PP 7002: Plant Disease Epidemiology

SeverityPro

SeverityPro is a multiplatform application written by Dr. F. Nutter of Iowa State University. We are grateful that he is allowing us to use the program. You can run the program on either a PC running Windows 10, 8, 7 or earlier, or a Mac running version OS X El Capitan (10.11) or earlier.

Prior to running SeverityPro you must have Java Runtime Environment (commonly called Java) on your computer. If you do not have Java on your computer you can find the most recent version at: https://www.java.com/en/download/. Please download and install Java.

Download the SeverityPro.zip file onto your computer into a newly created folder. Please extract the files with file extraction software like 7zip (free at http://www.7-zip.org/), 7zip for Mac (free at http://7zx.en.softonic.com/mac?ex=SWH-1830.2), WinZIP, Stuffit or another extraction program. The program should extract the files into your new folder that still contains the zip file. You should now see 5 files and two folders (pic and tests) in addition to the zip file.

To start SeverityPro, double click on the **SeverityPro** jar (execute) file, the program will open in a new window.
> *If you only see the program blip open and immediately close (with nothing else happening), then please double click the RunSeverity.bat **batch file**. With the batch file, a black screen will open (do not close this, although you can minimize it), with a blue SeverityPro screen in the foreground. The latter is what you will be using.*

If prompted to update or install Java, please allow this, for Java is necessary for SeverityPro to run.

Please click on "**start new test**" to begin.

1. From this menu choose Session Purpose: **Practice**
2. **Modify the generic file name** to a more useful file name and appropriate path like the folder which also contains the program.
3. Select **alfalfa leaf #1**
4. Select **Disease: Necrotic (Black w/chlorosis option**) from the list
5. Within Disease Customization choose: **random lesions** and **without chlorosis.**
6. Select # of Leaves: **20** (or whatever number is assigned)
7. Disease Severity Range **5 to 95** (or whatever range is assigned)
8. Show the actual percentage: **Yes** for one test and **No** for the second test
9. Click **OK**
10. Place your estimate of the total area of disease as a percentage in the box and click **OK**. Perform this with each of the leaves in the session.
11. When you finish with all leaves, a table of results is shown. **Print** and **Save** this table. Your computer must be attached to a printer for printing. There can be a long pause before the printing occurs (that is fine.... don't break out of the session). For Saving,

you will be asked to update the existing file you created earlier; click **OK**. SeverityPro provides two additional ways to examine your score. Print and save the graph as well as the statistical analysis, of your data, which are found with the tabs at the top of the window. You will do a different analysis in a statistics program.

12. Repeat the test for the other conditions discussed in the homework assignment and save this test as well, but with a different file name. If you do not change the filename, the older file will be replaced.
13. To get the table of results of the estimated and actual data points into Minitab (or another statistics program), one must first open the saved file in Wordpad (or similar program).
14. The file will open showing a single column of data. Disregard the data above the row called Practice as well as the two rows that follow it. Highlight the next row and on down to the end of the column.
15. Copy this data into Minitab (or other statistics program) and then create a second column in Minitab that alternates between 1 and 2. This is so you can unstack the data and have the data like you saw it within the SeverityPro table of results.
16. After creating this column pull down the Data tab and select unstack columns.
17. In this selection box use C1 as the unstack data and the newly created C2 as the subscript. Also, choose to store the unstacked data starting after the last column in use.
18. Now you are ready to analyze your data. See the assignment instructions and videos.