

Importing, Consolidating and Maximizing the Value of Excel Data

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How Did You Get Your Excel?



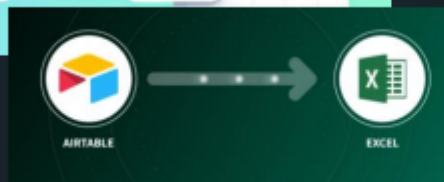
Manual
Entry



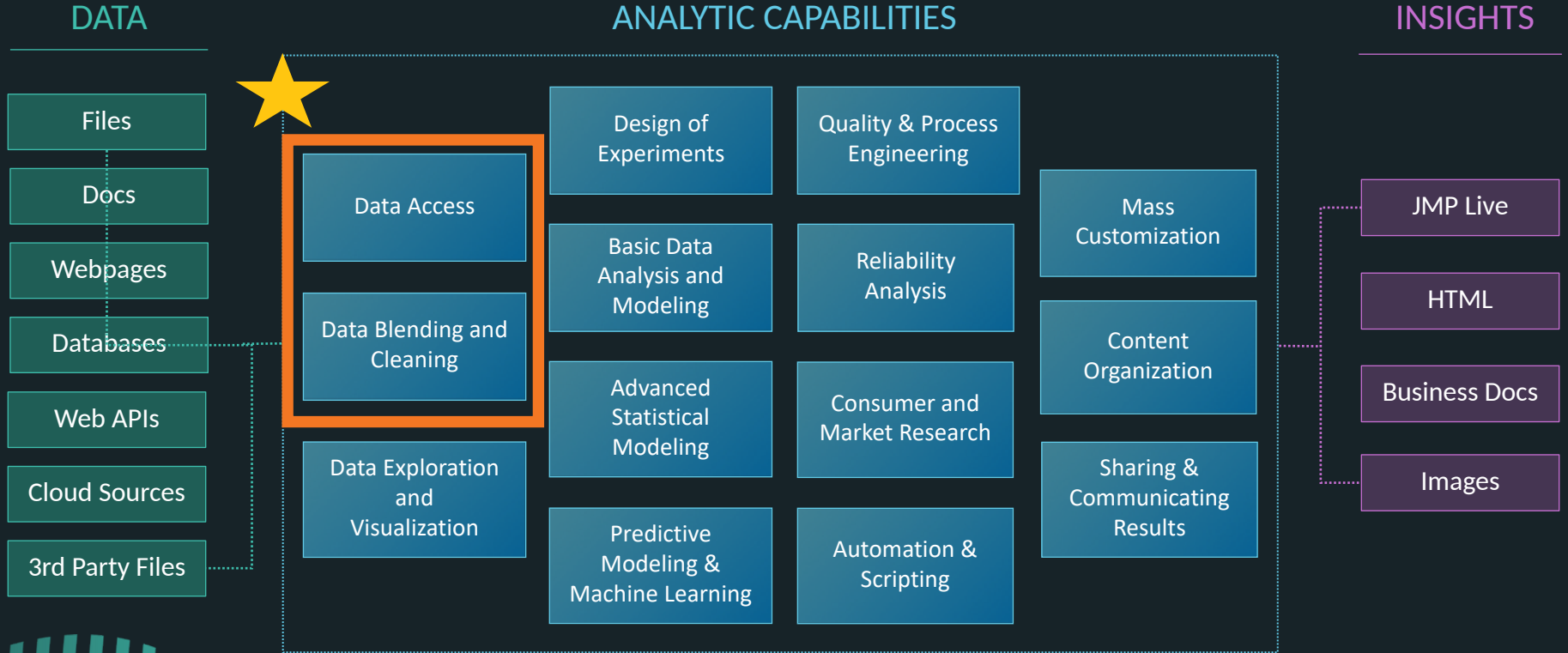
Equipment
Export



Database
Query



Your Data Workflow in JMP



Additional Data Import Wizards

JMP imports *all* data types and Wizards help!

- Excel
- TXT, CSV
- PDFs
- XML
- JSON
- Database (also SQL GUI)
- Multiple Files

Other JMP Import Wizards

The screenshot displays the JMP interface with several windows open. On the left, a 'Massive Information Systems' window shows a 'Quality Metrics Report' table with columns for Sample ID, Run Date, Method, and Result. In the center, the 'Multiple File Import - JMP Pro' wizard is active, showing file selection options and a list of files including 'Instrument 1 - Cld2.csv' through 'Instrument 2 - Mkt.csv'. To the right, the 'LIMS - Join - Access - JMP Pro' window shows a 'Table Preview' and a 'Query Preview' table with columns like Sample ID, Run Date, Yield, pH, and Buffer Salt. Further right, the 'Database' window shows a 'TXT/CSV' file being imported, displaying a large grid of data. The bottom of the screenshot shows the 'Import' button and other wizard controls.

<https://www.imp.com/support/help/en/16.2/#page/imp/import-your-data.shtml#>

Excel Import Wizard



Simple
Data
Structure

Easily work with the data where it's at:

- Anywhere in the worksheet, visible or hidden
- Multiple worksheets
- Merged cells
- Multiple row or hierarchical column headers



Complex
Data
Structure

Excel Import Wizard

We'll use the Wizard to help us:

Select the worksheets with the desired data

Use the Data Preview to guide our selection

Modify settings to line up the data in our sights

Excel Import Wizard

Data Preview

Sample ID	Run Date	Method	Result	Column 5	Column 6	Column 7
1	200112	1/1/2018	Protein	9.7	*	*
2	200112	1/1/2018	Purity	60	*	*
3	200112	1/1/2018	Total Nitrogen	95	*	*
4	200112	1/1/2018	Binder	1.3	*	*
5	200112	1/1/2018	Stabilizer	0.01	*	*
6	200112	1/1/2018	pH	8	*	*
7	200112	1/1/2018	Preservative	0.0024	*	*
8	200112	1/1/2018	Buffer Salt	0.85	*	*
9	200112	1/1/2018	Protein	13	*	*
10	200113	1/1/2018	Purity	53	*	*
11	200113	1/1/2018	Total Nitrogen	120	*	*
12	200113	1/1/2018	Binder	1.2	*	*
13	200113	1/1/2018	Stabilizer	0.01	*	*
14	200113	1/1/2018	pH	7.9	*	*
15	200113	1/1/2018	Preservative	0.0024	*	*
16	200113	1/1/2018	Buffer Salt	0.86	*	*
17	200114	1/1/2018	Protein	8.9	*	*
18	200114	1/1/2018	Purity	54	*	*

Rows Shown: 100 / 520

Worksheets

Select sheets to open	Custom setting
January	
February	

Select all

Individual Worksheet Settings

- Worksheet contains column headers
- Column headers start on row: 1
- Number of rows with column headers: 1
- Data starts on row: 1
- Data starts on column: 1

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Concatenate worksheets and try to match columns

- Create column with worksheet name when concatenating
- Use for all worksheets

Restore Default Settings

Back Next Import Cancel Help

Excel Import Wizard - Example

Column and Row Starts

Country	2010	2011	2012	2013	2014
China	66,318,167	64,596,119	70,223,331	68,139,264	70,048,000
Russian Federation	33,979,460	34,965,160	32,870,840	36,746,512	35,914,240
India	24,713,200	22,488,400	24,450,000	25,000,000	25,000,000
Ukraine	19,838,100	17,344,000	16,619,500	18,453,000	20,755,000
United States	23,297,460	19,862,270	20,856,270	20,766,100	20,680,770
Poland	24,232,376	19,378,860	15,523,900	13,731,500	13,746,000
Germany	13,694,283	11,916,834	11,491,727	10,231,737	13,044,000
Netherlands	8,126,800	7,015,253	7,363,000	6,468,762	7,488,000
France	6,434,053	6,077,891	6,874,391	6,348,126	7,254,221
United Kingdom	6,636,000	6,649,000	6,966,000	5,918,000	6,000,000
Canada	4,567,330	4,220,430	4,705,130	5,282,420	5,170,790
Turkey	5,370,000	5,000,000	5,200,000	5,300,000	4,800,000
Romania	3,469,800	3,997,057	4,077,633	3,947,177	4,230,210
Iran	3,658,036	3,485,814	3,756,000	3,750,000	4,180,000
Bangladesh	2,933,000	3,216,000	2,994,000	3,386,000	3,908,000
Belgium	2,921,900	2,564,300	2,909,000	2,522,095	3,229,622
Peru	3,273,820	2,681,825	3,297,997	3,151,355	2,996,090
Colombia	2,882,940	2,873,870	2,834,820	2,872,284	2,959,380
Brazil	2,561,320	2,848,620	3,126,410	3,047,000	2,891,530
Japan	2,898,000	2,959,000	3,074,000	2,929,000	2,839,000
Spain	3,078,059	2,992,422	3,078,140	2,790,000	2,750,400
Kazakhstan	1,692,600	2,184,800	2,268,800	2,308,300	2,243,300
Korea	1,870,000	2,268,000	1,884,000	2,023,000	2,052,000
Argentina	2,220,529	2,497,156	2,262,120	2,094,525	2,021,025
Egypt	1,769,910	1,903,134	1,995,317	2,039,351	1,950,000
Pakistan	1,868,400	1,666,100	1,721,600	1,946,300	1,854,700
Italy	2,053,043	2,009,851	1,856,319	1,610,435	1,809,097
Algeria	1,207,690	967,232	1,333,465	1,879,918	1,800,000

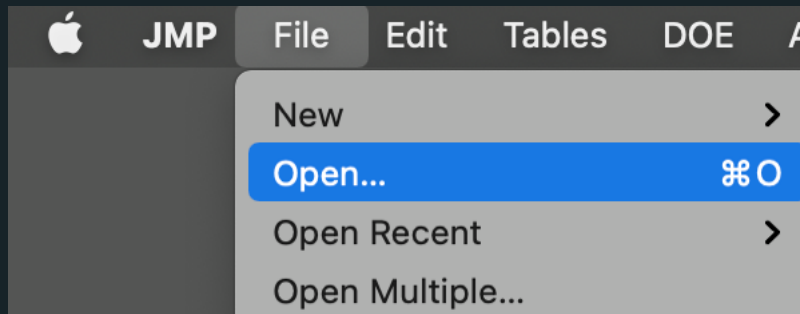
Example: exploring potato production over time, ensuring food sustainability for citizens.

Complexity:

- Column headers start after 1st Excel row
- Rows of data separated from column headers

Excel Import Wizard

- File -> Open
- Options
- Excel files automatically open in Excel Wizard



Excel Import Wizard - Example

Column and Row Starts

Country	2010	2011	2012	2013	2014
China	66,318,167	64,596,119	70,223,331	68,139,264	70,048,000
Russian Federation	33,979,188	34,965,188	33,878,848	33,748,548	35,914,848
India	24,713,200	22,488,400	24,450,000	25,000,000	25,000,000
Ukraine	19,838,100	17,344,000	16,619,500	18,453,000	20,755,000
United States	23,297,460	19,882,270	20,856,270	20,786,100	20,880,770
Poland	24,232,376	19,378,860	15,523,900	13,731,500	13,746,000
Germany	13,694,283	11,916,834	11,491,727	10,231,737	13,044,000
Netherlands	8,126,800	7,015,253	7,363,000	6,468,762	7,488,000
France	6,434,053	6,077,891	6,874,391	6,348,126	7,254,221
United Kingdom	6,636,000	6,649,000	6,966,000	5,918,000	6,000,000
Canada	4,567,330	4,220,430	4,705,130	5,282,420	5,170,790

Excel Import Wizard

Data Preview

Country	2010	2011	2012	2013	2014
1 China	66318167	64596119	70223331	68139264	70048000
2 Russian Federation	33979188	34965188	32870640	36746512	35914340
3 India	24713200	22488400	24450000	25000000	25000000
4 Ukraine	19838100	17344000	16619500	18453000	20755000
5 United States	23297460	19882270	20856270	20766100	20680770
6 Poland	24232376	19378860	15523900	13731500	13746000
7 Germany	13694283	11916834	11491727	10231737	13044000
8 Netherlands	8126800	7015253	7363000	6468762	7488000
9 France	6434053	6077891	6874391	6348126	7254221
10 United Kingdom	6636000	6649000	6966000	5918000	6000000
11 Canada	4567330	4220430	4705130	5282420	5170790
12 Turkey	5370000	5000000	5200000	5300000	4800000

Individual Worksheet Settings

- Worksheet contains column headers
- 2 Column headers start on row
- 1 Number of rows with column headers
- 5 Data starts on row
- 1 Data starts on column

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Worksheets

- Potato Production

Use for all worksheets

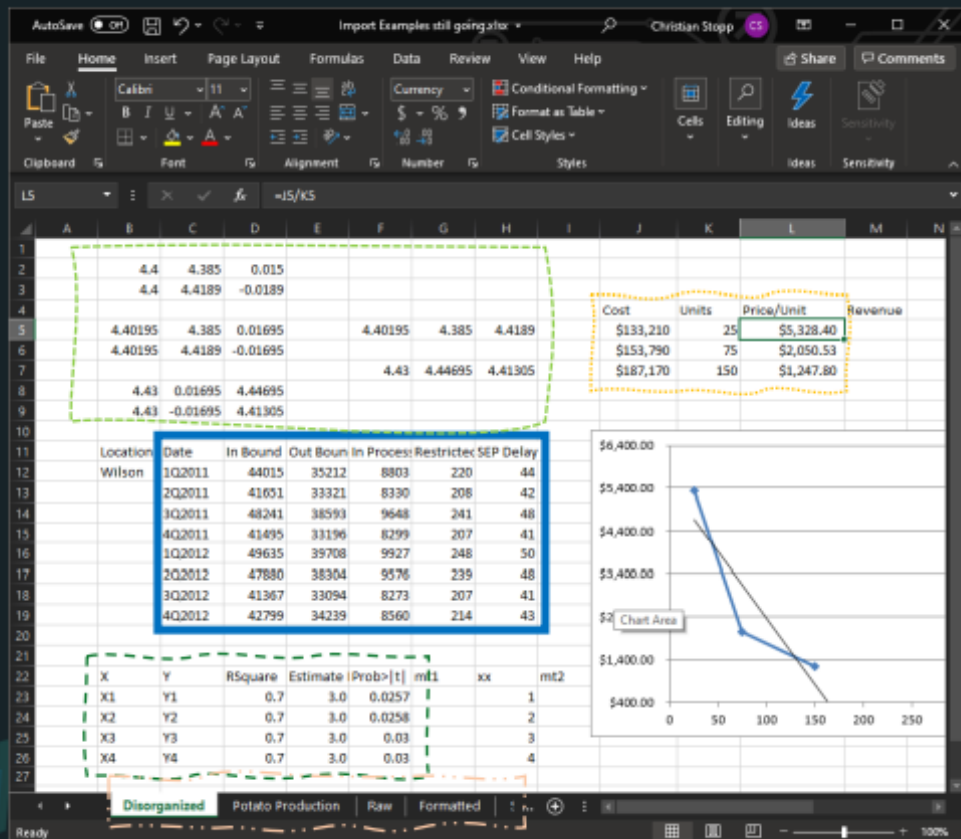
Restore Default Settings Back Next

Easily managed!

- Column headers start after 1st Excel row
- Rows of data separated from column headers

Why Do We Need a Wizard Anyway?

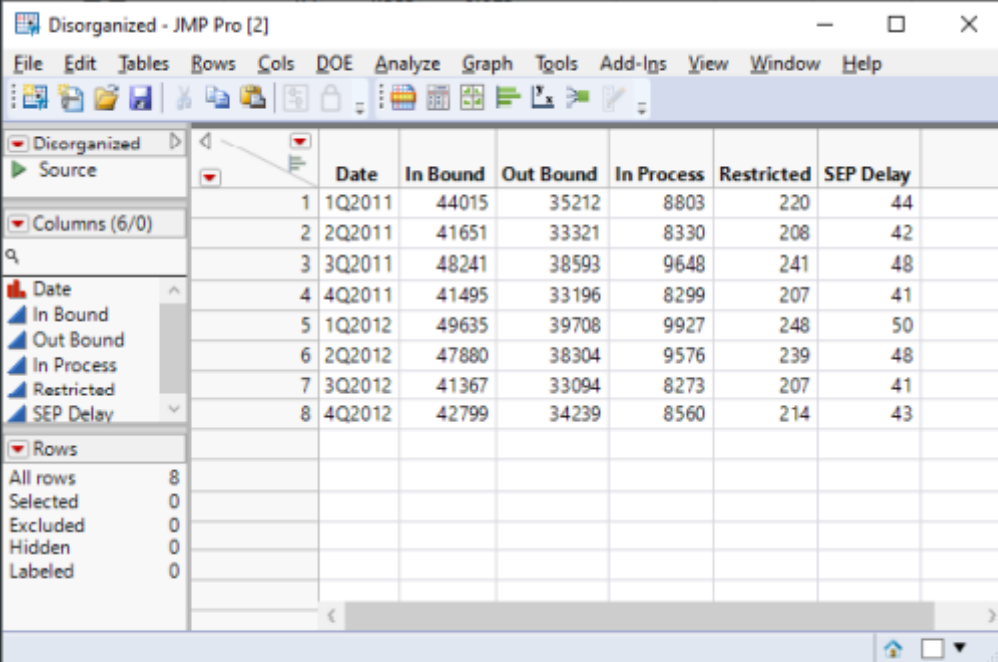
Excel



- Cell-based – properties, formulas, etc. can differ between any pair of cells
- Can contain multiple worksheets
- Worksheet can contain multiple tables...or random content...anywhere
- Tables can have multiple rows of column headers

Why Do We Need a Wizard Anyway?

JMP



	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay
1	1Q2011	44015	35212	8803	220	44
2	2Q2011	41651	33321	8330	208	42
3	3Q2011	48241	38593	9648	241	48
4	4Q2011	41495	33196	8299	207	41
5	1Q2012	49635	39708	9927	248	50
6	2Q2012	47880	38304	9576	239	48
7	3Q2012	41367	33094	8273	207	41
8	4Q2012	42799	34239	8560	214	43

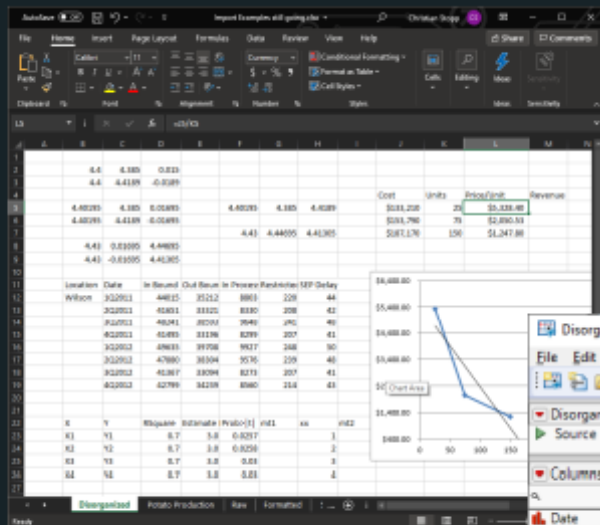
- Contains a single table
- Each column reflects a single attribute or measure across all rows
- Each row is a single unit or observation, e.g. one experimental run, one wafer, one patient, one patient visit, etc.*

Ideally each row has a unique ID, i.e. one or multiple column values making it distinct from the other rows

Excel → JMP

Have the End Goal in Mind

JMP Documentation:
“Before you import a worksheet, open the spreadsheet in Excel and decide how you want the data to be structured in the final data table.”



Generally depends on the analyses you intend to do...but mostly requires “JMP” properties as outlined earlier.

	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay
1	1Q2011	44015	35212	8803	220	44
2	2Q2011	41651	33321	8330	208	42
3	3Q2011	48241	38593	9648	241	48
4	4Q2011	41485	33196	8299	207	41
5	1Q2012	49635	39708	9927	248	50
6	2Q2012	47880	38304	9576	239	48
7	3Q2012	41367	33094	8273	207	41
8	4Q2012	42799	34239	8580	214	43

What can I do in the Excel Import Wizard to achieve this?

What can I do using the options in JMP under Tables to achieve this?

More Excel Import Wizard Examples

Let's Roll!



Simple
Import

Let's explore several examples
building in Excel complexity



Along the way we'll also:

- See some JMP data tips
- Use some data to easily generate related reports



Complex
Import

What's Behind that Next Button?

Managing Merged Cells and...

	A	B	C	D	E	F	G	H	I	N
1										
2		Byron Wingerd: Quarterly Transaction Summary								
3			Move Orders			Exceptions				
4		Location	Date	In Bound	Out Bound	In Process	Restricted	SEP Delat		
5		Wilson	Q12011	44015	35212	8803	220	44		
6			Q22011	41651	33321	8330	208	42		
7			Q32011	48241	38593	9648	241	48		
8			Q42011	41495	33196	8299	207	41		
9			Q12012	49635	39708	9927	248	50		
10			Q22012	47880	38304	9576	239	48		
11			Q32012	41367	33094	8273	207	41		
12			Q42012	42799	34239	8560	214	43		
13			Q12011	54180	43344	10836	271	54		
14			Q22011	52755	42204	10551	264	53		
15			Q32011	59377	47502	11875	297	59		
16			Q42011	58810	47048	11762	294	59		
17		Q12012	53805	43044	10761	269	54			
18		Q22012	54808	43846	10962	274	55			
19		Q32012	57855	46284	11571	289	58			
20		LeGrange	Q42012	55178	44142	11036	276	55		
21		Q12011	38884	31107	7777	194	39			
22		Q22011	40464	32371	8093	202	40			
23		Q32011	38998	31198	7800	195	39			
24		Q42011	42547	34038	8509	213	43			
25		Q12012	45474	36379	9095	227	45			
26		Q22012	42945	34356	8589	215	43			
27		Q32012	45525	36420	9105	228	46			
28		Olester	Q42012	45977	36782	9195	230	46		
29										
30										

Example: monitoring transaction order flow

Managed:

- Column headers & data start after 1st Excel row

Complexity:

- Multiple rows for column headers?
- Merged cells

What's Behind that Next Button?

Managing Merged Cells and...

Byron Wingerd: Quarterly Transaction Summary							
Move Orders				Exceptions			
Location	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay	
	Q12011	44015	35212	8803	220	44	
	Q22011	41651	33321	8330	208	42	
	Q32011	48241	38593	9648	241	48	
	Q42011	41495	33196	8299	207	41	
	Q12012	49635	39708	9927	248	50	
	Q22012	47880	38304	9576	239	48	
	Q32012	41367	33094	8273	207	41	
Wilson	Q42012	42799	34239	8560	214	43	
	Q12011	54180	43344	10836	271	54	
	Q22011	52755	42204	10551	264	53	
	Q32011	59377	47502	11875	297	59	
	Q42011	58810	47048	11762	294	59	
	Q12012	53805	43044	10761	269	54	
	Q22012	54808	43846	10962	274	55	
	Q32012	57855	46284	11571	289	58	
LeGrange	Q42012	55178	44142	11036	276	55	

Data Preview

Location	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay
Wilson	Q12011	44015	35212	8803	220	44
Wilson	Q22011	41651	33321	8330	208	42
Wilson	Q32011	48241	38593	9648	241	48
Wilson	Q42011	41495	33196	8299	207	41
Wilson	Q12012	49635	39708	9927	248	50
Wilson	Q22012	47880	38304	9576	239	48
Wilson	Q32012	41367	33094	8273	207	41
Wilson	Q42012	42799	34239	8560	214	43
LeGrange	Q12011	54180	43344	10836	271	54
LeGrange	Q22011	52755	42204	10551	264	53
LeGrange	Q32011	59377	47502	11875	297	59
LeGrange	Q42011	58810	47048	11762	294	59
LeGrange	Q12012	53805	43044	10761	269	54

Individual Worksheet Settings

- Worksheet contains column headers
- 3 Column headers start on row +
- 1** Number of rows with column headers +
- 4 Data starts on row +
- 1 Data starts on column +

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Concatenate worksheets and try to match columns

- Create column with worksheet name when concatenating
- Use for all worksheets

Next

Tackled!

- Multiple rows for column headers?
- Merged cells

What's Behind that Next Button?

Managing Merged Cells & Sneaky Data

Data Preview

	Location	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay		
1	Wilson	C 2011	44015	35212	8803	220	44		
2	Wilson	C 2011	41651	33321	8330	208	42		
3	Wilson	C 2011	48241	38593	9648	241	48		
4	Wilson	C 2011	41495	33196	8299	207	41		
5	Wilson	C 2012	49635	39708	9927	248	50		
6	Wilson	C 2012	47880	38304	9576	239	48		
7	Wilson	C 2012	41367	33094	8273	207	41		
8	Wilson	C 2012	42799	34239	8560	214	43		
9	LeGrange	C 2011	54180	43344	10836	271	54		
10	LeGrange	C 2011	52755	42204	10551	264	53		
11	LeGrange	C 2011	59377	47502	11875	297	59		
12	LeGrange	C 2011	58810	47048	11762	294	59		
13	LeGrange	C 2012	53805	43044	10761	269	54		
14	LeGrange	C 2012	54808	43846	10962	274	55		
15	LeGrange	C 2012	57855	46204	11571	289	56		
16	LeGrange	C 2012	55178	44142	11036	276	55		

Individual Worksheet Settings

- Treat multiple column header lines as hierarchies
- Replicate data in spanned rows
- Suppress hidden rows
- Suppress hidden columns
- Suppress empty columns
- Data ends with row
- Data ends with column

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Advanced Options

Default settings: Checked

Data Preview

	Location	Date	In Bound	Out Bound	In Process	Restricted	SEP Delay	Column 8	Degree	De
1	Wilson	C 2011	41651	33321	8330	208	42			
2	Wilson	C 2011	48241	38593	9648	241	48		Business	Non
3	Wilson	C 2011	41495	33196	8299	207	41			
4	Wilson	C 2012	49635	39708	9927	248	50		Communications	Non
5	Wilson	C 2012	47880	38304	9576	239	48			
6	Wilson	C 2012	41367	33094	8273	207	41		CompMath	STEM
7	Wilson	C 2012	42799	34239	8560	214	43			
8	LeGrange	C 2011	54180	43344	10836	271	54		Education	Non
9	LeGrange	C 2011	52755	42204	10551	264	53			
10	LeGrange	C 2011	59377	47502	11875	297	59		Engineering	STEM
11	LeGrange	C 2011	58810	47048	11762	294	59			
12	LeGrange	C 2012	53805	43044	10761	269	54		Liberal Arts	Non
13	LeGrange	C 2012	54808	43846	10962	274	55			

Individual Worksheet Settings

- Treat multiple column header lines as hierarchies
- Replicate data in spanned rows
- Suppress hidden rows
- Suppress hidden columns
- Suppress empty columns
- Data ends with row
- Data ends with column

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Advanced Options

Use for all worksheets

Multiple Tables in One Worksheet

Two Tables, One Column Header Row

Example: semiconductor process control monitoring data

Complexity:

- Two tables in one worksheet
- Only one row of column labels
- Column labels below one table

	E	F	G	H	I	J	K	L	M	N	O	P
1		Test							Test Group 1			
2		Low Spec	104.41	164.39	136.12	96.59	118.68	59.62	-54.43	97.32	139.2	95
3		High Spec	131.89	429.65	1067.01	130.9	141.9	67.2	531.91	144.29	145.41	115
4	File	Serial#	NPN1	PNP1	PNP2	NPN2	PNP3	IVP1	PNP4	NPN3	IVP2	NPN4
5	AA00001390	42	114.5558	322.6168	469.3903	115.9585	130.3788	73.48429	262.3514	119.4785	139.5888	105.3
6	AA00001390	43	120.0437	333.1281	437.7811	120.9741	132.7369	75.60749	269.9501	122.255	144.6335	110.6
7	AA00001390	44	124.9265	348.9788	532.1281	117.7531	136.832	73.33047	273.2739	120.0331	136.3693	105.7
8	AA00001390	45	111.7564	268.5481	373.0586	114.0926	136.9692	75.76474	236.9356	116.9701	146.4774	103.5
9	AA00001390	46	111.5451	295.0732	338.9007	113.7781	136.6226	70.5461	244.3806	116.215	132.3285	103.5
10	AA00002265	47	113.5236	323.8333	469.9922	116.488	137.4804	72.94513	267.186	120.041	138.5667	104.3
11	AA00002265	48	111.7493	369.3205	563.0845	115.9353	138.094	75.67565	290.7748	115.5722	151.04	105.2
12	AA00002265	49	114.4114	342.9874	479.3781	115.7628	142.1059	76.48749	282.5898	118.9923	145.8562	104.8
13	AA00002265	50	118.4898	315.5224	530.2656	116.3478	134.75	66.45725	258.2389	120.9283	131.3656	106.7

Multiple Tables in One Worksheet

Two Tables, One Column Header Row

	E	F	G	H	I	J	K	L	M	N	O	P
1		Test	Test Group 1									
2		Low Spec	104.41	164.39	-136.12	96.59	118.68	59.62	-54.43	97.32	139.2	95
3		High Spec	131.89	429.65	1067.01	130.9	141.9	67.2	531.91	144.29	145.41	115
4	File	Serial#	NPN1	PNP1	PNP2	NPN2	PNP3	IVP1	PNP4	NPN3	IVP2	NPN4
5	AA00001390	42	114.5558	322.6168	469.3903	115.9585	130.3788	73.48429	262.3514	119.4785	139.5888	105.3
6	AA00001390	43	120.0437	333.1281	437.7811	120.9741	132.7369	75.00749	269.9501	122.255	144.6335	110.6
7	AA00001390	44	114.9265	348.9788	532.1281	117.7531	136.832	73.33047	273.2739	120.0331	136.3693	105.7
8	AA00001390	45	111.7564	268.5481	373.0586	114.0926	136.9692	75.76474	236.9356	116.9701	146.4774	103.5
9	AA00001390	46	111.5451	295.0732	338.9007	113.7781	136.6226	70.5461	244.3806	116.215	132.3285	103.5

Case closed:

- Two tables in one worksheet
- Only one row of column labels
- Column labels below one table

Data Preview

	lot_id	wafer	Wafer ID in lot ID	Column 4	File	Serial#	NPN1	PNP1	PNP2
1	lot1	1	lot_1	1	AA00001390	42	114.55576	322.616752	469.39
2	lot1	1	lot_1	2	AA00001390	43	120.043693	333.12806	437.781
3	lot1	1	lot_1	3	AA00001390	44	114.92651	348.978757	532.128
4	lot1	1	lot_1	4	AA00001390	45	111.756446	268.548094	373.058
5	lot1	1	lot_1	5	AA00001390	46	111.545085	295.073166	338.900
6	lot1	2	lot_2	1	AA00002265	47	113.523596	323.833209	469.902
7	lot1	2	lot_2	2	AA00002265	48	111.740390	360.320401	563.084

Individual Worksheet Settings

- Worksheet contains column headers
- Column headers start on row: 4
- Number of rows with column headers: 1
- Data starts on row: 5
- Data starts on column: 1

Preview Pane Refresh

- Update settings on any change
- Show all rows

Bottom Table

Data Preview

	Serial#	NPN1	PNP1	PNP2	NPN2	PNP3	IVP1
1	Low Spec	104.41	164.39	-136.12	96.59	118.68	59.62
2	High Spec	131.89	429.65	1067.01	130.9	141.9	67.2

Individual Worksheet Settings

- Worksheet contains column headers
- Column headers start on row: 4
- Number of rows with column headers: 1
- Data starts on row: 2
- Data starts on column: 1

Individual Worksheet Settings

- Treat multiple column header lines as hierarchies
- Replicate data in spanned rows
- Suppress hidden rows
- Suppress hidden columns
- Suppress empty columns
- Data ends with row: 3
- Data ends with column: .

Top Table

Multiple Tables in One Worksheet

Bonus!

Bonus Features:

- Tables > Transpose
- Quality & Process > Manage Spec Limits
- Save Limits to Column Properties
- Process Screening

Serial#	NPN1	PNP1	PNP2	NPN2	PNP3	IVP1	PNP4	NPN3	IVP2
1	104.41	164.39	-136.12	96.59	118.68	59.62	-54.43	97.32	139.2
2	131.89	429.65	1067.01	130.9	118.68	59.62	-54.43	97.32	139.2

Column	LSL	Target	USL	Show Limits	Process Importance	Units
NPN1	104.41	-	131.89	<input type="checkbox"/>	-	-
PNP1	164.39	-	429.65	<input type="checkbox"/>	-	-
PNP2	-136.12	-	1067.01	<input type="checkbox"/>	-	-
NPN2	96.59	-	130.9	<input type="checkbox"/>	-	-
PNP3	118.68	-	141.8	<input type="checkbox"/>	-	-
IVP1	59.62	-	67.2	<input type="checkbox"/>	-	-
PNP4	-54.43	-	531.91	<input type="checkbox"/>	-	-
NPN3	97.32	-	144.29	<input type="checkbox"/>	-	-
IVP2	139.2	-	145.41	<input type="checkbox"/>	-	-
NP4	95.89	-	115.89	<input type="checkbox"/>	-	-
SIT1	145.48	-	185.72	<input type="checkbox"/>	-	-
INM1	67.53	-	99	<input type="checkbox"/>	-	-
INM2	63.8	-	65.18	<input type="checkbox"/>	-	-
IVP1	-80	-	-80	<input type="checkbox"/>	-	-
IVP2	0	-	0	<input type="checkbox"/>	-	-
IVM3	-77.00	-	-43.05	<input type="checkbox"/>	-	-
RM51	-50	-	-50	<input type="checkbox"/>	-	-
SNM1	14	-	14	<input type="checkbox"/>	-	-
SPM1	-10.31	-	-10.34	<input type="checkbox"/>	-	-
NP5	12.75	-	14.1	<input type="checkbox"/>	-	-
EP2	75.31	-	79.21	<input type="checkbox"/>	-	-
ZD8	-6.49	-	-6.2	<input type="checkbox"/>	-	-
PA8	24.68	-	33.01	<input type="checkbox"/>	-	-
PLG	25.49	-	44.62	<input type="checkbox"/>	-	-
CAF	37.47	-	38	<input type="checkbox"/>	-	-
PA8.2	84.1	-	106.38	<input type="checkbox"/>	-	-
PLG.2	119.47	-	143.97	<input type="checkbox"/>	-	-
PNP5	-31.70	-	-41.94	<input type="checkbox"/>	-	-
NP6	-43.89	-	-41.88	<input type="checkbox"/>	-	-
PNP6	0	-	0	<input type="checkbox"/>	-	-

Variable	LSL	USL
1 NPN1	104.41	131.89
2 PNP1	164.39	429.65
3 PNP2	-136.12	1067.01
4 NPN2	96.59	130.9
5 PNP3	118.68	141.9
6 IVP1	59.62	67.2
7 PNP4	-54.43	531.91
8 NPN3	97.32	144.29
9 IVP2	139.2	145.41
10 NPN4	95.89	115.89
11 SIT1	145.48	185.72
12		

Column	Variability			Mean	Count	Control Chart Alarms			Capability			
	Stability Index	Within Sigma	Overall Sigma			Alarm Rate	Test1	Latest Alarm	Ppk	Cpk	Spec Count	Out of Spec Rate
SIT1	1.02	15.3977	15.7506	149.659	1455	0.00461	7	16	0.088	0.090	581	0.3993
INM1	1.02	3.26204	3.34868	82.4373	1455	0.00412	6	3	1.649	1.682	0	0
NPN1	1.01	2.63507	2.6621	114.793	1455	0.00275	4	3	1.300	1.313	0	0
NP4	1.01	2.11204	2.12848	104.199	1455	0.00412	6	39	1.301	1.311	0	0
PNP2	1.01	79.2704	79.8259	456.616	1455	0.00412	6	16	2.475	2.492	0	0
NP3	1.00	2.36285	2.36476	118.135	1455	0.00206	3	4	2.954	2.936	0	0
INM2	0.99	2.56221	2.54264	64.4074	1455	0.00000	0	3	0.060	0.079	1171	0.8048
IVP1	0.99	4.2383	4.19633	73.7807	1455	0.00137	2	56	-0.523	-0.518	1368	0.9402
IVP2	0.99	7.40662	7.33776	138.243	1455	0.00757	2	6	-0.044	-0.043	1054	0.7107

Column	Variability			Mean	Count	Control Chart Alarms			Capability			
	Stability Index	Within Sigma	Overall Sigma			Alarm Rate	Test1	Latest Alarm	Ppk	Cpk	Spec Count	Out of Spec Rate
SIT1	1.02	15.3977	15.7506	149.659	1455	0.00461	7	16	0.088	0.090	581	0.3993
INM1	1.02	3.26204	3.34868	82.4373	1455	0.00412	6	3	1.649	1.682	0	0
NPN1	1.01	2.63507	2.6621	114.793	1455	0.00275	4	3	1.300	1.313	0	0
NP4	1.01	2.11204	2.12848	104.199	1455	0.00412	6	39	1.301	1.311	0	0
PNP2	1.01	79.2704	79.8259	456.616	1455	0.00412	6	16	2.475	2.492	0	0
NP3	1.00	2.36285	2.36476	118.135	1455	0.00206	3	4	2.954	2.936	0	0
INM2	0.99	2.56221	2.54264	64.4074	1455	0.00000	0	3	0.060	0.079	1171	0.8048
IVP1	0.99	4.2383	4.19633	73.7807	1455	0.00137	2	56	-0.523	-0.518	1368	0.9402
IVP2	0.99	7.40662	7.33776	138.243	1455	0.00757	2	6	-0.044	-0.043	1054	0.7107

Load from Limits Table Save to Table Spec Limits Table
Save to Column Properties Save to Wide Spec Limits Table

Multiple Worksheets

Combining Multiple Tables

Sample ID	Run Date	Method	Result
200112	1/1/2018	Protein	9.7
200112	1/1/2018	Purity	60
200112	1/1/2018	Total Nitrogen	95
200112	1/1/2018	Binder	1.3
200112	1/1/2018	Stabilizer	0.01
200112	1/1/2018	pH	8
200112	1/1/2018	Preservative	0.0024
200112	1/1/2018	Buffer Salt	0.85
200113	1/1/2018	Protein	13
200113	1/1/2018	Purity	53
200113	1/1/2018	Total Nitrogen	120
200113	1/1/2018	Binder	1.2
200113	1/1/2018	Stabilizer	0.01
200113	1/1/2018	pH	7.9

Sample ID	Run Date	Method	Result
200251	2/1/2018	Protein	14
200251	2/1/2018	Purity	57
200251	2/1/2018	Total Nitrogen	75
200251	2/1/2018	Binder	1.3
200251	2/1/2018	Stabilizer	0.01
200251	2/1/2018	pH	7.9
200251	2/1/2018	Preservative NaN	
200251	2/1/2018	Buffer Salt	0.87
200252	2/1/2018	Protein	10
200252	2/1/2018	Purity	51
200252	2/1/2018	Total Nitrogen	140
200252	2/1/2018	Binder	1.3
200252	2/1/2018	Stabilizer	0.01
200252	2/1/2018	pH	7.9

Example: managing and monitoring laboratory sample and instrument data

Complexity:
Multiple worksheets of similar data to aggregate

Nested Column Labels

Column Headers Turned Columns

Example: monitoring light absorbance by cell treatment

Complexity: Multi-row, nested column labels

13	Absorbance	510							
14	Read	226							
15	Start Kinetic	Runtime 8:00:00 (HH:MM:SS), Interval 0:04:00, xxx Reads							
16	Read	Abs Endpoint Method							
17	UserID	WingerdB							
18									
19									
20			Positive Control			Negative Control			
21	Time (min)	Time	Temp (C)	A1	A2	A3	A4	A5	A6
22	0	5:12:00 PM	36.9200	0.193	0.183	0.188	0.201	0.190	0.195
23	4	5:16:00 PM	37.0800	0.193	0.188	0.194	0.200	0.195	0.197
24	8	5:20:00 PM	37.0600	0.187	0.184	0.190	0.197	0.199	0.196
25	12	5:24:00 PM	37.1200	0.192	0.188	0.193	0.203	0.193	0.204
26	16	5:28:00 PM	36.9900	0.188	0.191	0.190	0.203	0.201	0.204
27	20	5:32:00 PM	37.0500	0.182	0.179	0.184	0.192	0.203	0.199

Nested Column Labels

Column Headers Turned Columns

13	Absorbance	510									
14	Read	226									
15	Start Kinetic	Runtime 8:00:00 (HH:MM:SS), Interval 0:04:00, xxx Reads									
16	Read	Abs Endpoint Method									
17	UserID	WingerdB									
18											
19											
20											
21	Time (min)	Time	Temp (C)	Positive Control			Negative Control				
22	0	5:12:00 PM	36.9200	A1	A2	A3	A4	A5	A6		
23	4	5:16:00 PM	37.0800	0.193	0.188	0.194	0.200	0.195	0.1		
24	8	5:20:00 PM	37.0600	0.187	0.184	0.190	0.197	0.199	0.1		
25	12	5:24:00 PM	37.1200	0.192	0.188	0.193	0.203	0.193	0.2		
26	16	5:28:00 PM	36.9900	0.188	0.191	0.190	0.203	0.201	0.2		
27	20	5:32:00 PM	37.0500	0.182	0.179	0.184	0.192	0.203	0.1		

Data Preview

	Time (min)	Time	Temp (C)	Column	Column 2	Data
1	0	5:12:00 PM	36.9200	Positive C...	A1	0.193
2	0	5:12:00 PM	36.9200	Positive C...	A2	0.183
3	0	5:12:00 PM	36.9200	Positive C...	A3	0.188
4	0	5:12:00 PM	36.9200	Negative ...	A4	0.201
5	0	5:12:00 PM	36.9200	Negative ...	A5	0.190
6	0	5:12:00 PM	36.9200	Negative ...	A6	0.195
7	0	5:12:00 PM	36.9200	Treatmen...	A7	0.191
8	0	5:12:00 PM	36.9200	Treatmen...	A8	0.186
9	0	5:12:00 PM	36.9200	Treatmen...	A9	0.199
10	0	5:12:00 PM	36.9200	Treatmen...	A10	0.194
11	0	5:12:00 PM	36.9200	Treatmen...	A11	0.190

Under wraps:
Multi-row, nested column labels →
new columns, no stacking required!

Individual Worksheet Settings

- Worksheet contains column headers
- 22 Column headers start on row
- 2** Number of rows with column headers
- 24 Data starts on row
- 1 Data starts on column

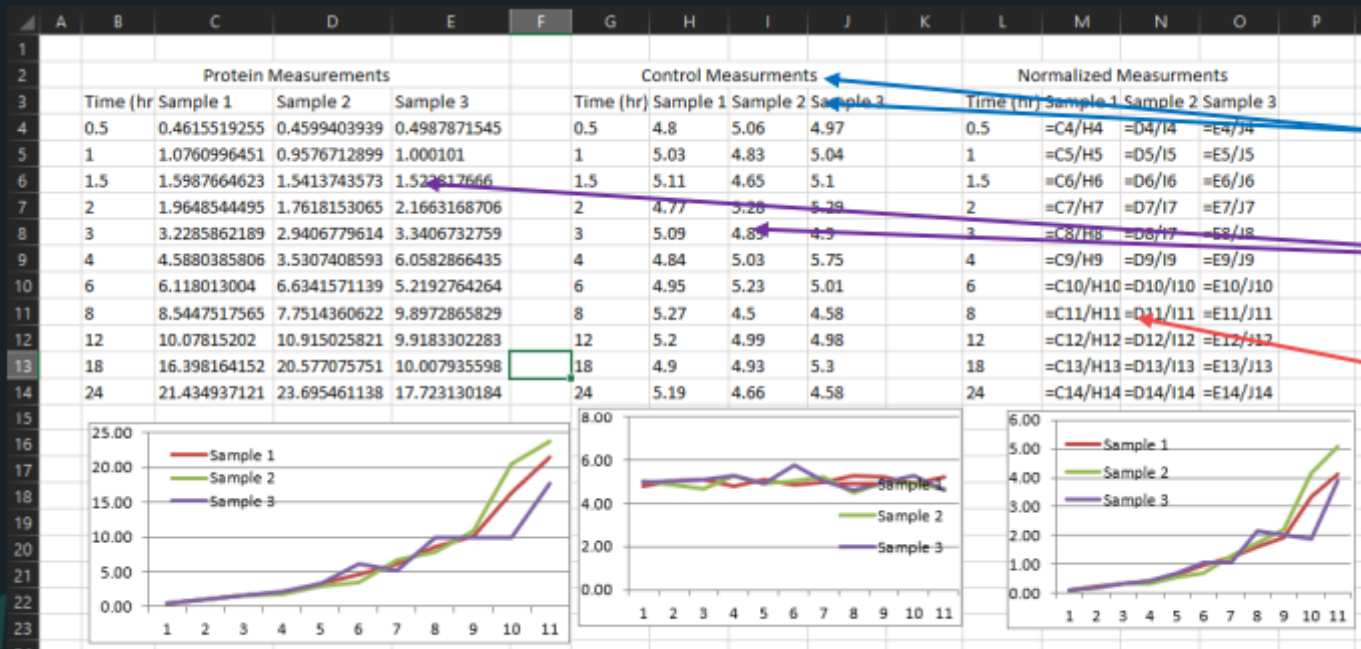
Next

Individual Worksheet Settings

- Treat multiple column header lines as hierarchies
- Replicate data in spanned rows
- Suppress hidden rows
- Suppress hidden columns
- Suppress empty columns
- . Data ends with row
- . Data ends with column

Working with Formulas

Example: tracking relative performance of a gene of interest



Complexity:

- Multiple rows for column header
- Multiple tables with source data
- Formulas

Working with Formulas

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2		Protein Measurements				Control Measurements				Normalized Measurements					
3		Time (hr)	Sample 1	Sample 2	Sample 3	Time (hr)	Sample 1	Sample 2	Sample 3	Time (hr)	Sample 1	Sample 2	Sample 3		
4		0.5	0.4615519255	0.4599403939	0.4987871545	0.5	4.8	5.06	4.97	0.5	=C4/H4	=D4/I4	=E4/J4		
5		1	1.0760996451	0.9576712899	1.000101	1	5.03	4.83	5.04	1	=C5/H5	=D5/I5	=E5/J5		
6															
7		1.5	1.60	1.54	1.52	1.5	5.11	4.65	5.10	1.5	=C6/H6	=D6/I6	=E6/J6		
8		2	1.96	1.76	2.17	2	4.77	5.28	5.29	2	=C7/H7	=D7/I7	=E7/J7		
9		3	3.23	2.94	3.34	3	5.09	4.89	4.90	3	=C8/H8	=D8/I7	=E8/J8		
10		4	4.59	3.53	6.06	4	4.84	5.03	5.75						

Data Preview

	Protein Measurements-Time (hr)	Protein Measurements-Sample 1	Protein Measurements-Sample 2	Protein Measurements-Sample 3	Control Measurements-Time (hr)	Control Measurements-Sample 1	Control Measurements-Sample 2	Control Measurements-Sample 3
1	0.5	0.46	0.46	0.50	0.5	4.80	5.06	4.97
2	1	1.08	0.96	1.00	1	5.03	4.83	5.04
3	1.5	1.60	1.54	1.52	1.5	5.11	4.65	5.10
4	2	1.96	1.76	2.17	2	4.77	5.28	5.29
5	3	3.23	2.94	3.34	3	5.09	4.89	4.90
6	4	4.59	3.53	6.06	4	4.84	5.03	5.75

Urestiad 174 - JMP Pro [2]

File Edit Tables Rows Cols DOE Analyze Graph Tools Add-ins View Window Help

Columns (5/2)

Time Label

1 0.5 Sample 1
2 0.5 Sample 2
3 0.5 Sample 3
4 1 Sample 1
5 1 Sample 2
6 1 Sample 3
7 1.5 Sample 1
8 1.5 Sample 2
9 1.5 Sample 3
10 2 Sample 1
11 2 Sample 2
12 2 Sample 3
13 3 Sample 1
14 3 Sample 2
15 3 Sample 3

Protein Control Ratio

0.46 4.80
0.46 5.06
0.50 4.91
1.08 5.03
0.96 4.83
1.00 5.04
1.60 5.11
1.54 4.65
1.52 5.10
1.96 4.77
1.76 5.28
2.17 5.29
3.23 5.09
2.94 4.89

Column Info...
Standard Attributes...
Column Properties
Formula...
Recode...
New Formula Column
Insert Columns
Delete Columns
Label/Unlabel
Sort

Transform
Combine
Aggregate
Distributional
Random
Row

Sum
Difference
Difference (over)
Product
Ratio

Individual Worksheet Settings

Worksheet contains column headers

1 Column headers start on row

2 Number of rows with column headers

3 Data starts on row

1 Data starts on column

Next

Individual Worksheet Settings

Treat multiple column header lines as hierarchies

Replicate data in spanned rows

Suppress hidden rows

Suppress hidden columns

Suppress empty columns

Data ends with row

9 Data ends with column

Preview Pane Refresh

Update settings on any change

Update now

Show all rows

Advanced Options

Column Name Separator String

Multiple series stack

Replicate headers in spanned rows

Import cell colors

Limit column type detection

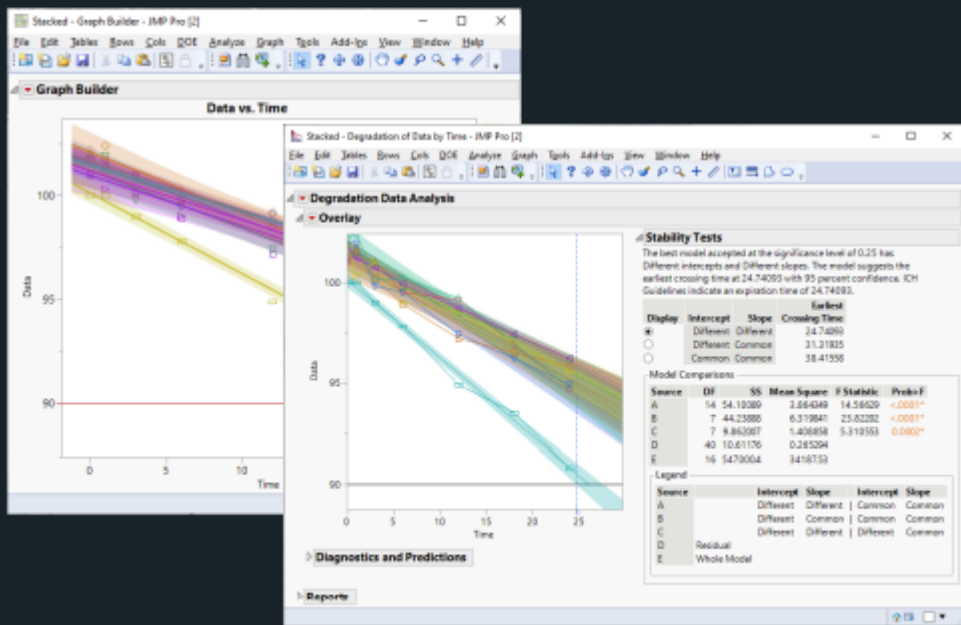
Workflow Automation

Source Scripts and Enhanced Log

Example: assessing drug product expiry

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Table 1								
4		Time points								
5		Lot ID	0	1	3	6	12	18	24	
6		1	101	101.5	101	99.5	99.1	96.9	94.7	
7		2	102	101.5	101	99.8	98.5	97.4	96.2	
8		3	101	101.9	99.8	99.5	97.4	96.2	94.9	
9		4	101	101.7	100.2	98.9	97.2	96.5	95.8	
10		5	102.2	102.4	100.1	100.2	99.2	96.95	94.7	
11		6	101.8	101.2	100.7	99.9	98.7	97.4	96.2	
12		7	101.8	100.3	101	99	98.5	97	95.5	
13		8	101.7	100	99	97.8	94.9	93.5	90.8	
14										
15										
16										
17		Table 2: Data is split by lot ID								
18					Lot ID					
19		Time	1	2	3	4	5	6	7	8
20		0	101	102	101	101	102.2	101.8	101.8	100
21		1	101.5	101.5	101.9	101.7	102.4	101.2	100.3	100
22		3	101	101	99.8	100.2	100.1	100.7	101	99
23		6	99.5	99.8	99.5	98.9	100.2	99.9	99	97.8
24		12	99.1	98.5	97.4	97.2	99.2	98.7	98.5	94.9
25		18	96.9	97.4	96.2	96.5	96.95	97.4	97	93.5
26		24	94.7	96.2	94.9	95.8	94.7	96.2	95.5	90.8
27										
28										

We got the import, no problem!
Complexity: Workflow automation



Workflow Automation

Source Scripts and Enhanced Log

	A	B	C	D	E	F	G	H	I	J
14										
15										
16										
17	Table 2: Data is split by lot ID									
18						Lot ID				
19	Time	1	2	3	4	5	6	7	8	
20	0	101	102	101	101	102.2	101.8	101.8	100	
21	1	101.5	101.5	101.9	101.7	102.4	101.2	100.3	100	
22	3	101	101	99.8	100.2	100.1	100.7	101	99	
23	6	99.5	99.8	99.5	98.9	100.2	99.9	99	97.8	
24	12	99.1	98.5	97.4	97.2	99.2	98.7	98.5	94.9	

Data Preview

Time	1	2	3	4	5	6	7	8
1	0	101	102	101	101	102.2	101.8	101.8
2	1	101.5	101.5	101.9	101.7	102.4	101.2	100.3
3	3	101	101	99.8	100.2	100.1	100.7	101

Worksheets

Select sheets to open **Custom setting**

- Disorganized
- Potato Production
- Raw
- Formatted
- Raw Data

Individual Worksheet Settings

- Worksheet contains column headers
- 19 Column headers start on row
- 1 Number of rows with column headers
- 20 Data starts on row
- 1 Data starts on column
- Concatenate worksheets and try to match columns
- Create column with worksheet name when concatenating
- Use for all worksheets

Preview Pane Refresh

- Update settings on any change
- Update now
- Show all rows

Character

Restore Default Settings Back Next

Stability Data - JMP Pro [2]

File Edit Tables Rows Cols DOE Analyze Graph Tools Add-Ins View Window Help

Stability Data

Source

Columns (3/3)

Time 1 2 3 4 5 6 7 8

1 0 101 102 101 101 102.2 101.8 101.8 100

2 1 101.5 101.5 101.9 101.7 102.4 101.2 100.3 100

3 3 101 101 99.8 100.2 100.1 100.7 101 99

4 6 99.5 99.8 99.5 98.9 100.2 99.9 99 97.8

5 12 99.1 98.5 97.4 97.2 99.2 98.7 98.5 94.9

Rows

All rows Selected Excluded Hidden Labeled

Script for Stability Data - JMP Pro [2]

Name: Source

Script:

```
Open(
  "$DOCUMENTS/Mastering JMP - Local Copy when Live/Importing to Excel/Import Examples still going.xlsx",
  Worksheets( "Stability Data" ),
  Use for all sheets( 1 ),
  Concatenate Worksheets( @ ),
  Create Concatenation Column( @ ),
  Worksheet Settings(
    1,
    Has Column Headers( 1 ),
  )
)
```

OK Run Debug Script Save Cancel

Log - JMP Pro [2]

File Edit Tables Rows Cols DOE Analyze Graph Tools Add-Ins View Window Help

Stacked

Filter

Import Excel file: Import Examples still going.xlsx 01/20/2022 11:27:23 PM

Stack data table 01/20/2022 11:28:00 PM

Report snapshot: Stacked - Graph Builder 01/20/2022 11:29:02 PM

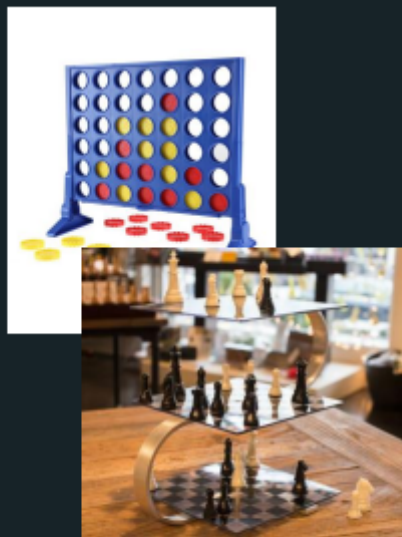
Report snapshot: Stacked - Degradation of Data by Time 01/20/2022 11:29:11 PM

```
// Import Excel file: Import Examples still going.xlsx
// - Data Table( "Stability Data" )
Open(
  "$DOCUMENTS/Mastering JMP - Local Copy when Live/Importing to Excel/Import Examples still going.xlsx",
  Worksheets( "Stability Data" ),
  Use for all sheets( 1 ),
  Concatenate Worksheets( @ ),
  Create Concatenation Column( @ ),
)
```

Excel Import Wizard

Wrapping Up

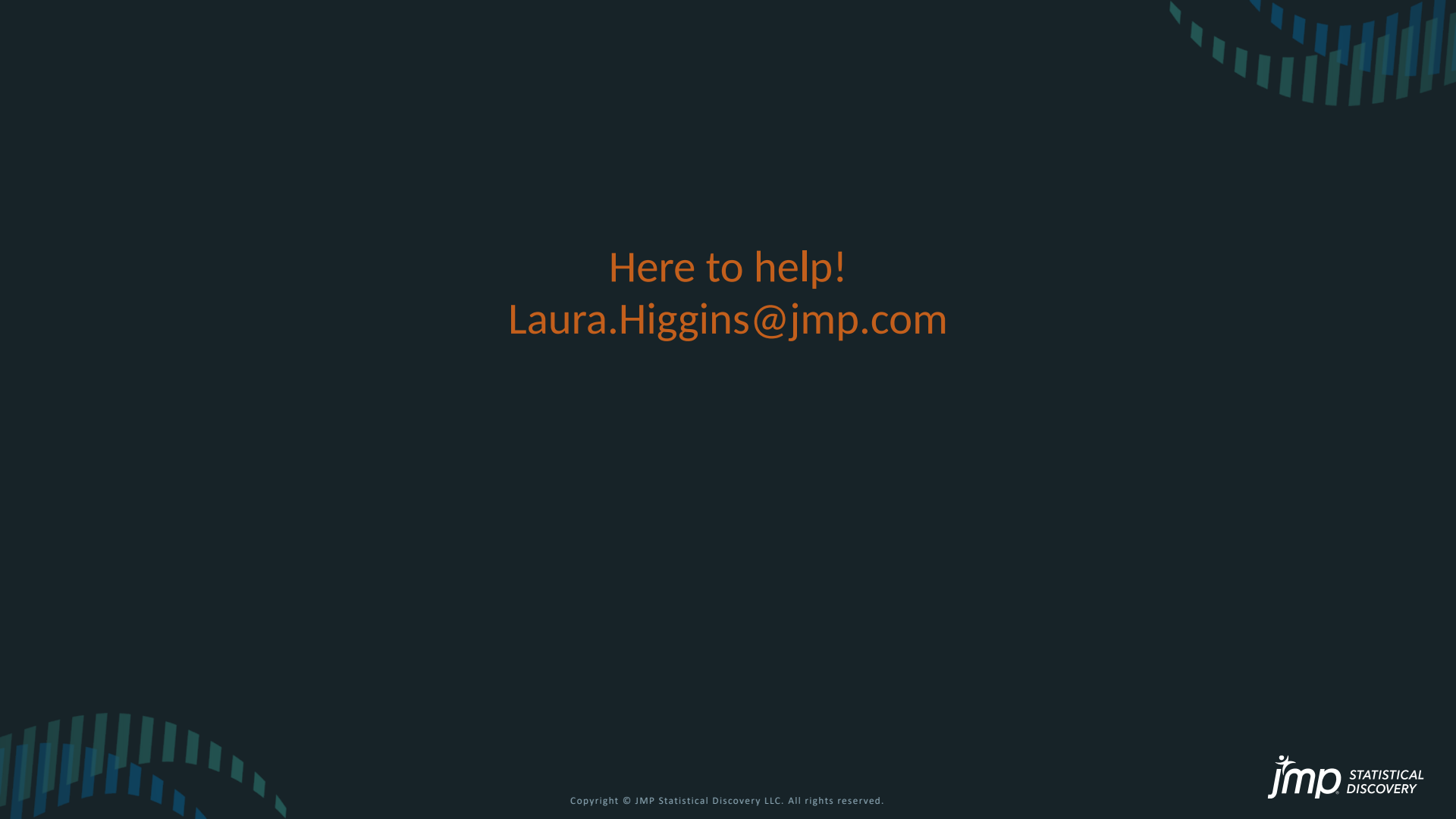
Easily work with the data as it comes!



Have you got:

- Data anywhere in the worksheet, visible or hidden?
- Multiple worksheets you need?
- Merged cells?
- Multiple row or hierarchical column headers?





Here to help!
Laura.Higgins@jmp.com