Using the Yield Editor

I.F.A.R.M. offers the means to edit / adjust raw yield values using specific industry filters.

1. **Yield Editor:** Click on the **Data Tab**.

   A. The functions of the Data Tab will display.

   B. Click on **Yield Editor**. The following interface page displays.

Yield Editor continued…

C. To load and clean yield, left click on a yield file and drag up to the account window; or click in the box and select **Add Checked Tree Items**. Only one file at a time can be cleaned.
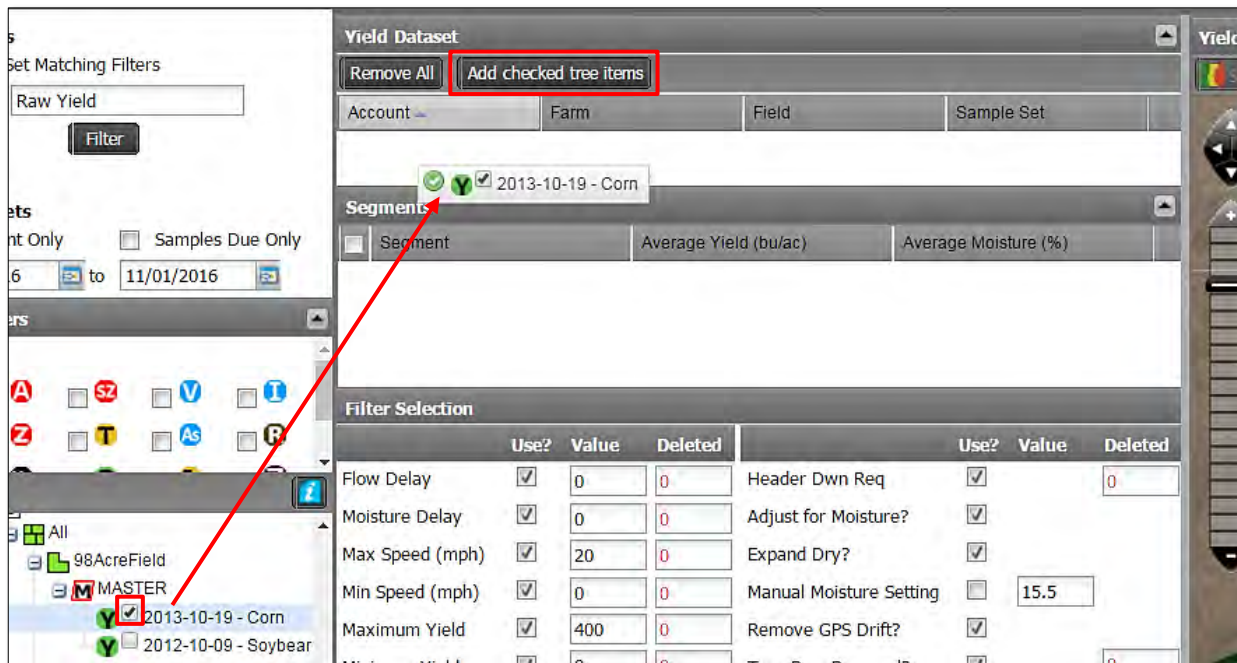
D. An indicator will appear while the yield is being loaded and filtered:
- As the yield is loading, the system analyzes the yield and automatically begins to filter out data that affects the bushels per acre values.

- When finished, the first pass of filtered results and map will display as points (default view).
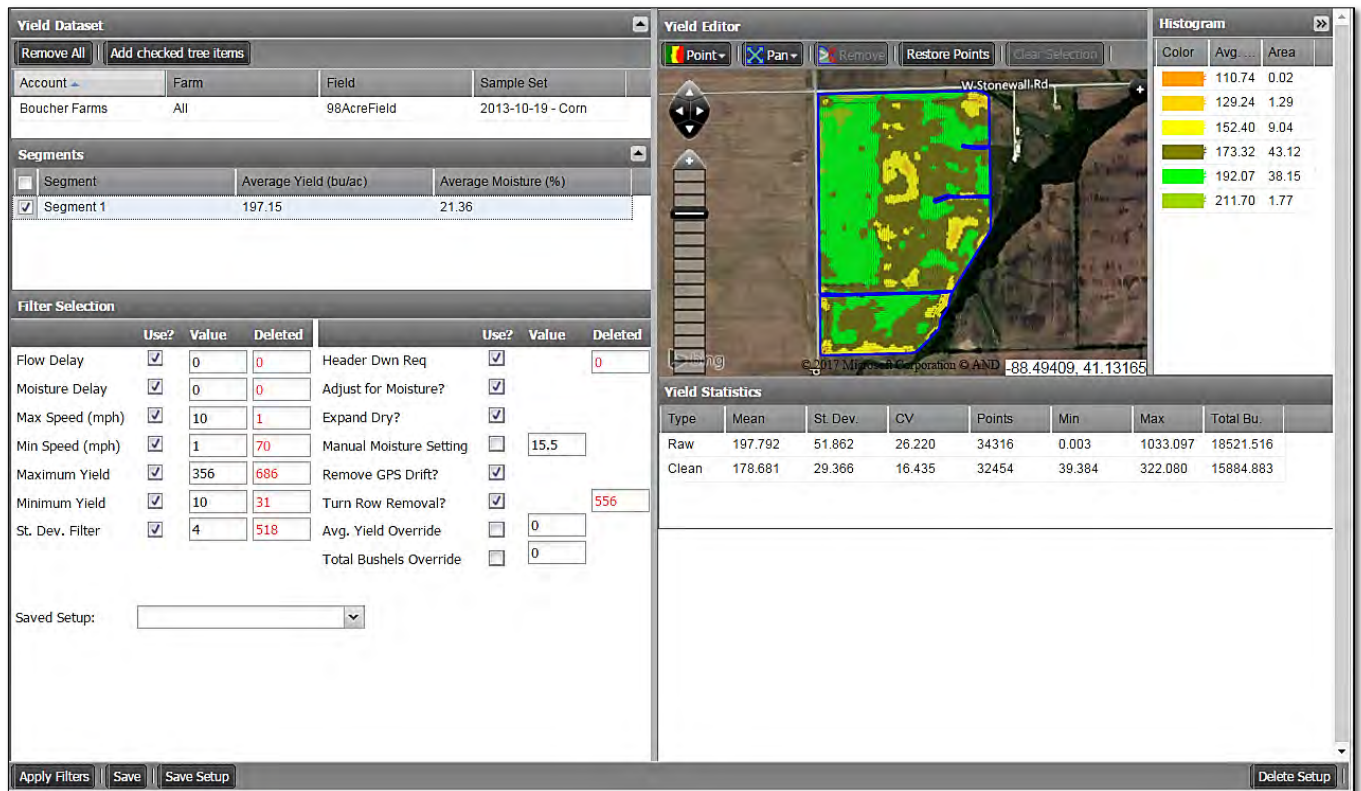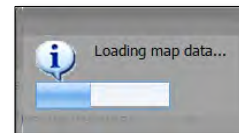
Yield Editor continued…

2. Utilizing the Filters.

   A. Once raw yield data is entered, specific default filters will be applied and remove affected data points (red values).

Filter Selection

	Use?	Value	Deleted		Use?	Value	Deleted
Flow Delay	✓	0	0	Header Dwn Req	✓		0
Moisture Delay	✓	0	0	Adjust for Moisture?	✓		
Max Speed (mph)	✓	10	1	Expand Dry?	✓		
Min Speed (mph)	✓	1	70	Manual Moisture Setting	☐	15.5	
Maximum Yield	✓	356	686	Remove GPS Drift?	✓		
Minimum Yield	✓	10	31	Turn Row Removal?	✓		556
St. Dev. Filter	✓	4	518	Avg. Yield Override	☐	0	
				Total Bushels Override	☐	0	

   B. Filter Descriptions:

- **Flow Delay:** This will shift the measured yield back by the number of seconds entered in the value column. This filters out any points that don't have a yield value after the delay is applied.

- **Moisture Delay:** This will shift the moisture of the yield back by the number of points entered in the value column. This filters out any points that don't have a moisture value after the delay is applied.

- **Max Speed:** This filters out points where the harvester was traveling above the entered speed.

- **Min Speed:** This filters out points where the harvester was traveling below the entered speed.

- **Maximum Yield:** This filters out points that have a measured bushels per acre greater than the entered value.

- **Minimum Yield:** This filters out points that have a measured bushels per acre below the entered value.

- **STD Filter:** This filters out any points with measured bushels per acre that are outside a number of standard deviations away from the average yield. This feature is used to remove outlier points from the dataset that are much larger or smaller than the majority of yield points. The standard deviation and average values are unique to each yield dataset, and these values are present in the Statistics grid.

- **Header Down:** Filter out any points where the harvester did not have the header down.

- **Adjust for Moisture:** Automatically adjust the yield mass to dry out measured yield. If this option is selected without Expand Dry, then it only dries out yield with measured moisture above the standard moisture.

- **Expand Dry:** Used in conjunction with the Adjust for Moisture option. When this is selected, any yield that is drier than the standard moisture will be adjusted up to the standard moisture.

- **Manual Moisture Setting:** This overrides the standard moisture value with a custom moisture value to be used with both the Adjust for Moisture and Expand Dry options.

- **Remove GPS Drift:** If the locations of the points seem to waver instead of appearing in straight lines, then this option will average out the locations of the points to reduce the effect of bad GPS data.

- **Turn Row Removal - Start Pass Delay:** This filters out points where the harvester is turning around to make another pass.

- **Average Yield Override:** This adjusts all of the yield values such that the average value matches the entered value (i.e. elevator weigh scale average).

- **Total Bushels Override:** If the total bushels of the harvested field is known, entering it here will apply that total and change all field data accordingly.

   C. Take note of **Yield Statistics** row / columns. The editor will display the raw data, and the filtered "clean" data.

Yield Statistics

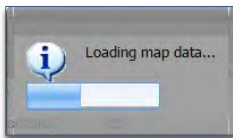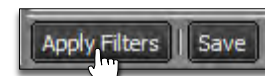| Type	Mean	St. Dev.	CV	Points	Min	Max	Total Bu.
Raw	197.792	51.862	26.220	34316	0.003	1033.097	18521.516
Clean	178.681	29.366	16.435	32454	39.384	322.080	15884.883

Yield Editor continued…

D. If further editing is required, users can manually adjust filter values, or turn off / on select filters.

E. To apply the changes, click on the **Apply Filters** button (at bottom of page).

- A **Loading map data** indicator will display.

- The new data will load showing new "clean" data values, and the map will change to reflect the new values.

Note: The adjusted filters will change the number of data points removed (red values).

F. You can continue changing and adjusting the filters values up and down until you are satisfied with the results. The original raw data will not be modified until you hit the **save** button:

Note: It is suggested to look at the number of red data points that you are removing with each filter value and determine (based upon the total number of points in a field) if any <u>one</u> filter adjustment is removing an excessive number of data points.

- Removing a few hundred data points is not a significant problem unless the field size is so small that the total data points is also limited.

- Removing up to **10%** of the field's total data points (from all of the filter values) is probably about all that you should consider eliminating (if that many) for a given field.
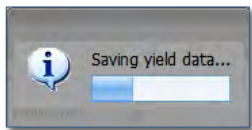
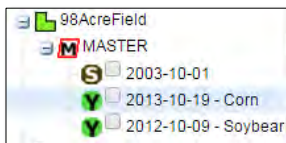*Yield Editor continued…*

3. Saving the Edits.

A. When the edited yield data is to satisfaction, save the results by clicking the **Save** button.
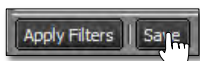
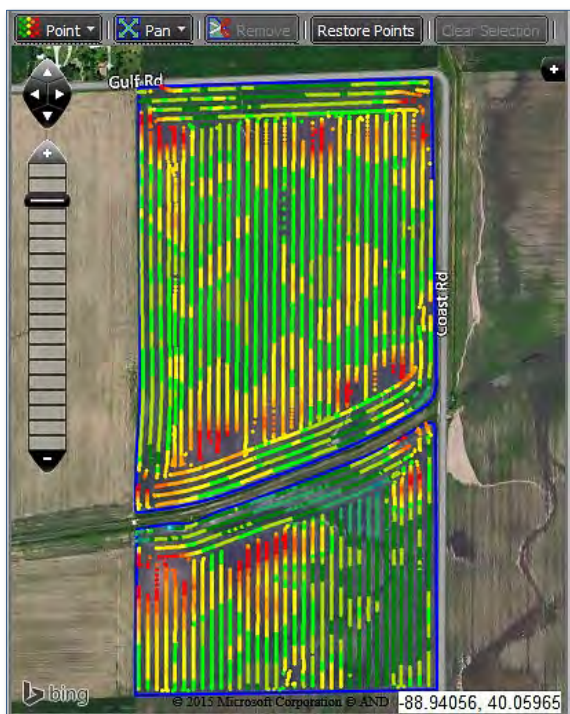- An indicator will display showing the yield is being saved.

B. The yield file will now carry the new filtered values.
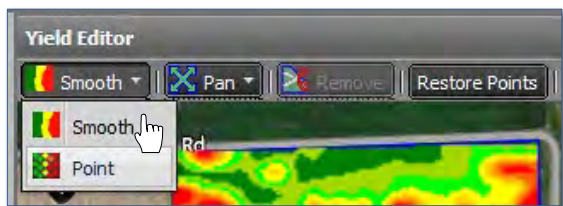

4. Using Yield Editing Map Features

A. Once a yield file is entered, a representative map will display. The editor offers options / features to further investigate or display yield data.
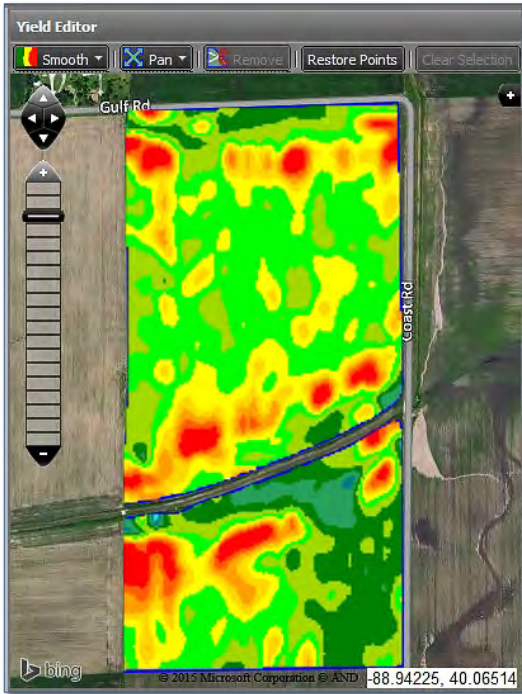

B. To change the map from rows / points (default) to smooth, use the **Smooth** drop down menu to view the options. Click on the **Smooth** option.
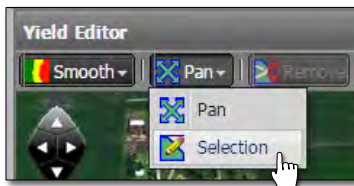
Yield Editor continued…

- The map image will change to reflect a smoothed / solid map visual.

- Use the same drop down menu to change the map back to the rows / points option.

**C.** Click on the **Pan** drop down menu to see the options.

- Choosing **Pan** simply allows the user to move the map image around in the visible window.
- **Selection** allows the user to create a custom polygon around a specific area in the yield map.
- Once **Selection** is chosen, move the cursor to an area of interest and click and move the mouse, drawing / tracing the area. The more clicks of the mouse, the tighter the trace.
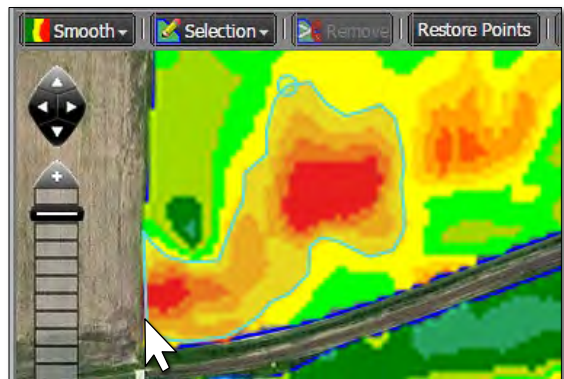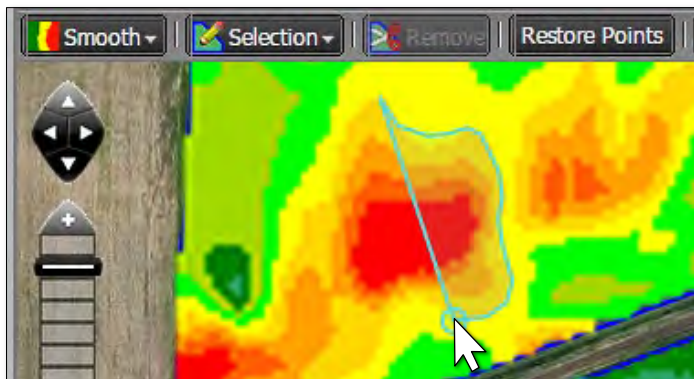
- Continue clicking around an area until you complete the polygon. Double click to finish the polygon.
- When finished, the polygon will grey out the area and render a dark boundary.
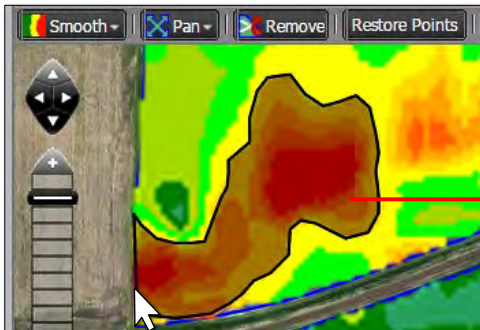
- In the Yield Statistics area, a new row / columns will be added displaying yield data just for that selected area.

Type	Mean	St. Dev.	CV	Points	Min	Max
Raw	129.279	65.238	50.463	11359	0.194	975.041
Clean	127.415	49.001	38.458	10884	0.463	331.140
Selection	60.025	42.110	70.155	346	0.551	160.058

D. Removing Points. If an area of yield is such the user wants to remove it from the field, use the selection tool as previously shown to select an area of the field.   Take notice of the number of Points being chosen.
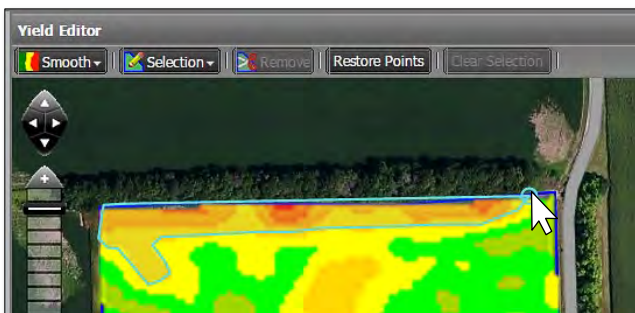
- To remove the points selected, click on the **Remove** button.

- There will be a short processing notice, then the map will display with the traced area removed.

- The resulting yield calculations will change to reflect the removed data points.
- If the file is **Saved**, the new data will be saved minus the removed points.

E. Restoring Points. To replace removed points, simply click the **Restore Points** button.


- There will be a short processing notice, then the map will display with the traced area points returned.

Note: If points are removed, and the file saved… the Restore function will not be able to return the previously deleted points.
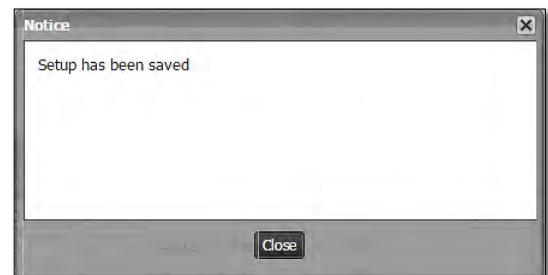
5. **Saved Setups**.

   A. The Yield Editor offers the means to create Saved Setups of selected filters / values to help standardize yield cleaning; and to help speed up the editing process.

   B. With a cleared template, go through the filter options and make selections / adjustments that will represent a repeatable cleaning event (below).

   C. Click on the **Save Setup** button at the bottom of the screen. A naming prompt will appear. Add in the name of the saved setup. Make it as descriptive as possible so it is easy to distinguish.
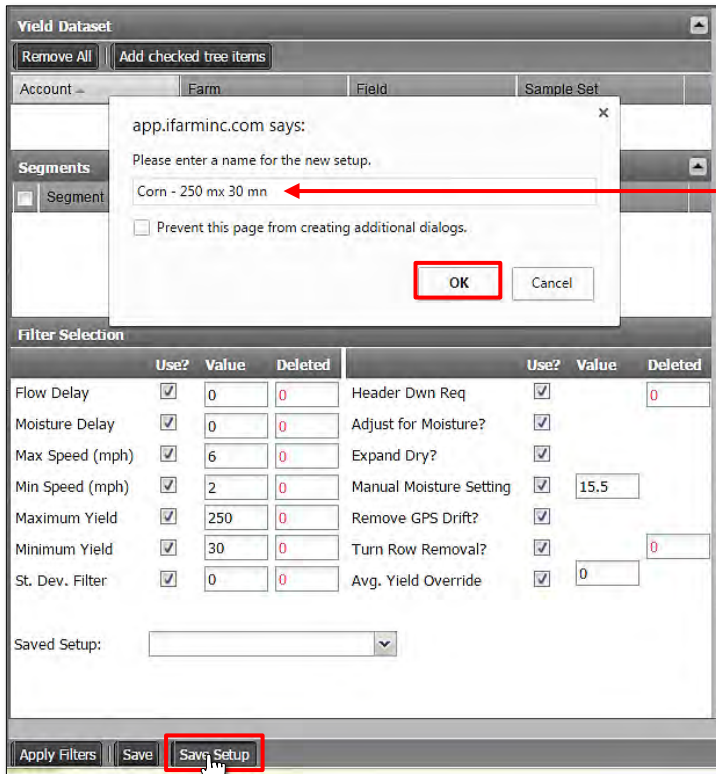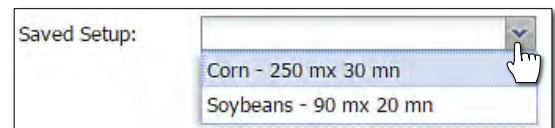

   - Click **OK** when the name has been entered.
   - A save notice will appear indicating the Saved Setup has been saved.

   D. Continue to add saved setups as needed (by crop / speed / yield max - min / filters turned on-off, etc.).

      - The saved setups will be visible when the Save Setup drop down menu is selected.

   E. To load a setup, first enter a yield file in the account window. The normal processing will take place.

      - Use the drop down menu and select the desired setup.
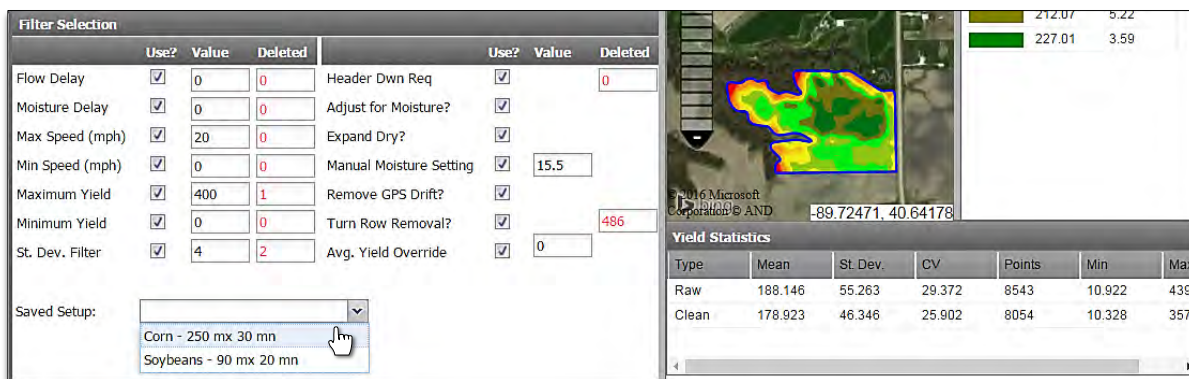
Yield Editor continued…

- The setup parameters will apply.

F. Click on the **Apply Filters** button. The normal processing will take place and produce the results based on the setup parameters.

G. If the yield results are satisfactory, click the **Save** button to save the edited yield.
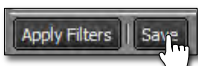
6. **Starting Over**.

A. If you are finished with a given session and want to look at new data, simply select the **Remove All** or **Remove Selected** buttons to clear the entries. You can then drag new yield files to the account window to open a new editing project.