Flower size analysis

1. Download a free version of ImageJ, a program useful for analyzing image data (http://rsb.info.nih.gov/ij/download.html)

2. Create a folder on your desktop and download specified images , saving them to your newly created folder.

3. Run the ImageJ program.

4. Within ImageJ, select File ⇒ Open. Navigate to the folder containing the scanned images.

5. Increase magnification (Ctrl + for Windows or Cmd + for Mac) individual petals are clearly visible (~100%).

6.

7. Select the "Hand" tool  from the ImageJ tool bar. This tool allows you to move the image within the viewing box. Take note of the the ruler that has been scanned as a length reference.

8. Drag the image so that the ruler is visible in the viewing box. Select the "line" tool  from the ImageJ tool bar. This tool will allow you to calibrate the distance of a created line to a known distance in the image (the ruler). Create a line from the leading edge of 1cm to the leading edge of 2cm, ensuring that the line is straight and exactly horizontal. Select Analyze ⇒ Set Scale. Enter the distance of the line into the "Known Distance" box. In this case, the know distance is 10mm (1cm). Change "Unit of Length" to mm. Take note that the Scale should now read Pixels/mm. Select OK. Draw a new line to the same size as the line used to set the scale. Select Analyze ⇒ Measure, then verify that the length is the same (last column in Results box). Close out the Results box, select Don't save.

9. Now draw a line from across the length of a flower petal. Once the line is drawn, you can save the measurement by pressing Ctrl m (Windows) or Cmd m (Mac). A results box should pop up after saving the first measurement. Measure all petals of interest in a similar manner, saving the measurement after each new line is drawn.

10. After taking all measurements, select the Results box. From the Results menu, select File ⇒ Save as, then name the file. Select Save. The file saved should be a .xls file, which is an Excel file. Open the file in Excel and proceed with the analysis.