30	5	2481	413.5
<input type="radio"/> Zone 3	37.6		or 40	6.67	1504	250.79
Total					5225	870.75

Category **Secondary Product**

Product

Spray Gal/Ac will be calculated based on the first chemical

	Ac	Ac/Gal	Chem Oz/Ac	Calc Oz/Ac	Spray Gal/Ac	Total Oz	Total Gal
<input checked="" type="radio"/> Zone 1	62		or 10	7.99	3.33	495.38	206.46
<input type="radio"/> Zone 2	82.7		or 12	12	5	992.4	413.5
<input type="radio"/> Zone 3	37.6		or 15	16.01	6.67	601.98	250.79
Total						2089.76	870.75

Calculate

Export Zones

View of the Liquid Solution Export page

- Select the Category and a Product name for the base product of the solution. Repeat this step for any secondary products. As in the example above, two products were chosen, where the Herbicide is the **base** product and the Insecticide is the **secondary** product.
- Using the radio buttons on the left of the base product, select the zone that is estimated to receive the Average Rate entered.
- Enter the required amounts, in either Ac/Gal or Chem Oz/Ac, of undiluted product for the base product in each of the zones. These amounts will be used to calculate the Spray Gal/Ac. Repeat this step for any secondary product.
- Click the 'Calculate' button. The Spray Gal/Ac, Total Oz, and Total Gal columns will be calculated.

The undiluted amounts for the secondary product will be adjusted in order to obtain the same Spray Gal/Ac of the base product, as shown in the example, previous page.

- Click the 'Export Zones' button to generate the file format selected in Step 1.

Export Zones for Dry Fertilizer Applications

Click the 'Export File' button to open the Exports window. Read the following steps to understand the exporting process.

1. In Step 1, select 'Product' as the Product Type and choose the desired Export Format. Start with the 'View PDF' format to view the details of the rate maps.
2. In Step 2, select the Category and the Product(s) that will be applied. Click the 'Add Product' button for each product selected.
3. Type in the rates of application for each zone beneath each product name. The total amounts for each product will be displayed beneath each column.
4. Click the 'Export Zones' button on this window to generate a file with the data in the export format selected.

Step 1: Start Selection

Product Type

Export Format

For Deere Files:
Please make a "Deere Folder/Deere Folder Comined" export.
Then enter your correct email address when prompted.
A John Deere folder will be created and emailed.
A .png graphic file will also be attached to the email for comparison.

Step 2: Select Products and Rates

Category

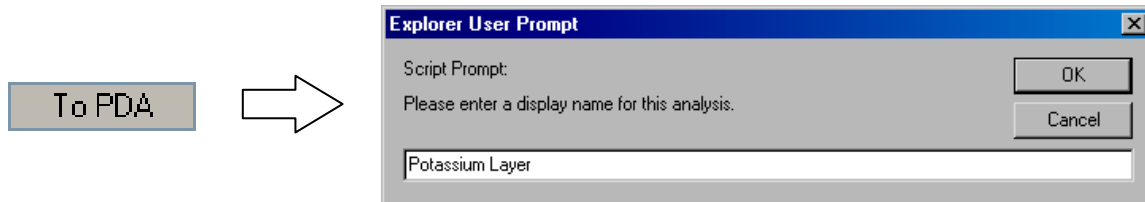
Product

	Ac	AN 34 <input type="text" value="X"/>	DAP <input type="text" value="X"/>
<input type="checkbox"/> Zone 1	63.7	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Zone 2	72.7	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Zone 3	46.3	<input type="text"/>	<input type="text"/>
Totals (Lb/Ac)		<input type="text"/>	<input type="text"/>

[View of the Dry Fertilizer Export page](#)

Export Zones to PDA

Click the 'To PDA' button to send the zones to view in the AgFleet PDA software. This will save the current zones as an overlay. The following window will open.



View of Zones Copy to PDA window

Type in the name for the current zones. It is called a 'layer' to view in the PDA software. After synchronization the layers will appear on the PDA in the Zone Scouter mode (Please refer to the AgFleet PDA Software manual for more details). Create and save up to 20 layers in the same manner to be viewed on the PDA.

The zones exported to the PDA are used to define the rates of application for each zone. Once the rates are entered in the PDA software, they will be synchronized back to the Analysis page in Zone Maker.

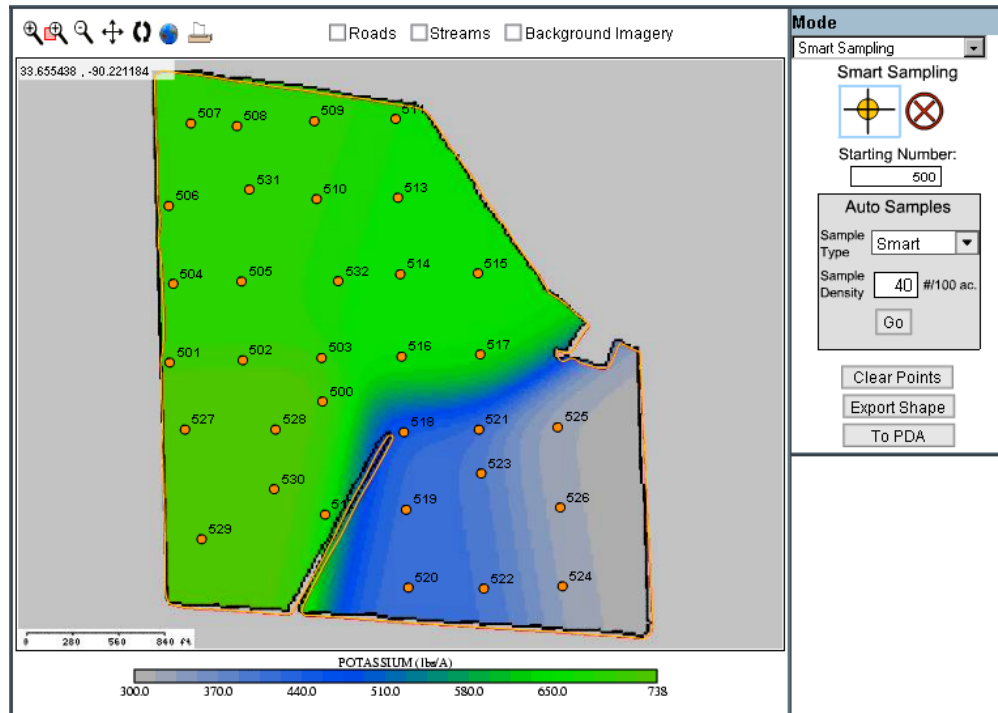
Saving Zones

Certain variable rate applications can apply to more than one field, such as fields that are close together. This requires that the zones created are combined. In order to combine zones from two or more fields into one variable rate file, click the 'Save Zones' button. This will save the current zone information for later use in the Combined Zone Export mode and the Saved Zone Management tool located in the Tools page. Only one layer of zone information can be saved per field.

After saving the Zones for each field, combine the zones using the Combine Zone Export mode in the Tools page. Also in the Tools page, the Saved Zone Management mode is used to deleted saved zones as well as send one or more saved zones to the PDA at once.

Smart Sampling Mode

You can create sample point locations by laying smart sample points over the data layer map or the zones. Type in the sample number of the first smart sample point, select the Point tool (yellow circle with cross-hairs) and begin clicking points on the map.



Example of Manual Smart Sampling

The Auto Samples box creates sample point locations using the current layer of data. After typing in the number for the first sample, select the Sample Type from the menu, type the number of points for every 100 acres in the Sample Density and click the 'Go' button.

To remove one point that does not look right, select the remove tool (red circle with 'x') and click the point. If many or all of the points placed are incorrect, click on the Clear Points button to remove the points and start over adding points.

Exporting Smart Sample Points

The Smart Sample points can be used with third-party software and with the AgFleet PDA software.

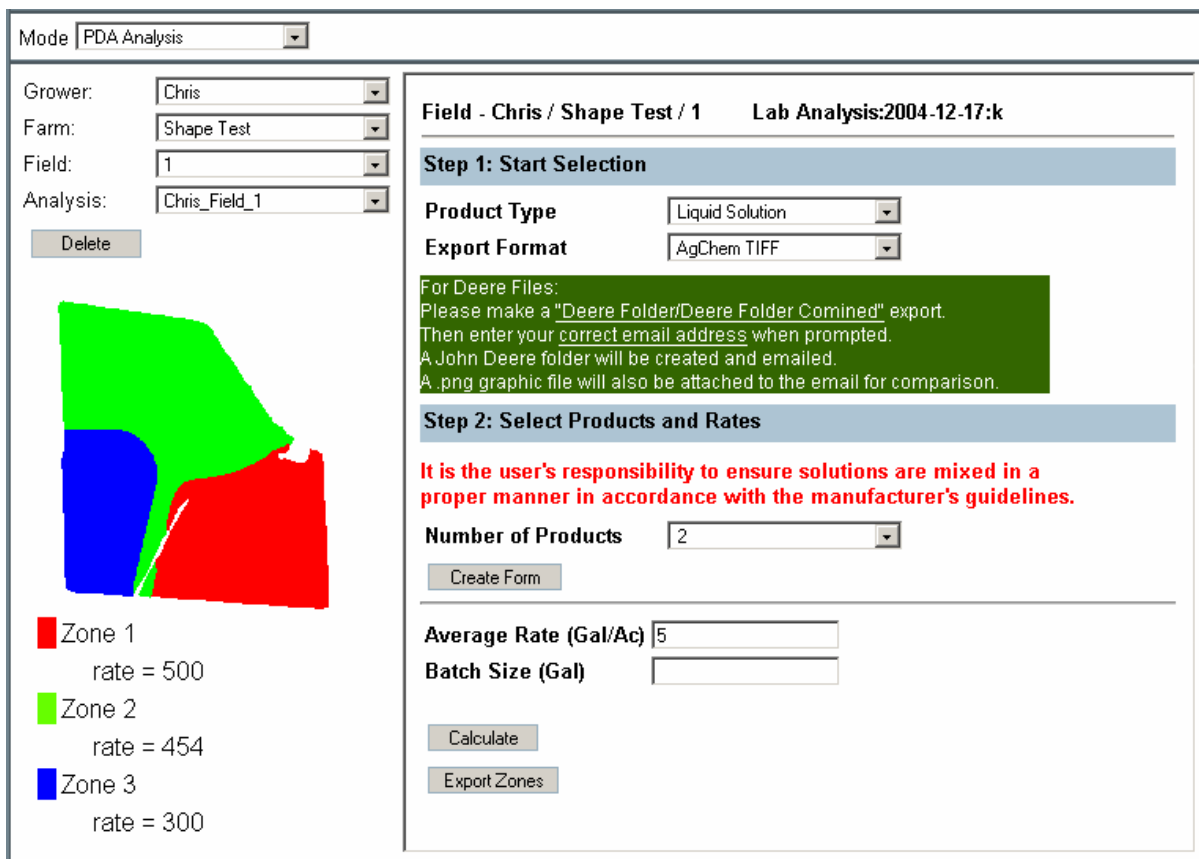
- To view the Smart Sample points in third-party software, click the 'Export Shape' button. The points will be saved in a zip file under a shape file format.
- To use the Smart Sample points for reference in the AgFleet PDA program, click the 'To PDA' button. Type in a name for the Smart Sample points in the text box that appears. The data will be saved as a layer in the PDA after synchronization. (Please refer to the AgFleet PDA manual for more information)

Tools Page

This multipurpose page contains four Modes which allow the user to analyze zones updated on the PDA, combine zones, export saved zones, and create zones from a batch of fields.

PDA Analysis

The zone data from the PDA can be viewed here after data is entered for each zone on the PDA Software. They will appear on this page after synchronization, as shown. (Please refer to the AgFleet PDA Software manual) The process to export remains unchanged and is highlighted in the Exporting Zones section of this manual.



Mode: PDA Analysis

Grower: Chris
Farm: Shape Test
Field: 1
Analysis: Chris_Field_1
Delete

Field - Chris / Shape Test / 1 Lab Analysis:2004-12-17:k

Step 1: Start Selection

Product Type: Liquid Solution
Export Format: AgChem TIFF

For Deere Files:
Please make a "Deere Folder/Deere Folder Comined" export.
Then enter your correct email address when prompted.
A John Deere folder will be created and emailed.
A .png graphic file will also be attached to the email for comparison.

Step 2: Select Products and Rates

It is the user's responsibility to ensure solutions are mixed in a proper manner in accordance with the manufacturer's guidelines.

Number of Products: 2
Create Form

Average Rate (Gal/Ac): 5
Batch Size (Gal):
Calculate
Export Zones

Zone 1
rate = 500
Zone 2
rate = 454
Zone 3
rate = 300

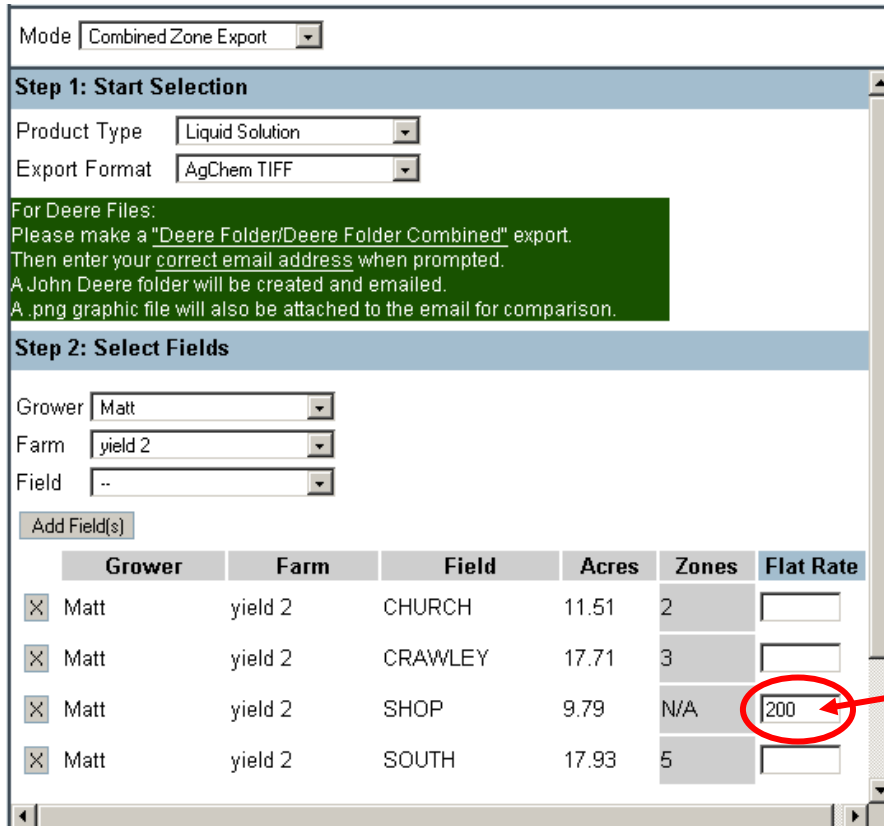
View of the PDA Analysis window

- Select the Grower, Farm and Field that contains the synchronized layers of data. Select the zone information from the Analysis menu.
- Using the rates entered in the PDA for each zone, create the required Dry Fertilizer or Liquid Solution Export, as it is described in previous sections of the manual.
- The zone information in the Analysis menu will remain there until it is deleted by the user. To delete a PDA Analysis layer, select the analysis data and click the 'Delete' button.
The 'Delete' button will permanently remove the selected data in the Analysis menu.

Combined Zone Export

In many cases, it is useful to combine 2 or more fields worth of zones into one control file. The Combined Zone Export allows the user to combine the saved zones created in the Main page or in the Batch Zone Creation mode.

Before using this mode, the zone analysis for all the necessary fields must be saved. Follow the instructions below to combine the zone analysis for multiple fields. The process to export remains unchanged and is highlighted in the Exporting Zones section of this manual.



	Grower	Farm	Field	Acres	Zones	Flat Rate
<input checked="" type="checkbox"/>	Matt	yield 2	CHURCH	11.51	2	
<input checked="" type="checkbox"/>	Matt	yield 2	CRAWLEY	17.71	3	
<input checked="" type="checkbox"/>	Matt	yield 2	SHOP	9.79	N/A	200
<input checked="" type="checkbox"/>	Matt	yield 2	SOUTH	17.93	5	

View of the Combined Zone Export mode

1. Select the Product Type and Export Format. Start with a Printable format to view the spreading details. Add each field zone analysis to the list that will be combined by selecting the Grower/Farm/Field and clicking the 'Add Field(s)' button.
2. If necessary, insert a Flat Rate amount to the right of each field. This will overwrite any zone rates entered causing the control file to indicate the specified flat rate for the chosen field. A saved zone analysis is not required to enter a flat rate For a field.
3. Continue with Step 3, which is the Exporting Zones section. This step is highlighted in the Exporting Zones section of this manual.

Note: Changing flat rates will cause the product to be regenerated, clearing out any information you may have entered in Step 3.

Saved Zone Management

This mode is used to manage all fields that contain saved zones. You can view and verify zones saved for each field in addition to deleting saved zones from specific fields.

Mode: Saved Zone Management

* Note: Fields with zones made before Friday, July 15, 2005 may not be compatible with this page. Some of the fields that are compatible won't display the zone images. This is due to the limitations of how the data was previously saved.

Grower: Training Grower
Farm: FS Demo
Field: Demo Field

Display Zone Images

Training Grower / FS Demo / Demo Field

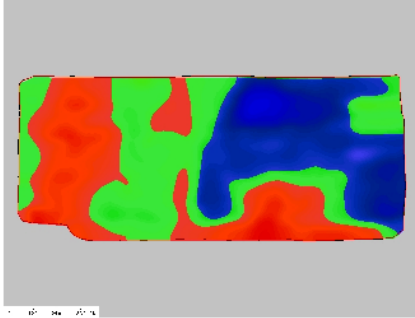
Zones Created By: (soil)
Creation Date: 2006-01-20 15:22:13
Analysis Type: Multi
Overlay Information: AgFleet Yield::Cotton - 2005
Lab Analysis:2003-10-20:k

Zones to Create: 3
Minimum Acres: 0.5
Grid: No

Zone	Acres	Data Range
1	12.3	8.2 - 44.6
2	12.5	44.6 - 58.5
3	11.8	58.5 - 92.2

Options

Display Reference Sheet

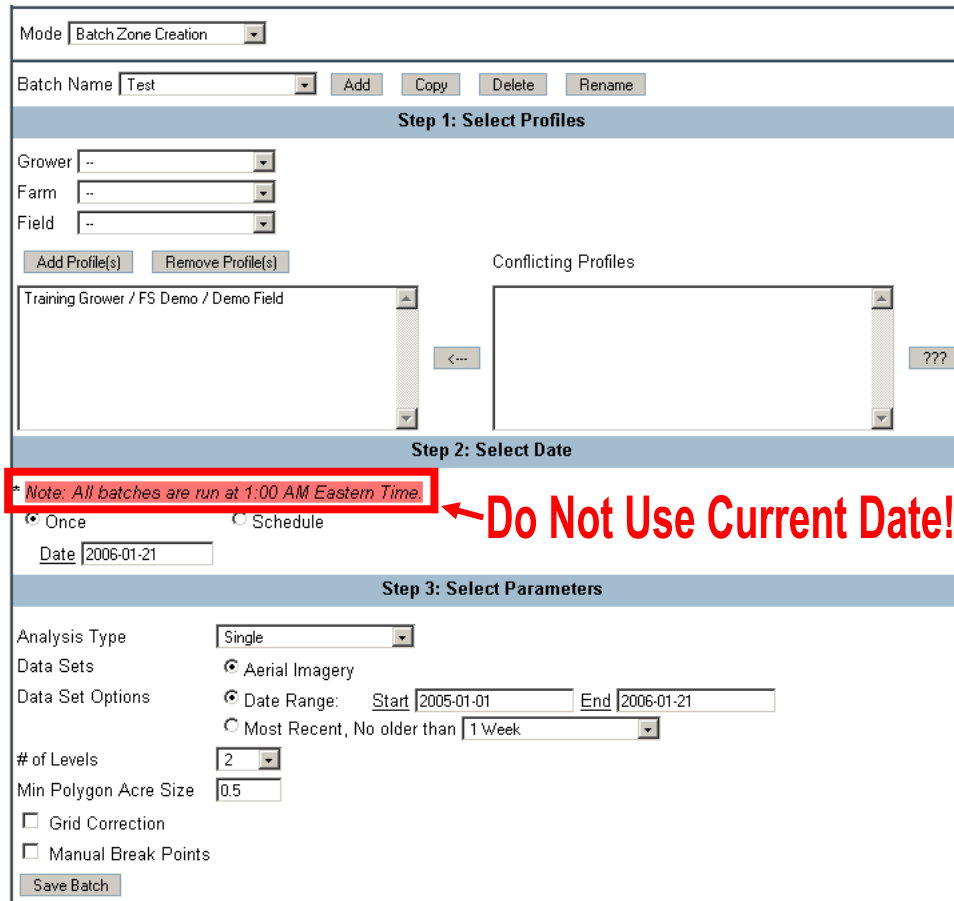


View of the Saved Zone Management mode

- Create a list of the fields by selecting the profile (Grower, Farm and Field) and then click the 'Add Field(s)' button. If you wish to view an image of the zones, click the 'Display Zone Images' check box beforehand.
- Remove fields from the list by clicking the 'X' next to the profile name on the list.
- Delete the saved zones for the fields in the list by clicking the 'Delete Saved Zone(s)' button. **This option is irreversible. If you delete, you must redo the zones in the Main page.**
- Generate a printable view of the data for each zone by clicking the 'Print to PDF' button. If you wish to include a reference sheet with the printable, click the 'Display Reference Sheet' check box.
- Click the 'To PDA' button to send multiple saved zones to the PDA all at once. After synchronization, the PDA will contain layers for each saved zone sent to the PDA. The name of the layer that appears on the PDA will be the date of when the zones were sent to the PDA.

Batch Zone Creation

This mode is used to create similar zones for many different fields in a process that runs overnight on a specified date. Aerial Imagery is the only data set option that can be utilized to create the batch zones. In order to create Batch Zones, follow the steps on the website.



Mode: Batch Zone Creation

Batch Name: Test [Add] [Copy] [Delete] [Rename]

Step 1: Select Profiles

Grower: -- [v]
Farm: -- [v]
Field: -- [v]

[Add Profile(s)] [Remove Profile(s)]

Conflicting Profiles

Training Grower / FS Demo / Demo Field

Step 2: Select Date

* Note: All batches are run at 1:00 AM Eastern Time. ← Do Not Use Current Date!

Once Schedule

Date: 2006-01-21

Step 3: Select Parameters

Analysis Type: Single [v]
Data Sets: Aerial Imagery
Data Set Options: Date Range: Start 2005-01-01 End 2006-01-21
 Most Recent, No older than 1 Week [v]
of Levels: 2 [v]
Min Polygon Acre Size: 0.5 [v]
 Grid Correction
 Manual Break Points
[Save Batch]

View of the Batch Zone Creation mode

1. Click the 'Add' button and type a Name to add to the Batch Name list.
2. In Step 1, select the fields from which the Batch will create/save its zones.
3. In Step 2, schedule the Batch Zone Creation date and select a one time date or a recurring scheduled interval.
Note: All batches are run at 1:00 AM Eastern Time. If you select the current date in this step, the batch zones will never be created.
4. In Step 3, select the parameters, which includes the dates of the aerial imagery as well as the details of the zones that will be created.
5. Click the 'Save Batch' button. The system will verify if Aerial Imagery is available for each of the selected fields.