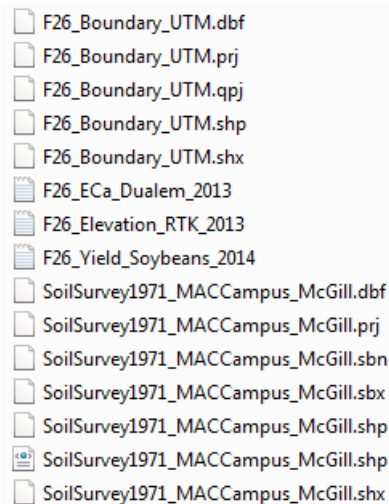


Exercise 2-1: Creating a yield map

Learning objectives:

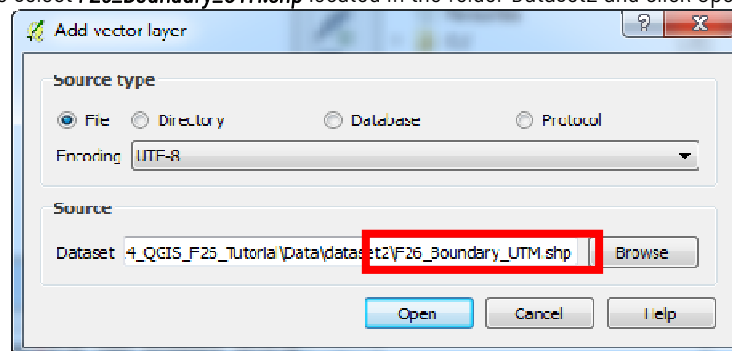
- View yield monitor data
- Create a yield raster map using Inverse Distance Weighting Interpolation

Data folder: Dataset2

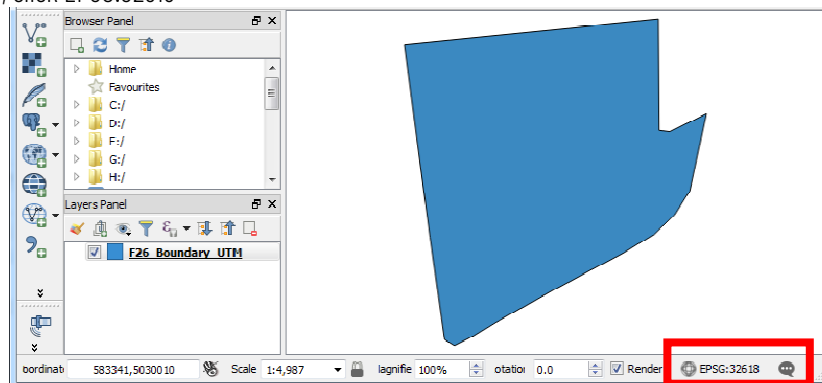


Part 1: Import the field boundary

1. Click Add Vector Layer on the Toolbar
2. Click Browser to select **F26_Boundary_UTM.shp** located in the folder Dataset2 and click Open

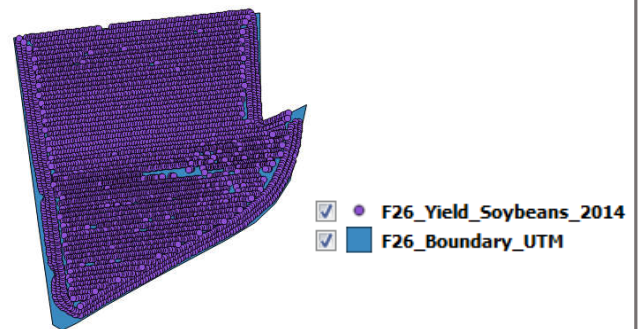
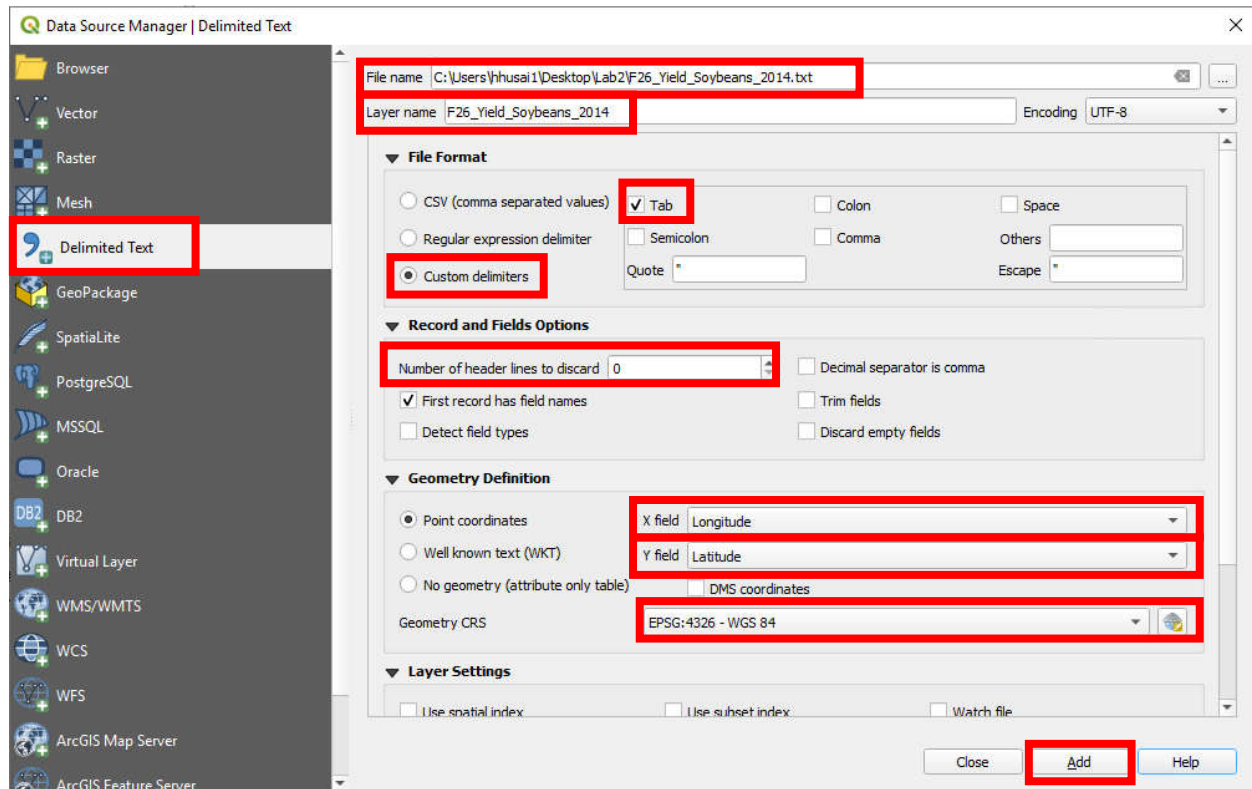


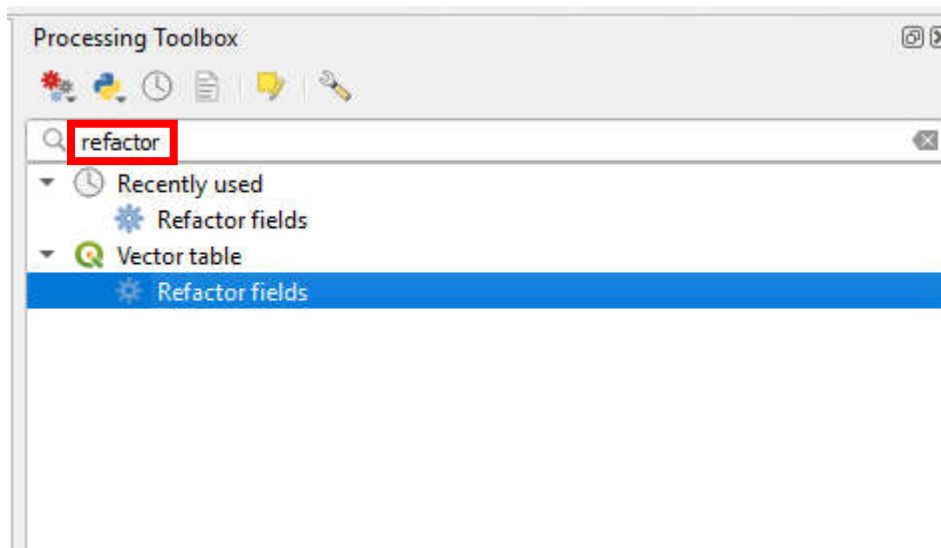
3. On Status Bar, click EPSG:32618



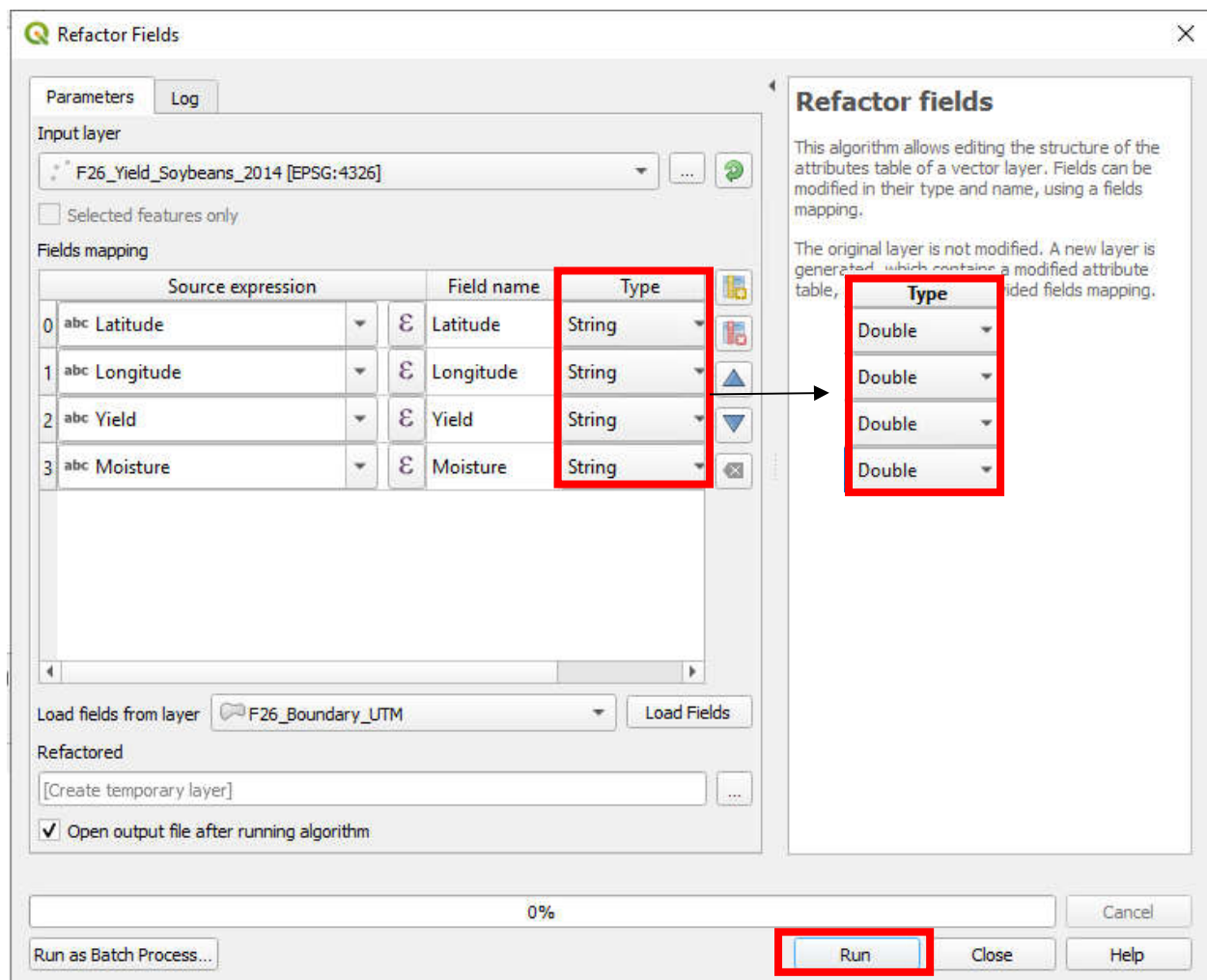
Part 2: Create yield point layer from tabular data

1. Click Add Delimited Text Layer on the Toolbar
2. Click Browse to select *F26_Yield_Soybeans_2014.txt*
3. Make sure all parameters are set as follows and click OK



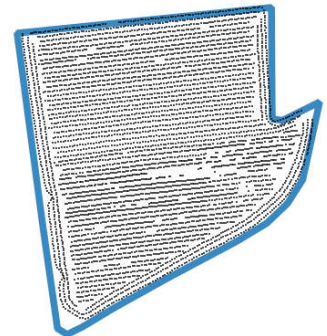


- 4. Change the type of field:**
- Type "refactor" in processing Toolbox and open "Refactor fields".
 - Select "F26_Yield_Soybeans_2014" shapefile.
 - change all string type to "Double".
 - click "Run"



- ☒ ☒ **Refactored**
- ☒ ☐ **F26_Yield_Soybeans_2014**
- ☒ ☐ **F26_Boundary_UTM**

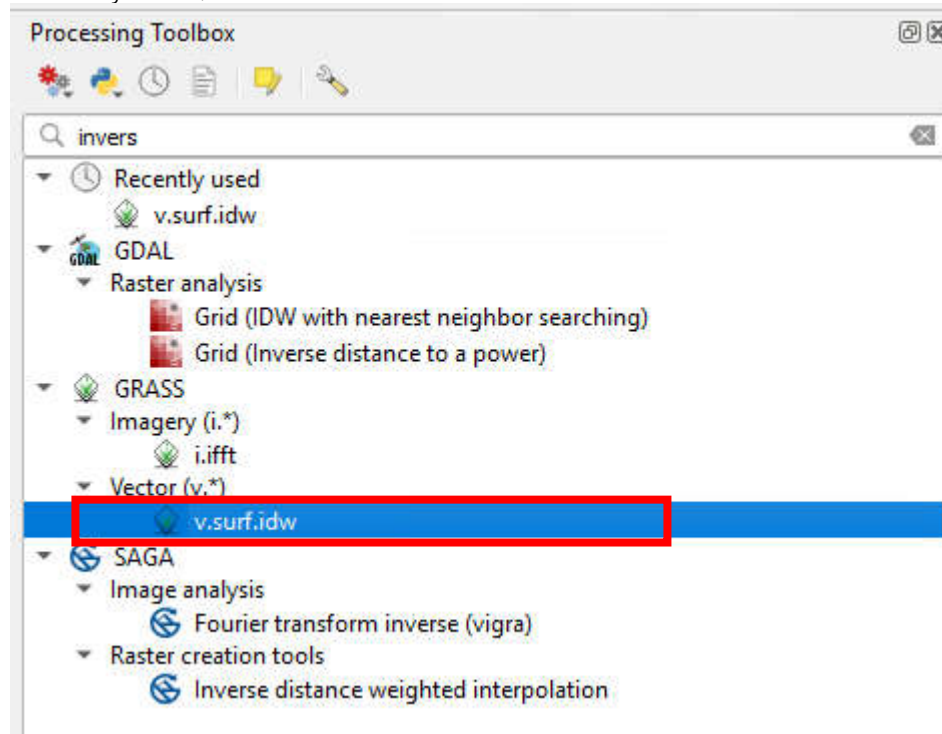
4. Right click **Refactored**, then click Save As
5. In Save vector layer as ...
 - Format = ESRI Shapefile
 - File name = **F26_Yield_Soybeans_2014_UTM.shp**
 - CRS = Project CRS (EPSG:32618 – WGS 84 / UTM zone 18 N) ... Click OK
6. Right click **F26_Yield_Soybeans_2014** and **Refactored** then click Remove.
7. Right click **F26_Yield_Soybeans_2014_UTM**, then go to Properties to modify the symbol style.
 - a. Style: Single symbol > Marker
 - b. Simple marker:
 - i. Outline = Transparent fill
 - ii. Size = 0.5 (Millimeter)
8. Go to Properties of the layer **F26_Boundary_UTM** to change the symbol style
 - c. Fill = Transparent fill
 - d. Outline width = 2 (millimeter)



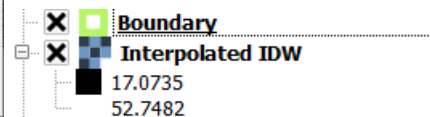
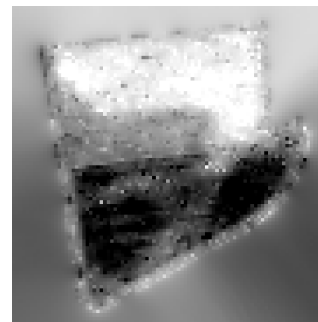
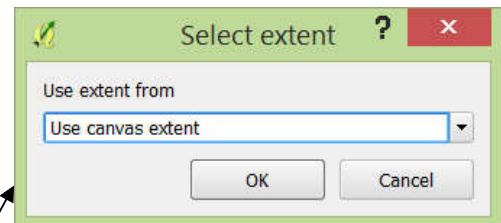
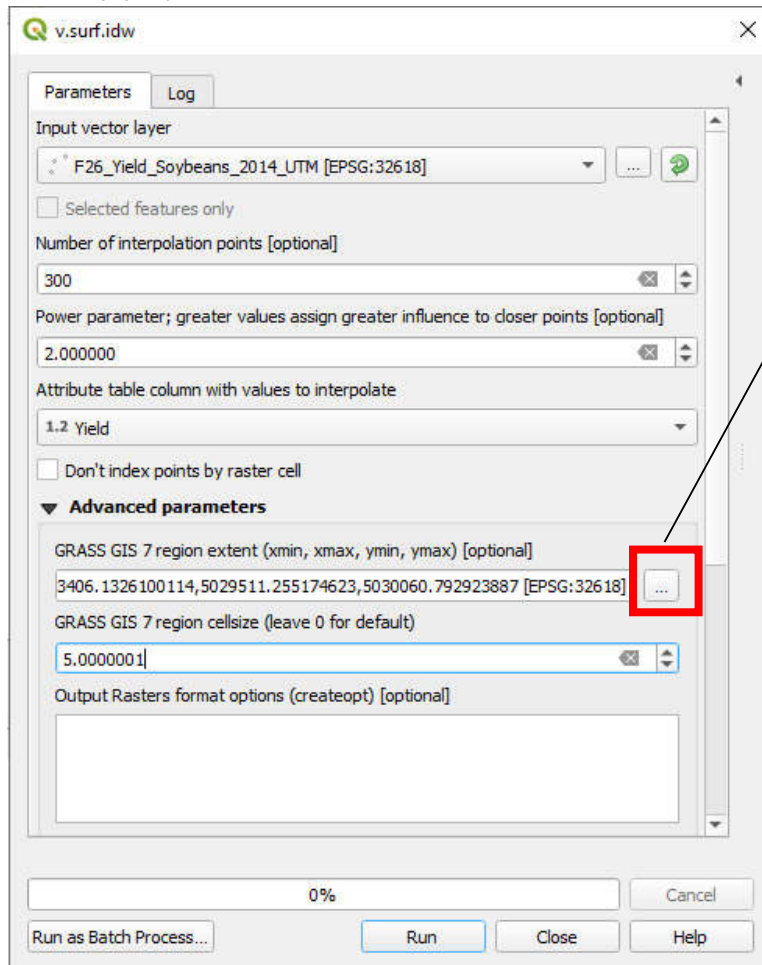
- ☒ **F26_Yield_Soybeans_2014_UTM**
- ☒ **F26_Boundary_UTM**

Part 3: Create a yield raster layer

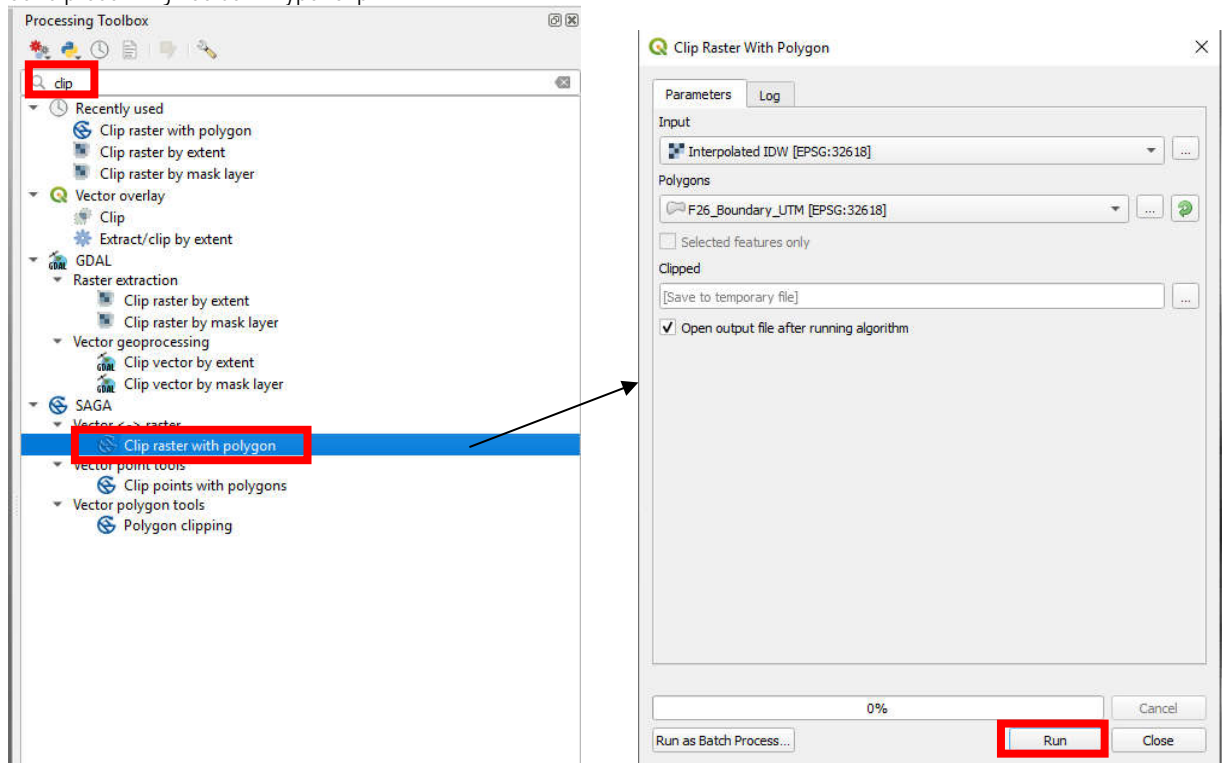
1. In the Processing Toolbox, enter "inverse" in Search ... and then click GRASS GIS > Vector > v.surf.idw



2. In v.surf.idw – Surface interpolation from vector points
Use default values, except ..
 Input vector layer = *F26_Yield_Soybeans_2014_UTM*
 Number of interpolation points = 300
 Attribute table column with values to interpolate = Yield
 GRASS GIS 7 region extent = Use canvas extent
 GRASS GIS 7 region cellsize = 5
 Click Run



3. Go to processing Toolbox > type "Clip".

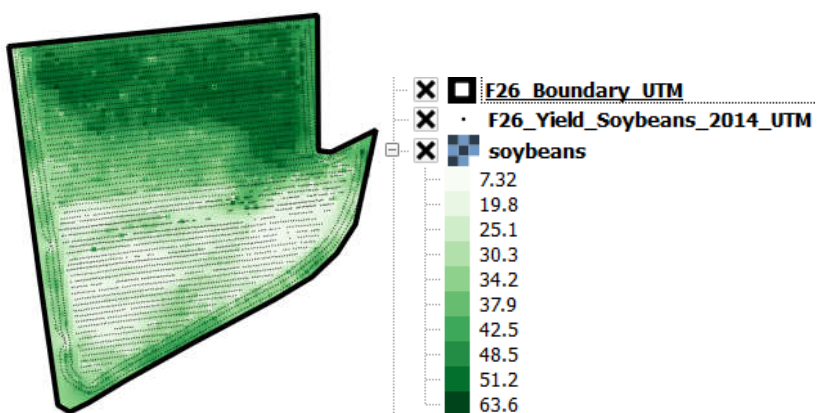
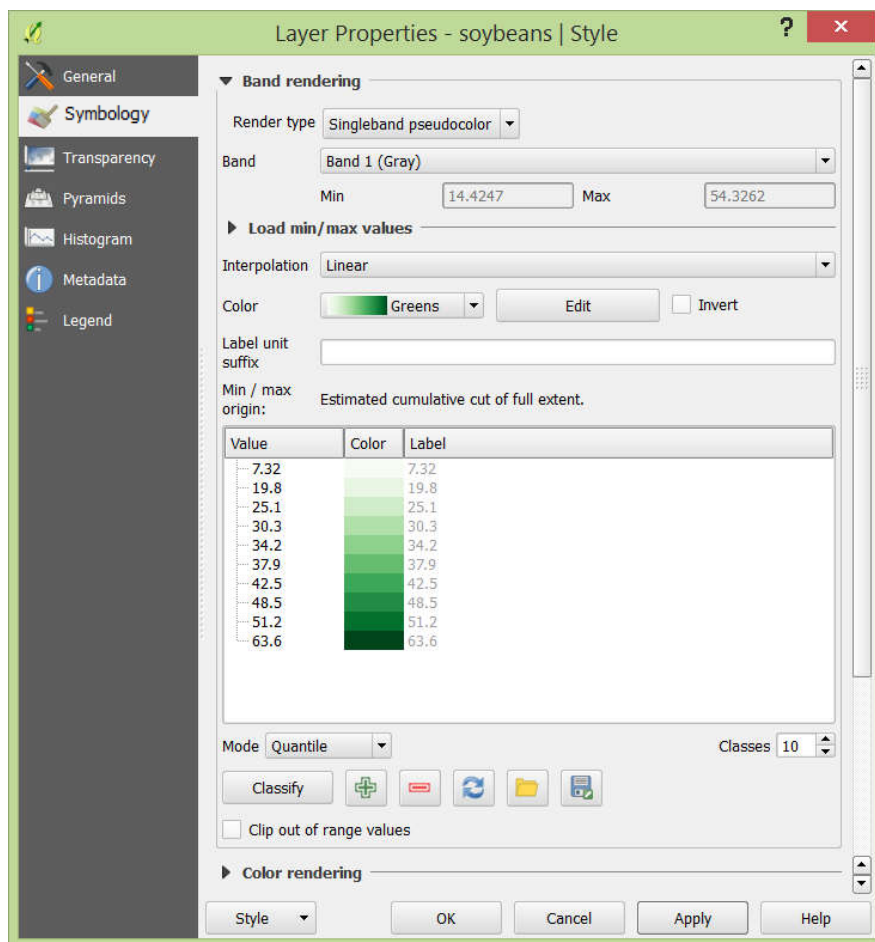


- 4.
- a. Input file (raster) = *Interpolated IDW*
 - b. Polygons = *F26_Boundary_YTM*
 - c. Clipping mode = Mask layer

Click Run

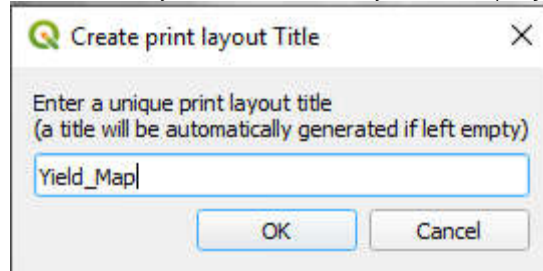
In the Layers Panel, right click *Interpolated IDW* layer and click Remove

5. Right click on *soybeans* and go to Properties > Style
- d. Band rendering
Render type = Singleband pseudocolor
 - e. Load min/max values
Interpolation = Linear
Color = Greens
 - f. Click Classify and click OK



Part 4: Create a layout map of yield

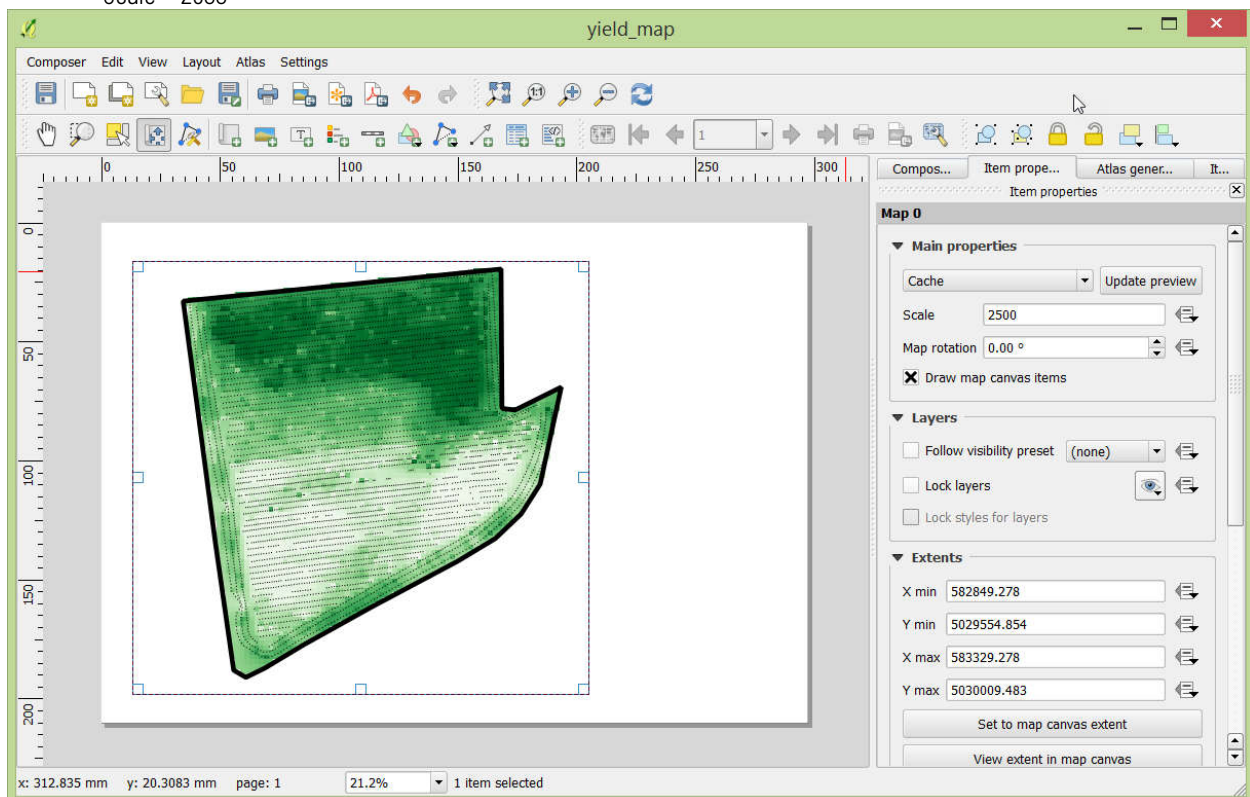
1. In Main Menu, click Project > New Print Layout, and name this layout as Sampling Scheme. Click OK



2. Click Add new map and draw a rectangular area in the layout



Scale = 2500



3. Use move item content to adjust the view of the map
4. Add legend, title, and scalebar to the map using:



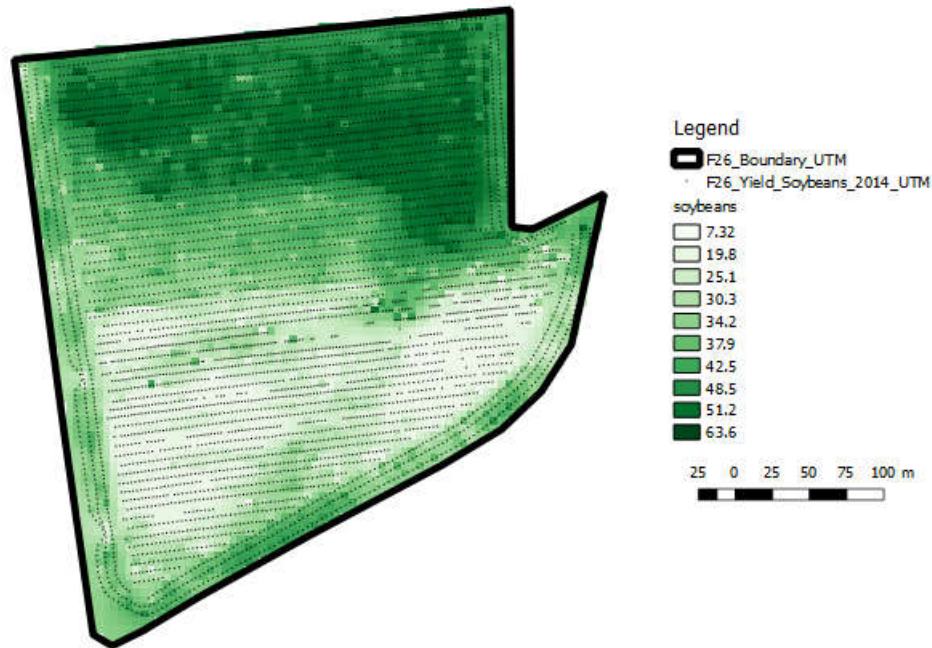
Add new label

Add Legend

Add Scalebar

5. Go to Composer > Export as Image...
 - a. File name = **yield_map.png**

Field 26 Yield Map of Soybeans 2014



- Go to Project > Save as ...
File name = **set2.qgs**

