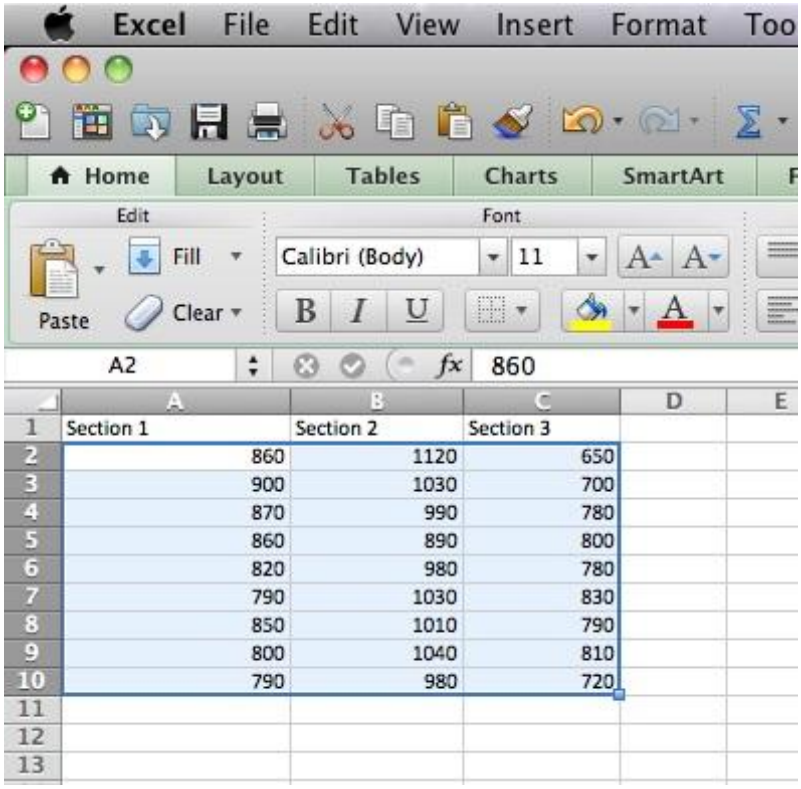
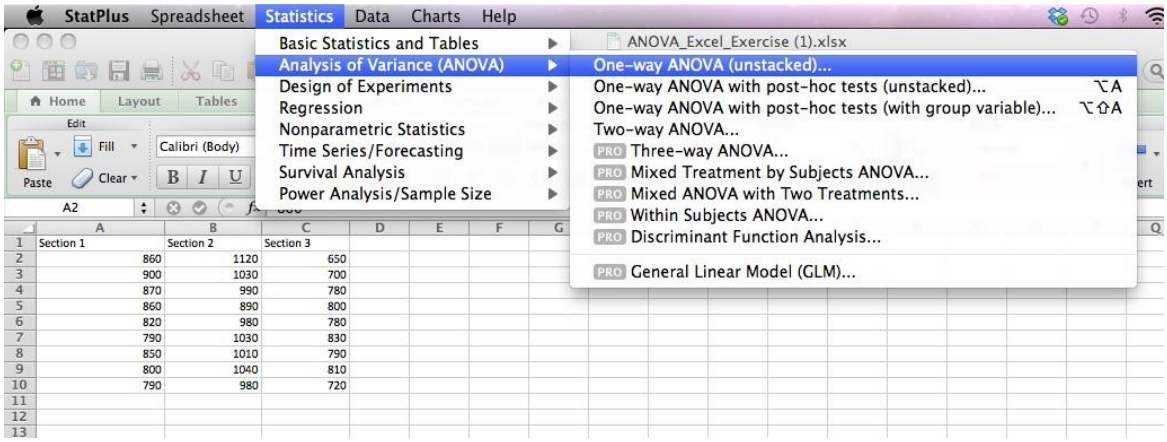
MindEdge LEARNING

Excel on Macs: ANOVA

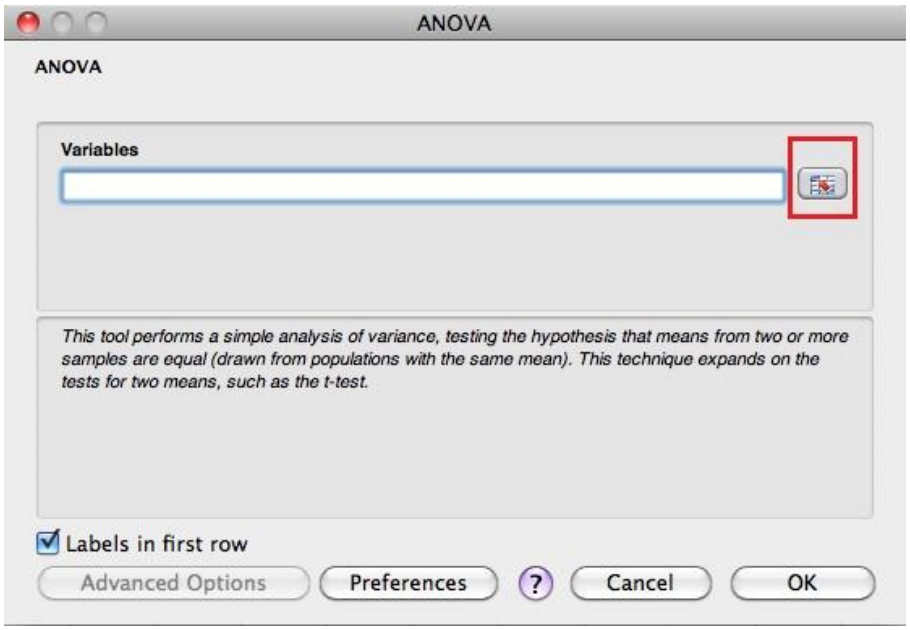


In this video, we'll use the functions in Excel and StatPlus to create an Analysis of Variance (ANOVA) output from a dataset. In this case, the data set are test scores, listed in this column here. In this problem, we're comparing the average weekly yield from three different apple orchards.

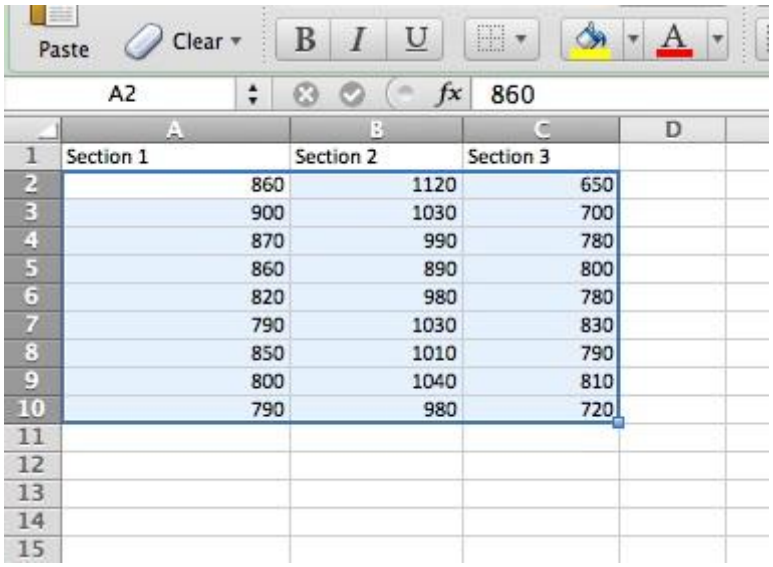
It is important to have opened both Microsoft Excel AND StatPlus.



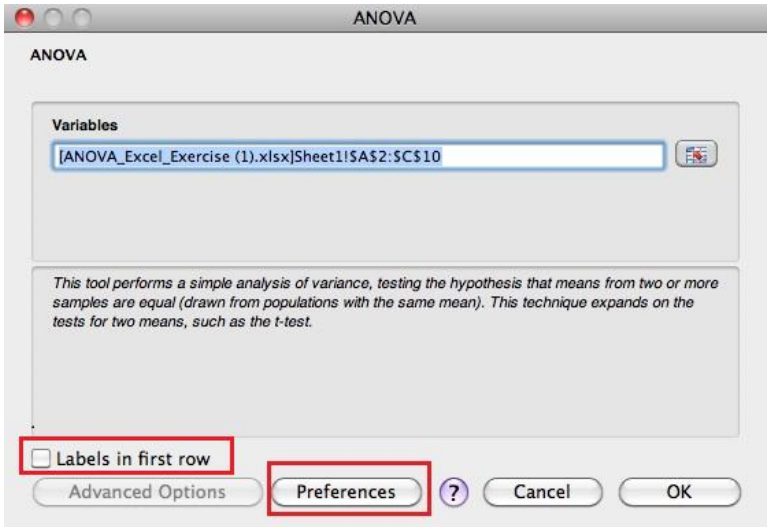
After having opened the data in Microsoft Excel, the next step is to go to the StatPlus Application, select "Statistics", "Analysis of Variance (ANOVA)", and "One-way ANOVA (unstacked)…" which should open the following window:



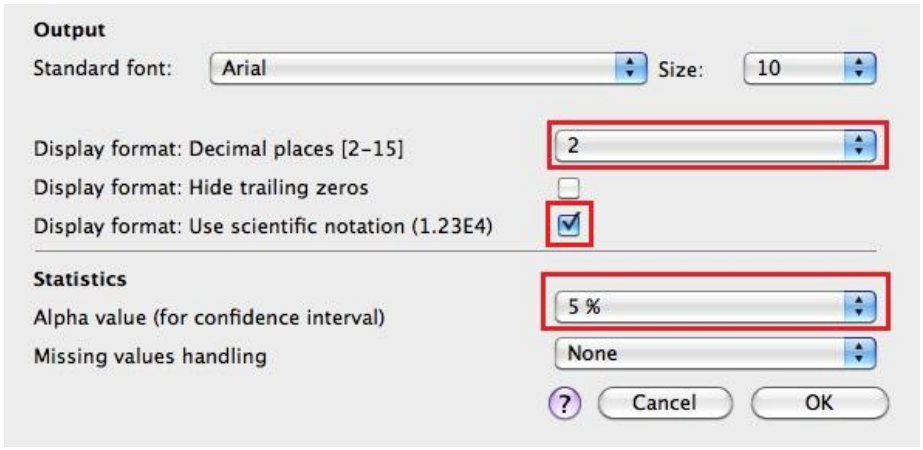
In this window, it is important to select the data. To do this, you should click on the button to the right of the variables empty box.



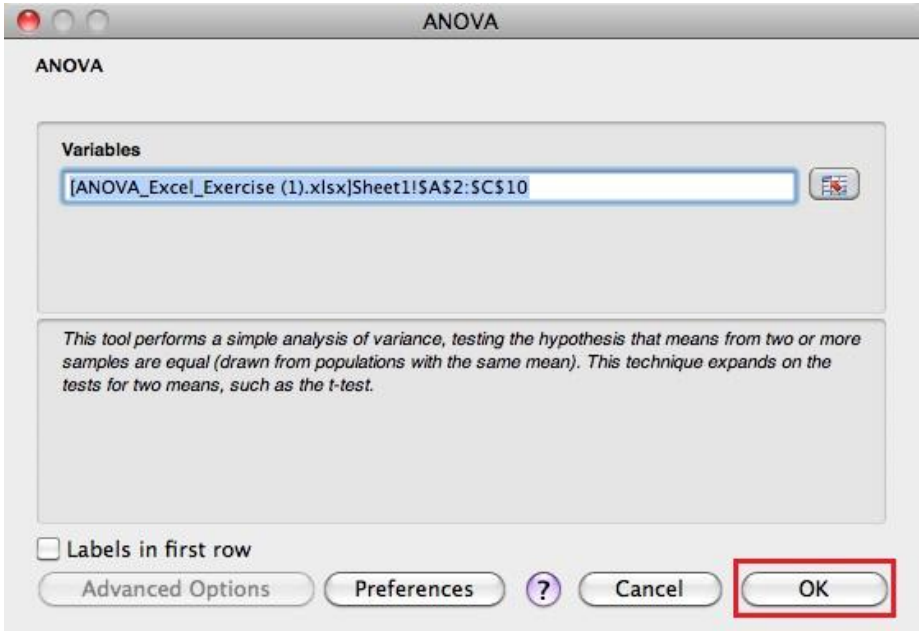
After selecting the button to the right of the Variables box, go to the Excel spreadsheet with the data and select the entire dataset except for the names of each group.



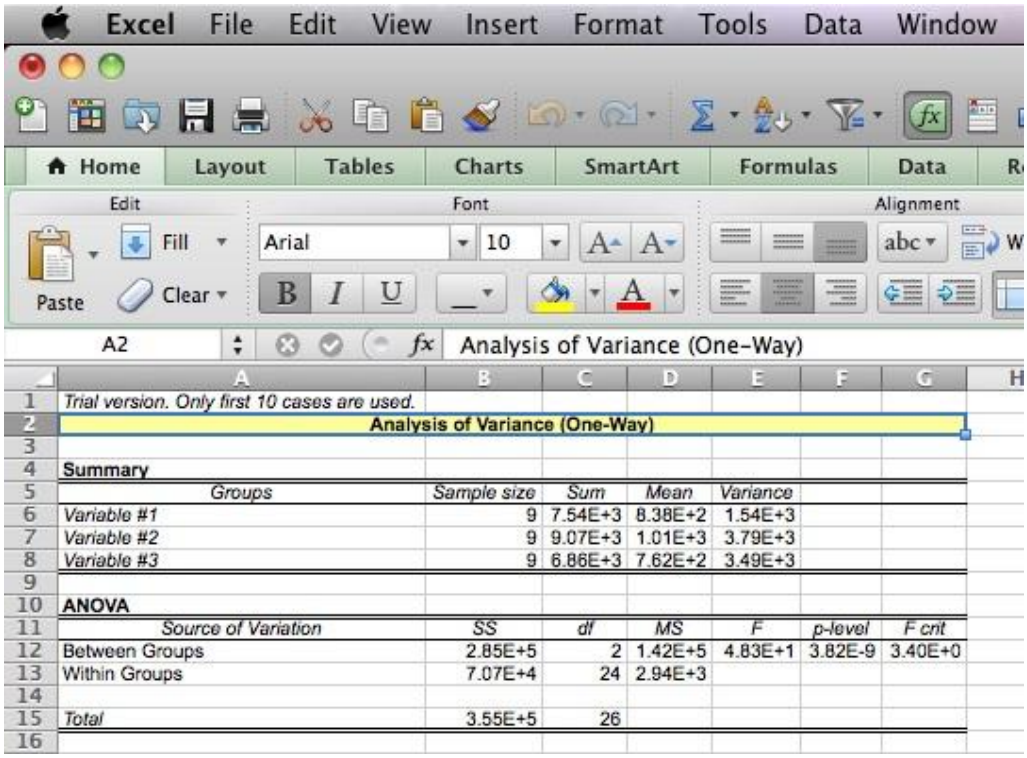
Return to the “ANOVA” window where it is important to unselect “Labels in first row” as well as Preferences.



In Preferences, it is important to set the display format for decimal places to 2, to use scientific notation, and to set the alpha value for confidence intervals to five percent. Then press “OK”.



Now that the data has been selected and the specifications have been determined, it is time to run the ANOVA analysis. After having pressed “OK”, wait for the results to appear on a new Excel spreadsheet before adjusting any of the spreadsheets.



	A	B	C	D	E	F	G
1	*Trial version. Only first 10 cases are used.*						
2	**Analysis of Variance (One-Way)**						
3							
4	**Summary**						
5	*Groups*	*Sample size*	*Sum*	*Mean*	*Variance*		
6	*Variable #1*	9	7.54E+3	8.38E+2	1.54E+3		
7	*Variable #2*	9	9.07E+3	1.01E+3	3.79E+3		
8	*Variable #3*	9	6.86E+3	7.62E+2	3.49E+3		
9							
10	**ANOVA**						
11	*Source of Variation*	*SS*	*df*	*MS*	*F*	*p-level*	*F crit*
12	Between Groups	2.85E+5	2	1.42E+5	4.83E+1	3.82E-9	3.40E+0
13	Within Groups	7.07E+4	24	2.94E+3			
14							
15	*Total*	3.55E+5	26				
16							

The results for the ANOVA analysis should look like something similar to the spreadsheet shown above.