

# EPG Data Analysis 101

- Preliminaries: Getting ready for Ebert 1.0
- by
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- M.E. Rogers

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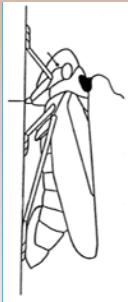


# Ebert 1.0: The Preliminaries

- Go to:
  - <http://www.crec.ifas.ufl.edu/extension/epg/>
- Select Ebert

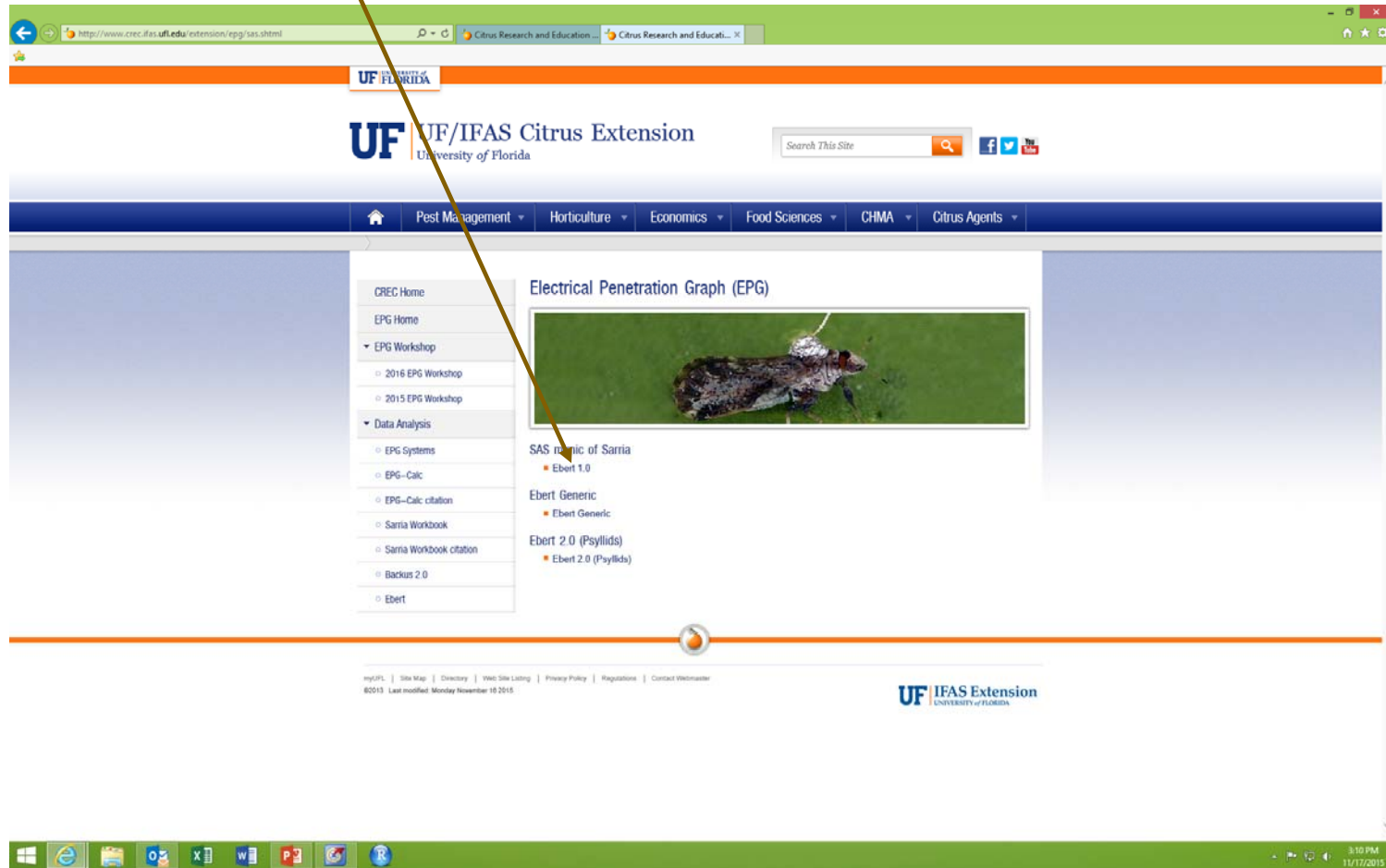
The screenshot shows a web browser window displaying the UF/IFAS Citrus Extension website. The URL in the address bar is <http://www.crec.ifas.ufl.edu/extension/epg/>. The page features a navigation menu with options like Post Management, Horticulture, Economics, Food Sciences, CHMA, and Citrus Agents. A sidebar on the left lists various resources, including EPG Home, EPG Workshops (2016 and 2015), Data Analysis, EPG Systems, EPG-Calc, EPG-Calc citation, Samia Workbook, Samia Workbook citation, Business 2.0, and Ebert. The main content area is titled "Electrical Penetration Graph (EPG)" and includes a photograph of a hemipteran insect on a leaf. Below the photo, there is a "Welcome" message and a paragraph of text describing the site's focus on hemipteran feeding behavior and data analysis. A yellow arrow points from the "Ebert" link in the sidebar to the "Ebert" link in the main content area.

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# Download all files for Ebert 1.0

- Here



The screenshot shows a web browser window displaying the UF/IFAS Citrus Extension website. The URL in the address bar is <http://www.crec.ifas.ufl.edu/extension/epg/sas.shtml>. The page features a navigation menu with options like Pest Management, Horticulture, Economics, Food Sciences, CHMA, and Citrus Agents. A sidebar on the left lists various resources under 'Data Analysis', including 'EPG systems', 'EPG-Calc', and 'Saria Workbook'. The main content area is titled 'Electrical Penetration Graph (EPG)' and includes a photograph of a pest on a leaf. Below the photo, there are three sections: 'SAS program of Sarria' with a link for 'Ebert 1.0', 'Ebert Generic' with a link for 'Ebert Generic', and 'Ebert 2.0 (Psyllids)' with a link for 'Ebert 2.0 (Psyllids)'. A blue arrow points from the text 'Here' to the 'Ebert 1.0' link. The footer contains site information and the UF/IFAS Extension logo. The Windows taskbar at the bottom shows the time as 3:10 PM on 11/17/2015.

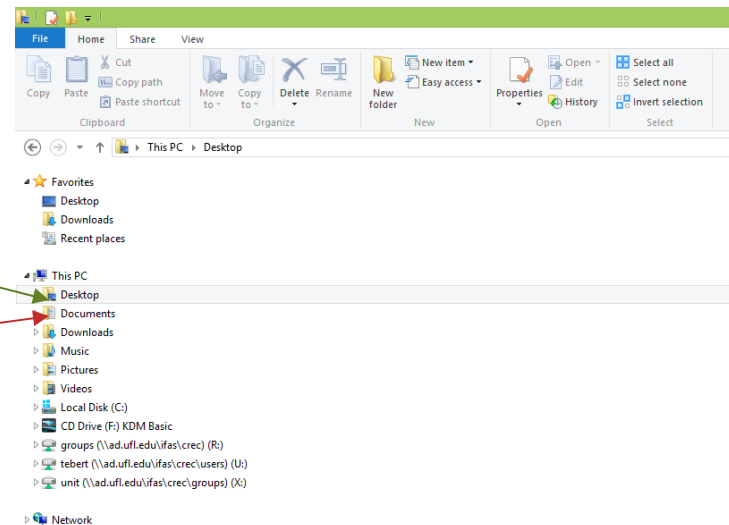
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# Location

- **Create a new folder on your desktop.**

- For this exercise, please save on the desktop. Later on you can move the files wherever you like.
- Do not put under “Documents”
- Call the folder “EPG Analysis”



Here

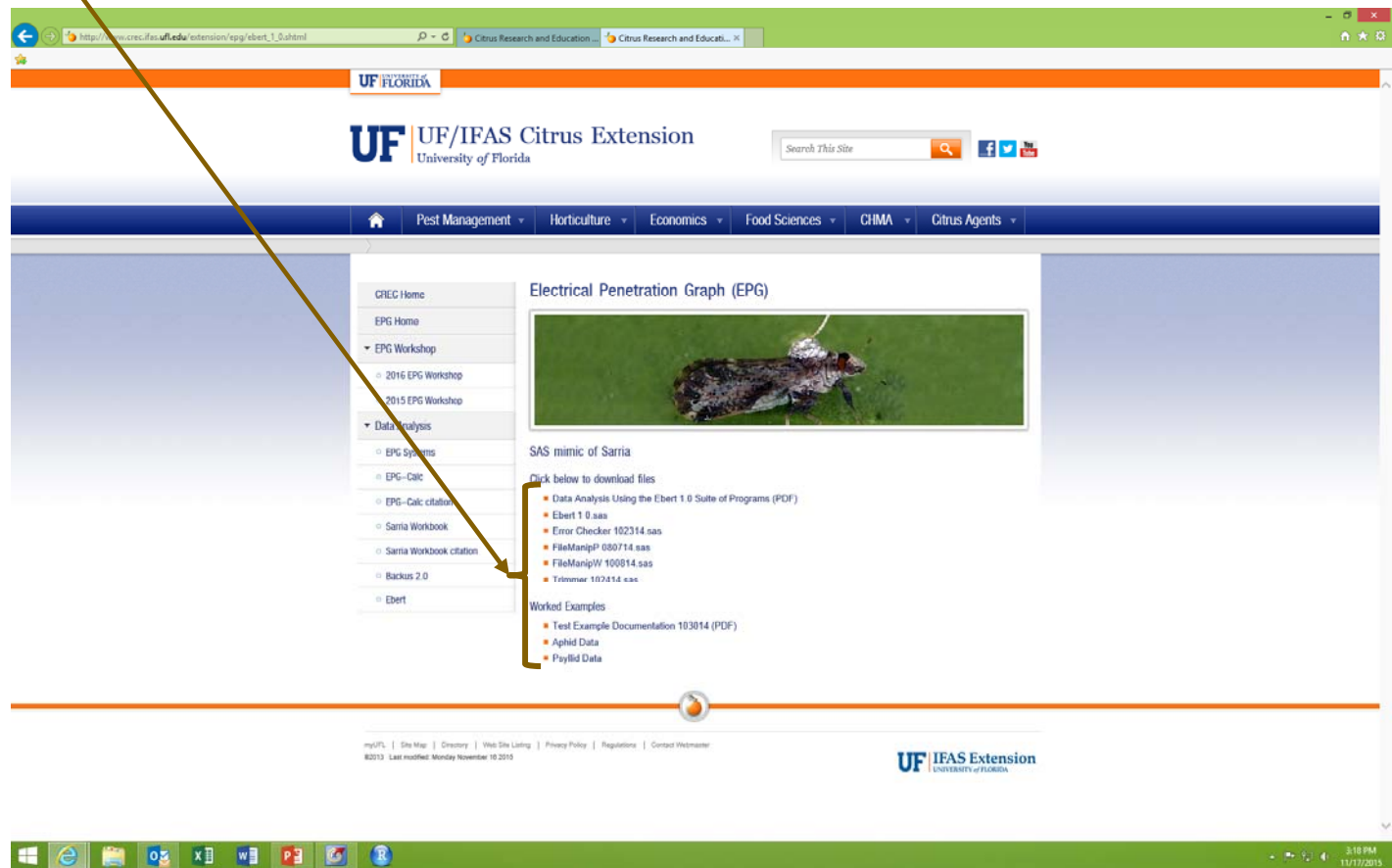
Not Here

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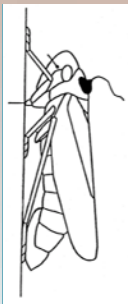
# Download Files

- All of these files



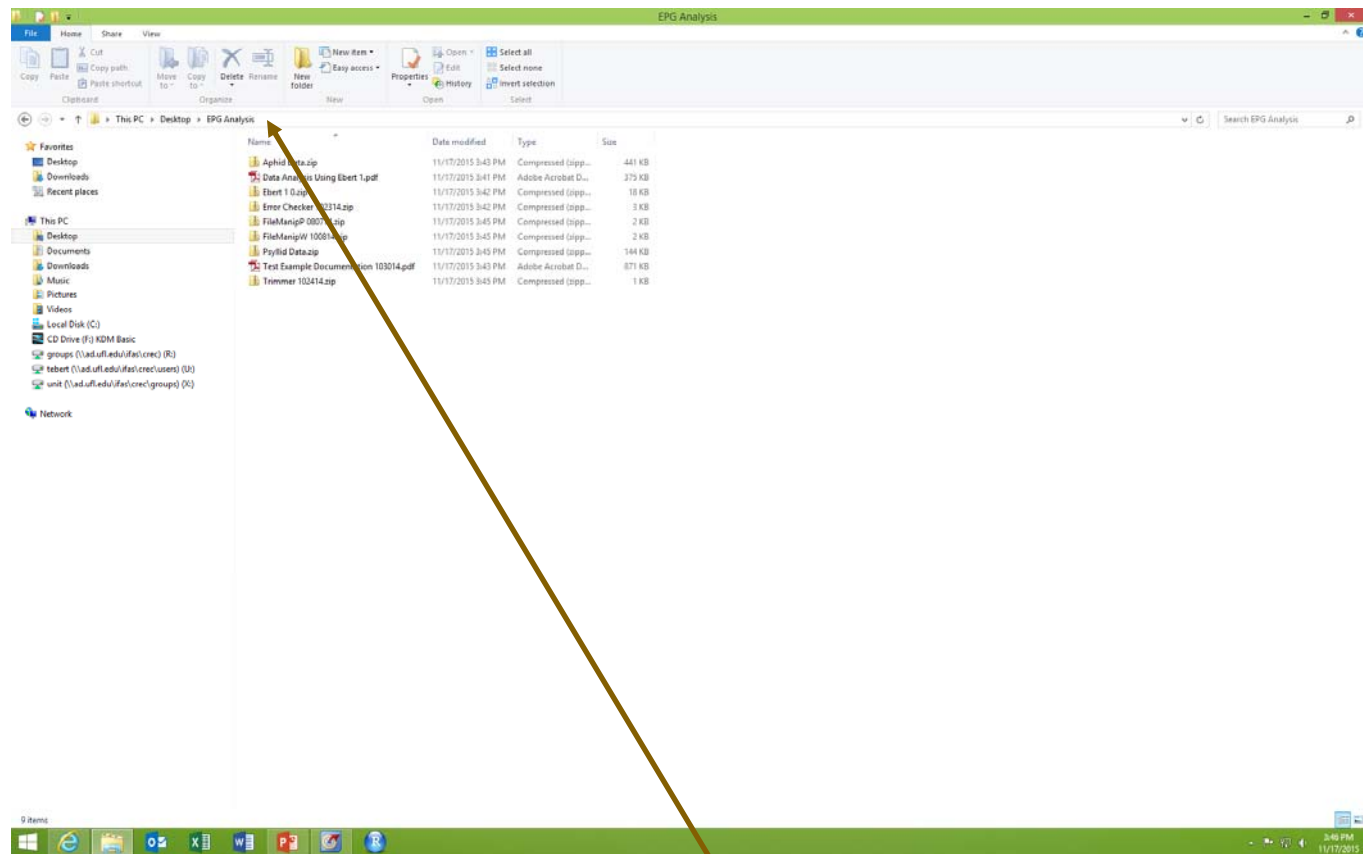
The screenshot shows a web browser window displaying the UF/IFAS Citrus Extension website. The page title is "Electrical Penetration Graph (EPG)". On the left, there is a navigation menu with options like "CREC Home", "EPG Home", "EPG Workshop", "Data Analysis", "EPG Systems", "EPG-Calc", "EPG-Calc citation", "Sarria Workbook", "Sarria Workbook citation", "Backus 2.0", and "Ebert". The main content area features a photograph of a citrus fly on a green leaf. Below the photo, the text "SAS mimic of Sarria" is followed by a heading "Click below to download files" and a list of links: "Data Analysis Using the Ebert 1.0 Suite of Programs (PDF)", "Ebert 1.0.sas", "Error Checker 102314.sas", "FileManipP 080714.sas", "FileManipW 100814.sas", and "Trinamar 102414.sas". Underneath, there is a "Worked Examples" section with links for "Test Example Documentation 103014 (PDF)", "Aphid Data", and "Psyllid Data". A yellow arrow points from the text "All of these files" to the list of download links. The website footer includes "UF IFAS Extension UNIVERSITY OF FLORIDA" and a copyright notice for 2013.

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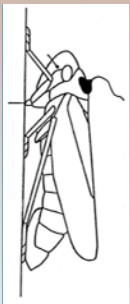
# EPG Analysis

- You should have a desktop with



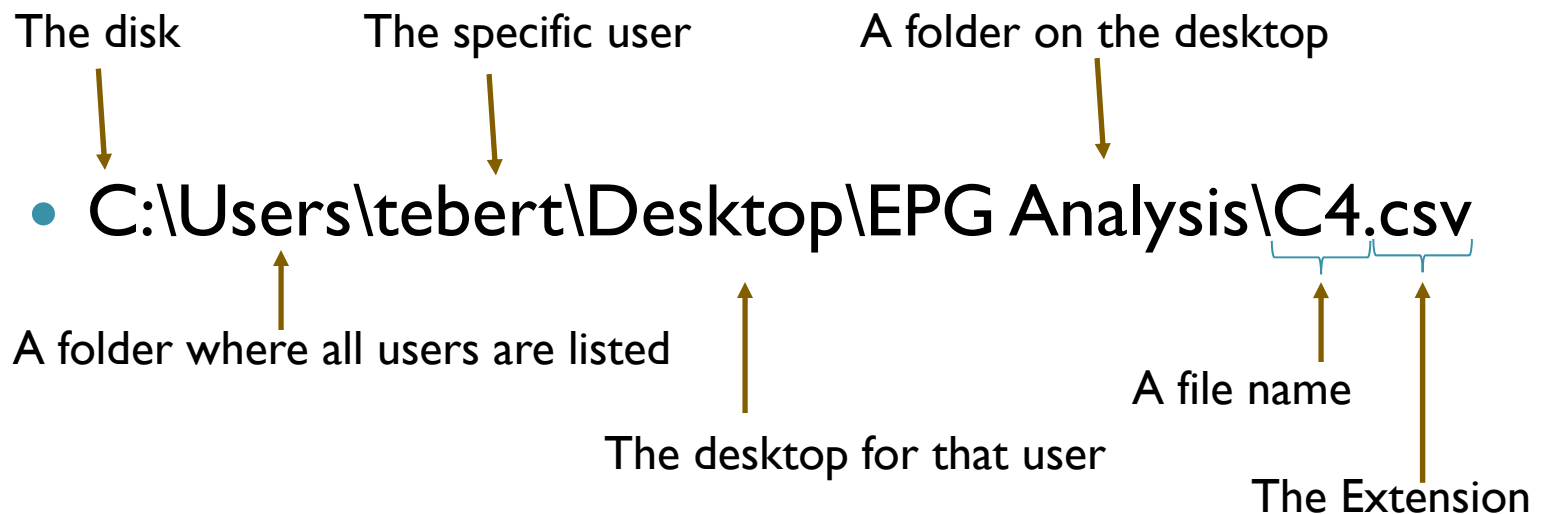
- Click here to see path

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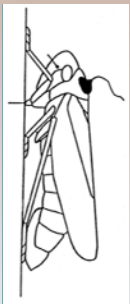


# The Path Name

- The path name is the set of folders and subfolders that must be followed to get to a specific file.



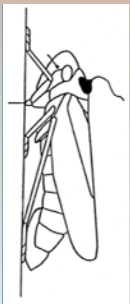
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# Recommended short cuts

- “Control c” for copy: to copy selected text or figure
- “Control v” for paste
- “Control x” for cut
- “Control s” for save: to save a file
- “Control f” for find
- “Control p” for print active file
- In all cases hold control key down and hit the lower case letter.
- You will do the first three tasks over and over. The faster you are at these tasks the less time this will take.
- The menu locations of these tasks changes with different software or upgrades. The shortcuts have not changed in the last 30+ years. Also, the shortcuts often cross platforms (PC versus Mac), and software companies.

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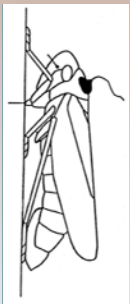




# Recommended short cuts #2

- “Control h” for change
- “Control a” for select all
- In Excel the following are also useful
  - “Control d” for fill down
  - “Control r” for fill right
  - “Control End ↓” for select down (Press and hold the control key, then the end key, and then the down arrow.)
  - “Control End →” for select right

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# The Files: What do you have?

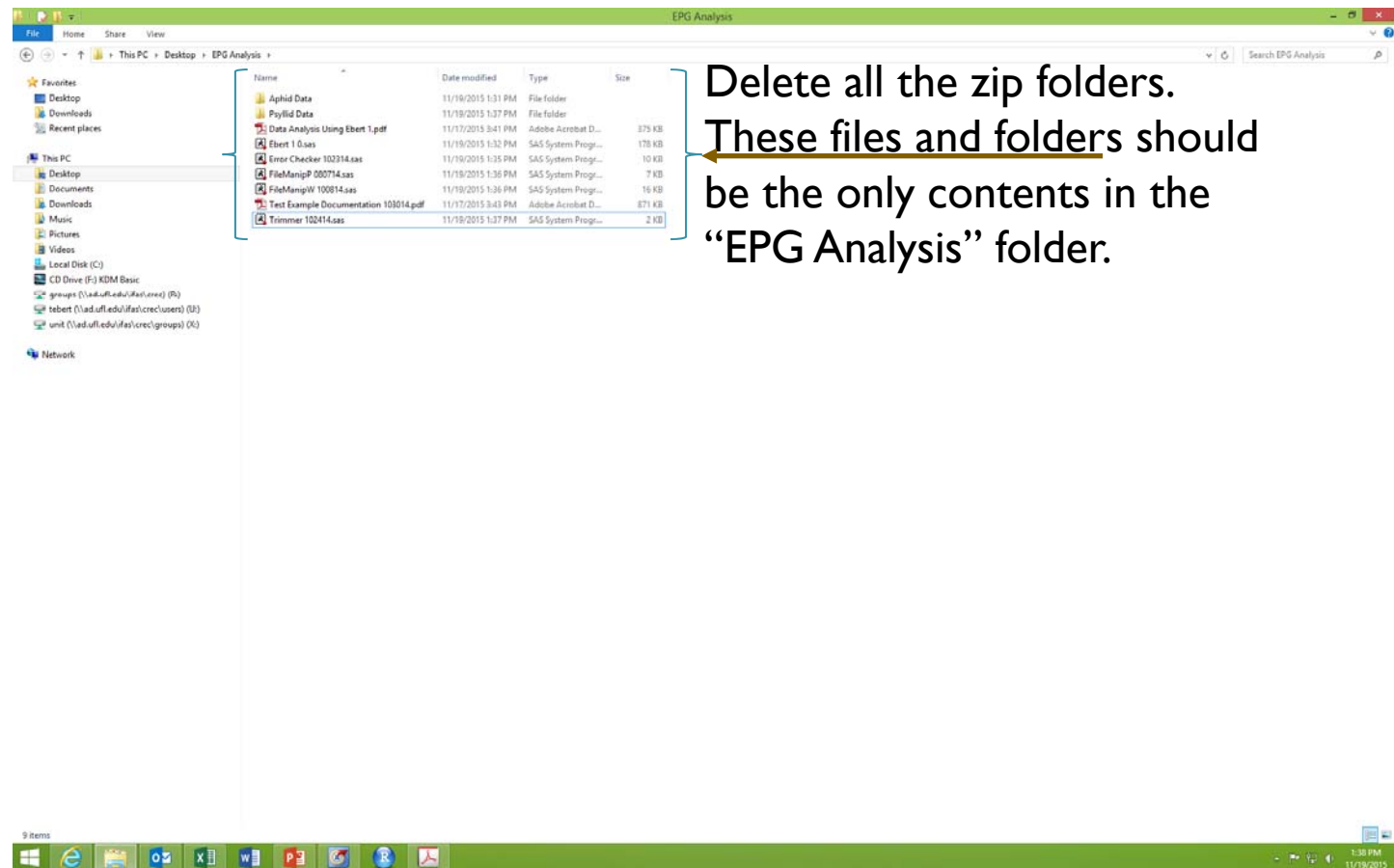
- Introductions
  - Raw data
  - SAS programs
- 
- Please unzip all files if you have not already done so.
  - Rearrange everything such that you have two folders (Aphid Data and Psyllid Data) and 7 files in your EPG Analysis folder.
  - Extra folders should be deleted. The “Aphid Data” and “Psyllid Data” folders should not have any subfolders. Everything with a zip extension should be deleted after the zip file has been extracted and saved with the same name.

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# Final Check

- You should have the following in a folder named “EPG Analysis” on your desktop.



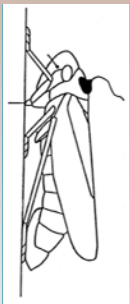
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# Introductions

- Data Analysis Using Ebert 1.pdf
  - This is a tutorial in an instruction manual format.
- Test Example Documentation 103014.pdf
  - A tutorial that goes through data analysis for the two data sets.

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# Raw Data

- Aphid data is provided using a format that is typical of files created by Probe software. The file extension is ANA.
- Psyllid data is provided using a format that is typical of files created by Windaq waveform browser. There is no file extension.
- All of these files are text files, and can be viewed using Notepad or similar software.

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# SAS Programs

- Here are the steps we will go through:
  - Read the raw data
  - Create a new file with all the data
  - Check for errors
  - Remove artificially terminated events (optional)
  - Process SAS output in Excel

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# SAS

- SAS has two interfaces.
  - SAS
  - Enterprise Guide (=Enterprise)
- I prefer Enterprise
  - It offers an easy view of all active data sets without having to print them out. This will be useful in advanced sections.

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