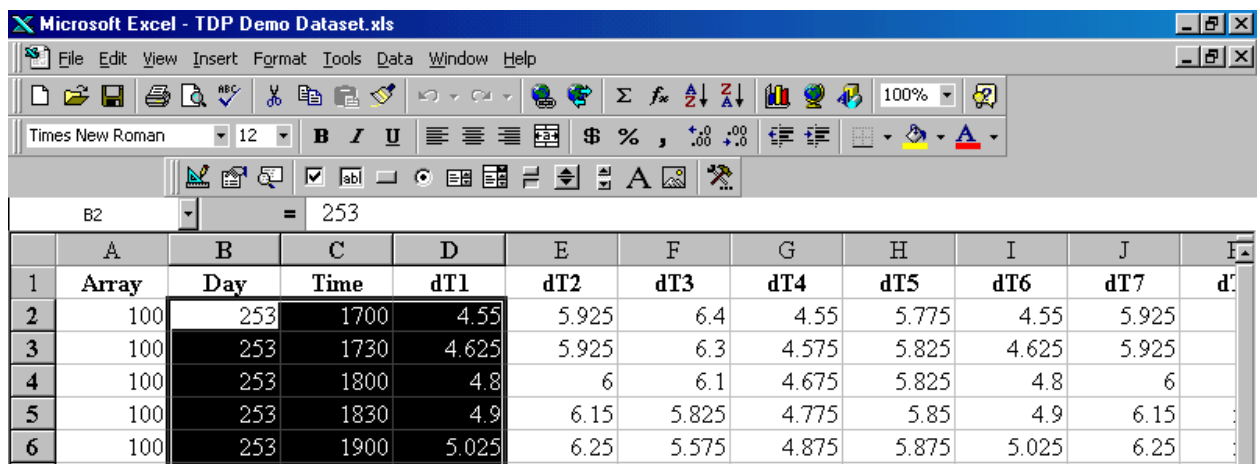


Instructions for Calculating Sapflow

The spreadsheet TDP Ver. 12-01.xls has been designed to handle four TDP Sapflow sensors. The data for each sensor is to be pasted into a separate sheet of the workbook e.g. **TDP 1**, **TDP 2**, **TDP 3**, and **TDP 4**. The last sheet named **Example** contains an example of how your sapflow results should look after you have pasted the data. If you have more than 4 x TDP sensors use the Excel **“Edit”** menu to **“Move or Copy Sheet ..”** to create more worksheets for your sensors. Perform this action with a blank worksheet before you have entered any data to save having to delete data from columns, which may cause errors.

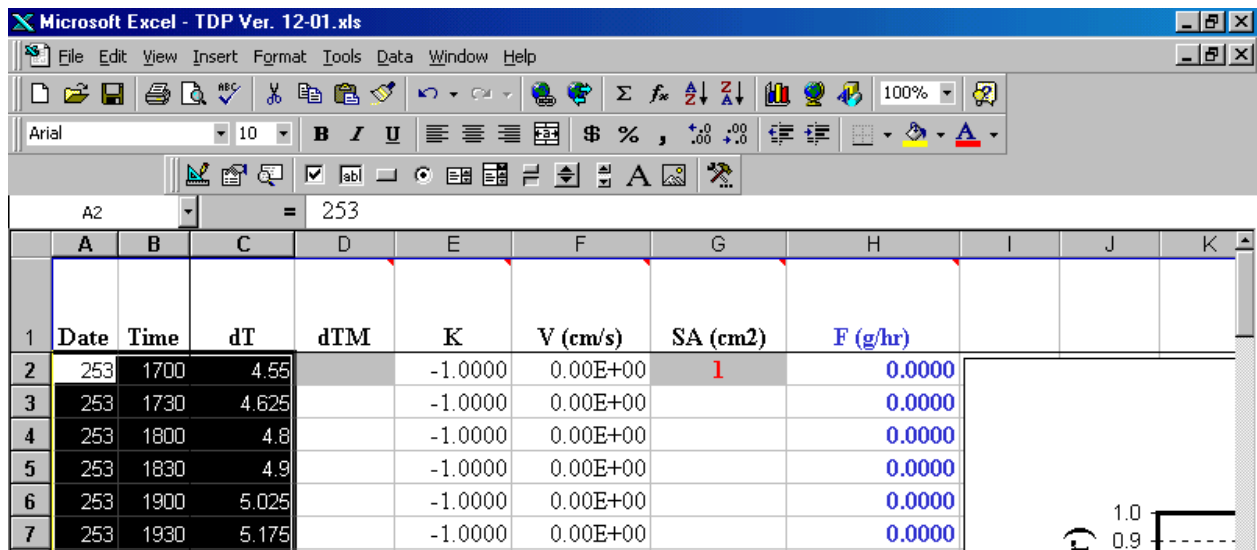
After you have collected a new data set from the logger using PC208W open the raw data file e.g. TDP121701.dat in excel.



	A	B	C	D	E	F	G	H	I	J	K
1	Array	Day	Time	dT1	dT2	dT3	dT4	dT5	dT6	dT7	dT8
2	100	253	1700	4.55	5.925	6.4	4.55	5.775	4.55	5.925	
3	100	253	1730	4.625	5.925	6.3	4.575	5.825	4.625	5.925	
4	100	253	1800	4.8	6	6.1	4.675	5.825	4.8	6	
5	100	253	1830	4.9	6.15	5.825	4.775	5.85	4.9	6.15	
6	100	253	1900	5.025	6.25	5.575	4.875	5.875	5.025	6.25	

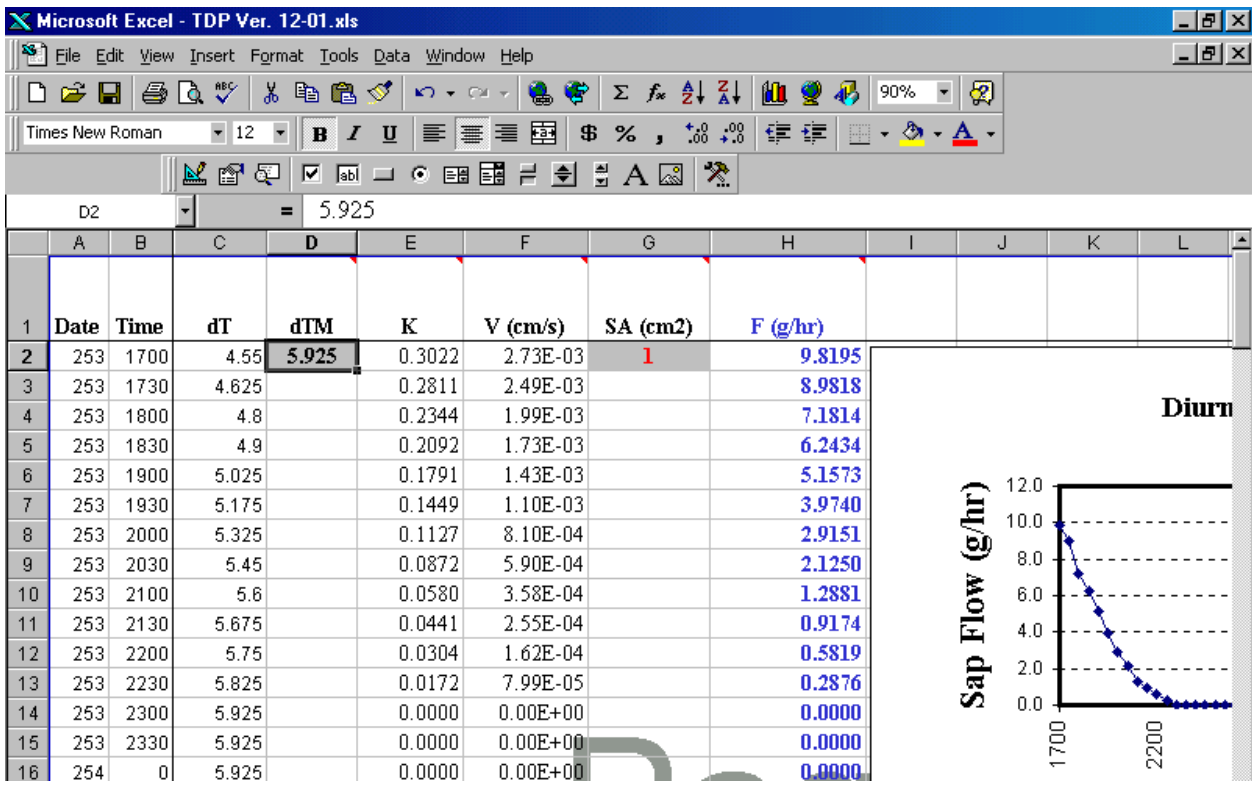
Next, place the cursor on Cell B2 and **Left-Click** the mouse and drag across the row to cell D2 to include the **Day**, **Time** and **dT1** then, down to the bottom of the data. **Right-Click** the mouse to bring up the menu and choose **Copy**.

Next, open the spreadsheet TDP Ver. 12-01.xls place the cursor on the cell A2 and click **paste**.



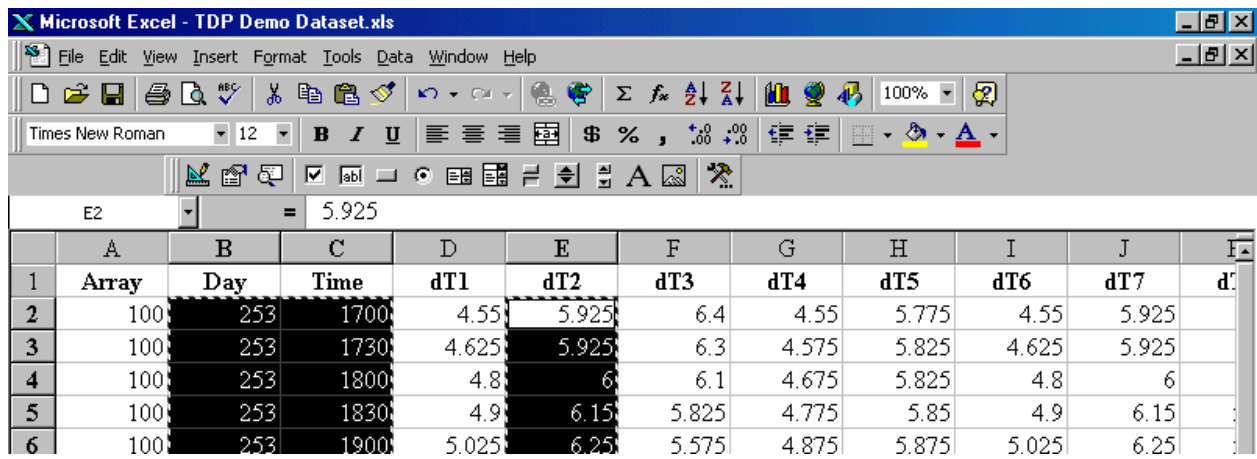
	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	dT	dTM	K	V (cm/s)	SA (cm2)	F (g/hr)			
2	253	1700	4.55		-1.0000	0.00E+00	1	0.0000			
3	253	1730	4.625		-1.0000	0.00E+00		0.0000			
4	253	1800	4.8		-1.0000	0.00E+00		0.0000			
5	253	1830	4.9		-1.0000	0.00E+00		0.0000			
6	253	1900	5.025		-1.0000	0.00E+00		0.0000			
7	253	1930	5.175		-1.0000	0.00E+00		0.0000			

Place the cursor on Cell C2 and scroll down until you find the highest temperature or Maximum difference in temperature (dT_M). Enter this value into the Grey cell D2 and press enter. You will then see the spreadsheet and chart automatically update.



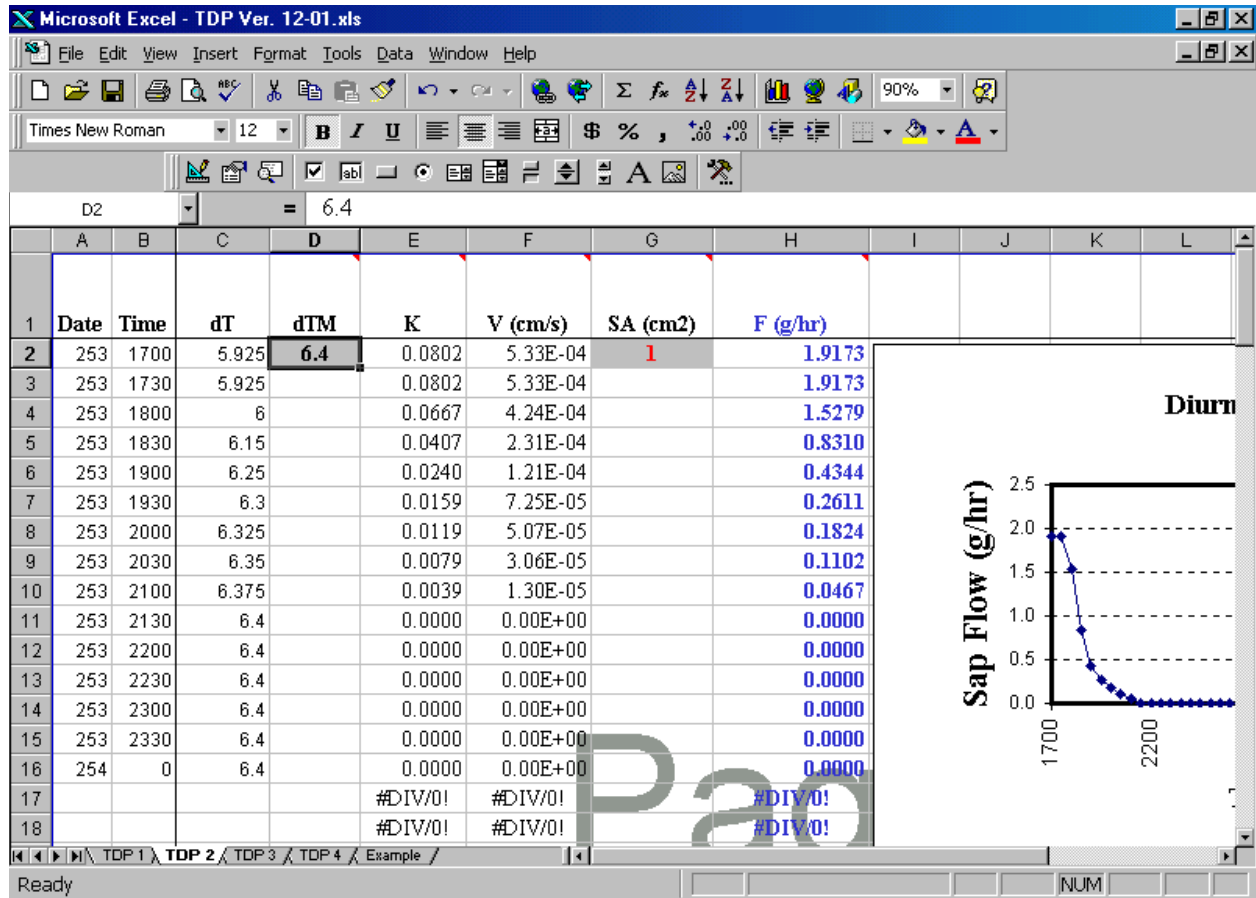
To paste the data for the second and subsequent TDP sensors the procedure is similar except in the way that you copy the data from the raw data file.

Place the cursor on Cell B2 and left-click the mouse and drag across the row to cell C2 to highlight the Date and Time columns then drag down to the bottom of the data. Next, hold down the "Control" Key and click on Cell E2 to highlight the dT2 column and drag down to the bottom of the data. Finally, Right-Click the mouse to bring up the menu and choose copy



Return to the spreadsheet TDP Ver. 12-01.xls place the cursor on the cell A2 in sheet TDP 2 and click **paste**.

Place the cursor on Cell C2 and scroll down until you find the highest temperature or Maximum difference in temperature (**dTM**). Enter this value into the Grey cell D2 and press enter. You will then see the spreadsheet and chart automatically update



Finally, to ensure accuracy of the calculated Sapflow, be sure to measure the diameter of each plant where the TDP sensor is installed and enter this value into the corresponding Cell G2 on each sheet. This is required to calculate Sapflow. A default value of 1 cm^2 has been entered but it must be updated to be specific to each plant.