



## Pivot Table Prowess



Written and Presented by  
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**About the speaker:**

David is owner of Accounting Advisors, Inc., an Atlanta-based spreadsheet consulting firm that he started in 1991. He shares his 20+ years of hard-fought Excel knowledge by way of consulting engagements, freelance articles, and public speaking. David offers spreadsheet consulting and training services nationwide.

# Please Ask Questions Today

- These webcasts are designed to be interactive. Some of the best learning comes from questions from the audience, and I'm here to help you.
- I often incorporate the answers to questions that get raised into future sessions of this webcast, so your questions might improve this presentation for others in the future.
- Please feel free to email questions to  **david@acctadv.com**  after the presentation as well.

# Excel Versions

**Excel 2013**

**Excel 2010**

**Excel 2007**

Alternate instructions for Excel 97-2003 appear on certain slides.

Use the Office button in Excel 2007 any time you see me use the File menu in another version of Excel.

1

File Home Insert Page Layout

Cautionary notes, where applicable, will appear in red.

Open

Close

Protect

2 Detailed handouts with numbered steps make it easy for you to recreate the steps you see me demonstrate onscreen.

Links to articles related to subject material in the presentation can be found on the Related Articles tab of the example workbook.

1

1

14

15 [Seven Quick Excel Tips](#)

16 [Transform multiple-line cell contents into columns in Excel](#)

Related Articles

16 As referred to during the presentation:

17 Page 34

18 Page 35

19 Page 36

20 Page 37

21 Page 38

At the bottom of each worksheet in the example workbook, you can hover over a slide number to view the PowerPoint slide that pertains to a particular worksheet tab.



# Ideal Data for Pivot Tables

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer

General Conditional Formatting Insert Σ

- Each column must have a title.
- Titles need to be in a single cell.
- Reword titles if necessary so that you can remember what data is in that field.
- Each title must be unique.

Make sure the data file is anything except XLS. Certain features will work differently or be disabled if your workbook is in the obsolete Excel 97-2003 workbook format.

Region	City	Vendor	Product	Cases Sold	Total Sales
North GA	Atlanta	Fruit R Us	Oranges	6168	61680
North GA	Atlanta	Fruit R Us	Apples	6079	60790
North GA	Atlanta	Fruit R Us	Kiwi	6058	
North GA	Atlanta	Fruit R Us	Bananas		
North GA	Atlanta	Fruit R Us	Mixed Berries		
North GA	Atlanta	Bob's Fruit	Oranges		
North GA	Atlanta	Bob's Fruit	Apples	1565	21910
North GA	Atlanta	Bob's Fruit	Kiwi	9967	99670
North GA	Atlanta	Bob's Fruit	Bananas	98	
			Mixed Berries	89	
			Oranges	4933	49330
			Apples	7704	77040
North GA	Atlanta	Fruit R Us	Kiwi	5519	55190

Blank cells are permissible in columns that contain text, but not in columns that are comprised of numbers.

Be sure to remove any total rows at the bottom of the list.

No blank rows or columns, all cells with data must be contiguous.

Ready | Fruit Data | 100%





# Pivot Table Interfaces

**When you click on your pivot table, these two menus appear on the ribbon.**

**PivotTable Tools**

**Options** **Design**

**This tab is labeled Analyze in Excel 2013.**

**This is the Pivot Table Field List from which you select and position the fields you want to see on the Pivot Table.**

**PivotTable1**

To build a report, choose fields from the PivotTable Field List

**This is the blank pivot table area before any fields have been added.**

**PivotTable Field List**

Choose fields to add to report:

- Region
- City
- Vendor
- Product
- Cases Sold

Drag fields between areas below:

<input checked="" type="checkbox"/> Report Filter	<input type="checkbox"/> Column Labels
<input type="checkbox"/> Row Labels	<input type="checkbox"/> Values

Defer Layout Update Update



# Adding Fields to a Pivot Table

Row Labels	Sum of Total Sales
Apples	614847
Bananas	756649
Kiwi	643277
Mixed Berries	518888
Oranges	715977
<b>Grand Total</b>	<b>3249638</b>

**1**  Region  
 City  
 Vendor  
 **Product**

**2**  Cases Sold  
 **Total Sales**

**3** The Pivot Table has been updated with the Products and Total Sales in their respective fields.

PivotTable Field List

Choose fields to add to report:

Drag fields between areas below:

Report Filter:  Region,  City,  Vendor,  Product,  Cases Sold,  Total Sales

Column Labels:  Region,  City,  Vendor,  Product,  Cases Sold,  Total Sales

Row Labels: Product

Values: Sum of Total ...

Defer Layout Update



# Adding Another Row Field

Row Labels	Sum of Total Sales
<b>Apples</b>	<b>614847</b>
Bob's Fruit	21910
Fruit Direct	82030
Fruit R Us	85106
Fruitju	107856
Middle Georgia Fruit	15764
Mountain Fruit	83538
Navel Oranges & More	17773
Orange U Glad	
Oranges 'n Onions	
Whistlestop Fruit Stand	
<b>Bananas</b>	<b>756649</b>
Bob's Fruit	98420
Fruit Direct	107406
Fruit R Us	75548
Fruitju	126630
Middle Georgia Fruit	14730
Mountain Fruit	60900
Navel Oranges & More	23415
Orange U Glad	81521

**1** Click on Vendor to add another Row Label to the Pivot Table.

**2** The Pivot Table has been updated. The Vendors and their respective Total Sales fall below each of the Products.

**PivotTable Field List**

Choose fields to add to report:

- Region
- City
- Vendor
- Product
- Cases Sold
- Total Sales

Drag fields between areas below:

Report Filter:

Column Labels:

Row Labels: Product, Vendor

Values: Sum of Total ...

Defer Layout Update Update



# Adding Columns to Pivot Tables

	A	B	C	D	E	F	G
1							
2							
3	<b>Sum of Total Sales</b>	Column Labels					
4	Row Labels	Apples	Bananas	Kiwi	Mixed Berries	Oranges	Grand Total
5	Bob's Fruit	21910	98420	99670	89930	93816	403746
6	Fruit Direct	82030	107406	58800	51012	9604	308852
7	Fruit R Us	85106	75548	66638	29940	61680	318912
8	Fruitju	107856	126630	71747	11557	54263	372053
9	Middle Georgia Fruit	15764	14730	45960	48466	71097	196017
10	Mountain Fruit	83538	60900	112490	36768	89810	383506
11	Navel Oranges & More	17772	23415	64669	68016	61501	235373
12	Orange U Glad	31260	81521	43121	93405	72061	321368
13	Oranges 'n Onions	61464	80145	11682	8350	52400	214041
14	Whistlestop Fruit Stand	108147	87934	68500	81444	149745	495770
15	<b>Grand Total</b>	<b>614847</b>	<b>756649</b>	<b>643277</b>	<b>518888</b>	<b>715977</b>	<b>3249638</b>
16							
17							
18							
19							
20							
21							
22							
23							

**2** The Pivot Table has been updated.

**1** Drag Product from the Row Labels area to the Column Labels area.

**PivotTable Field List**

Choose fields to add to report:

- Region
- City
- Vendor
- Product
- Cases Sold
- Total Sales

Drag fields between areas below:

Report Filter:  Column Labels: Product

Row Labels: Product, Vendor      Values: Sum of Total ...

Defer Layout Update      Update



# XLS Files

Pivot Table 101 - Fruit.xls - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Options Design

Clipboard Font Alignment Number Styles Cells Editing

Sum of Total Sales

Product	Total
Apples	614847
Bananas	756649
Kiwi	643277
Mixed Berries	518888
Oranges	715977
<b>Grand Total</b>	<b>3249638</b>

When you create a Pivot Table using an .xls file, they look out dated.

PivotTable Field List

Choose fields to add to report:

- City
- Vendor
- Product**
- Cases Sold
- Total Sales**

Drag fields between areas below:

Report Filter: [ ] Column Labels: [ ]

Row Labels: Product Values: Sum of Total ...

Defer Layout Update [Update]

Ready Pivot Table Fruit Data 100%



# Convert Excel 2003/XLS Workbooks

**1** File Home Insert Page Layout Formulas Data Review View Design Tell me...

**2** The words **Compatibility Mode** signal diminished functionality.

**2** The **Convert** command only appears within XLS workbooks.

**3** OK Cancel

**4** Yes No

Microsoft Excel

This action converts the workbook to the current file format, which allows you to use all of the new features of Excel, and it reduces the file size. The original workbook will be deleted and cannot be restored after this conversion.

Do not ask me again about converting workbooks.

Tell Me More...

Microsoft Excel

The workbook conversion to the current file format completed successfully. To use the new and enhanced features of the current file format, you must close and reopen the workbook. Do you want to close and reopen the workbook now?



# Number Formatting

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

PivotTable Tools: Options, Design

File Home Insert Page Layout Formulas Data Review View Developer

Clipboard Font Alignment Number

General \$ % .00 .00

**1** Right-click on the Field Name.

**2** Number Format...

**3** Select your number formatting from this dialog box, and press OK.

You can also format the numbers using the Number section of the Home tab although steps 1-3 provide the best results.

Format Cells

Number

Category:

General Number Currency Accounting Date Time Percentage Fraction Scientific Text Special Custom

Sample Sum of Total Sales

General format cells have no specific number format.

OK Cancel

Row Labels	Sum of Total Sales
Apples	614847
Bob's Fruit	2191
Fruit Direct	8203
Fruit R Us	85106
Fruitju	107856
Middle Georgia Fruit	15764
Mountain Fruit	83538
Navel Oranges & More	17772
Orange U Glad	31260
Oranges 'n Onions	61464
Whitleston Fruit Stand	108147



# Removing Fields from a Pivot Table

Alternatively, unclick the checkbox to remove the field from the table.

The products have been removed from the pivot table.

You can also drag the field out of the PivotTable Field List.

**PivotTable Field List**

Choose fields to add to report:

- Region
- City
- Vendor
- Product
- Cases Sold
- Total Sales

Drag fields between areas below:

Report Filter | Column | 1

Product

Move to Report Filter

Move to Column Labels

Move to Values

Remove Field | 2

Vendor | Sum of Total ...

Row Labels	Apples	Bananas	Kiwi	Mixed Berries	Oranges	Grand Total
Bob's Fruit	21910	923415	64669	68016	61501	235373
Fruit Direct	82030	1081521	43121	93405	72061	321368
Fruit R Us	85106	75548	66638	29940	61680	318912
Fruitju	107856	126630	71747	11557	54263	372053
Middle Georgia Fruit	15764	14730	45960	48466	71097	196017
Mountain Fruit	83538	60900	112490	36768	89810	383506
Navel Oranges & More						
Orange U Glad						
Oranges 'n Onions						
Whistlestop Fruit Stand						
<b>Grand Total</b>				<b>518888</b>	<b>715977</b>	<b>3249638</b>





# Subtotal by Region

**1** Drag Region above Vendor.

**2** Excel automatically places subtotals at the top of each group.

**A** If you check the Region field...

**B** ...it will appear below Vendor.

Row Labels	Sum of Cases Sold
<b>Mid GA</b>	56088
Middle Georgia Fruit	15538
Whistlestop Fruit Stand	40550
<b>North GA</b>	173289
Bob's Fruit	27487
	29015
	26111
	<b>38210</b>
	20180
	18030
	<b>267587</b>

**PivotTable Field List**

Choose fields to add to report:

- Region
- City
- Vendor
- Product
- Cases Sold
- Total Sales

Drag fields between areas below:

Report Filter: [ ]

Column Labels: [ ]

Row Labels: Region, Vendor

Values: Sum of Cases...

Defer Layout Update: [ ]

Update



# Show Subtotals at Bottom of Group

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

PivotTable Tools: Design (1)

Subtotals (2)

Do Not Show Subtotals

Show all Subtotals at Bottom of Group (3)

Show all Subtotals at Top of Group

Include Filtered Items in Totals

Subtotals now appear at the bottom of each group. (4)

Row Labels	Sum of Cases Sold
<b>Mid GA</b>	
Middle Georgia Fruit	15538
Whistlestop Fruit Stand	40550
<b>Mid GA Total</b>	<b>56088</b>
<b>North GA</b>	
Bob's Fruit	38185
Fruit Direct	25322
Fruit R Us	27169
Fruitju	27487
Mountain Fruit	29015
Orange U Glad	26111
<b>North GA Total</b>	<b>173289</b>
<b>South GA</b>	
Navel Oranges & More	20180
Oranges 'n Onions	18030
<b>South GA Total</b>	<b>38210</b>
<b>Grand Total</b>	<b>267587</b>



# Expanding/Collapsing

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

PivotTable Tools: Options, Design

File Home Insert Page Layout Formulas Data Review View Developer Options Design

PivotTable Name: Active Field: Vendor

Expand Entire Field Collapse Entire Field

Click here to expand the entire field.

1 Select a field within the table.

2

3

4 The fields have been collapsed.

5 Click the plus sign to drill back into the pivot table.

6 This field has been expanded.

Row Labels	Sum of Cases Sold
Mid GA	56088
Middle Georgia Fruit	1553
Whistlestop Fruit Stand	4055
North GA	17328
Bob's Fruit	3818
Fruit Direct	2532
Fruit R Us	2716
South GA	38210
Orange U Glad	2611
Grand Total	267587

Row Labels	Sum of Cases Sold
Mid GA	56088
North GA	173289
South GA	38210
Grand Total	267587

Row Labels	Sum of Cases Sold
Mid GA	56088
North GA	173289
South GA	38210
Navel Oranges & More	20180
Oranges 'n Onions	18030
Grand Total	267587



# Sorting Fields

**1** Right-click on a number.

**2** Right-click on Vendor.

**3** Sort Largest to Smallest

**4** The data is now sorted Largest to Smallest.

Note: Sorting occurs based on the field level, not the entire Pivot Table.

Row Labels	Sum of Cases Sold
North GA	173289
Bob's Fruit	38185
Fruit Direct	25322
Fruit R Us	27169
Fruitju	27487
Mountain Fruit	29015
Orange U Glad	26111
Mid GA	56088
Middle Georgia Fruit	15538
Whistlestop Fruit Stand	40550
South GA	38210
Navel Oranges & More	20180
Oranges 'n Onions	18030
Grand Total	267587

When you click on a text item, step C says Sort A to Z instead of Sort Largest to Smallest.



# Renaming Fields

**1** Click on the cell.

**2** Type "Total Sales " with a space at the end, and press Enter.

**3** The Name has been updated to Total Sales.

**Microsoft Excel**  
PivotTable field name already exists.  
OK

**PivotTable Field List**  
Choose fields to add to report:  
 Region  
 City  
 **Vendor**  
 Product  
 Cases Sold  
 **Total Sales**

**Row Labels**  
 3 Sum of Total Sales  
 4 Bob's Fruit 403746  
 5 Fruit Direct 308852  
 6 Fruit R Us 318912  
 7 Fruitju 372053  
 8 Middle Georgia Fruit 196017  
 9 Mountain Fruit 383506  
 10 Navel Oranges & More 235373  
 11 Orange U Glad 321368  
 12 Oran  
 13 Whis  
 14 Grand Total

**Row Labels**  
 3 Total Sales  
 4 Bob's Fruit 403746  
 5 Fruit Direct 308852

**Row Labels**  
 Vendor  
 Values  
 Sum of Total ...



# Filter Columns

**1** You can hide selected data from the table. Click the arrow for that field.

**2** Deselect any unwanted items.

**3** OK

**4** Kiwi and Mixed Berries no longer appear on the report.

The funnel signifies one or more fields have been filtered.

Total Sales	Bananas	Kiwi	Mixed Berries	Oranges	Grand Total
98420	99670	89930	93816	403746	
7406	58800	51012	9604	208952	
5548	66638				
5630	71747				
14730	45960		48466	71097	196017
60900	112490				
23415	64669				
81521	43121				
80145	11682				
87934	68500				
<b>756649</b>	<b>643277</b>				

  

Row Labels	Bananas	Oranges	Grand Total	
Apples				
Bob's Fruit	21910	98420	93816	214146
Fruit Direct	82030	107406	9604	199040
Fruit R Us	85106	75548	61680	222334
Fruitju	107856	126630	54263	288749
Middle Georgia Fruit	1576	14730	71097	101591
Mountain Fruit	83	60900	89810	234248
Navel Oranges & More		23415	61501	102688
				184842
				0
				194009
				345826
<b>Grand Total</b>	<b>614847</b>	<b>756649</b>	<b>715977</b>	<b>2087473</b>



# Drill Down

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3	<b>Total Sales</b>	Column Labels ▾									
4	<b>Row Labels</b>	Apples	Bananas	Kiwi	Mixed Berries	Oranges	Grand Total				
5	Bob's Fruit	21910	98420	99670	89930	93816	403746				
6	Fruit Direct	82030	107406	58800	51012	9604	308852				
7	Fruit R Us	85106	75548	66638	29940	61680	318912				
8	Fruitju	107856	126630	71747	11557	5429	372053				
9	Middle Georgia Fruit	15764	1473				17				
10	Mountain Fruit	83538	60900				06				
11	Navel Oranges & More	17772	23415				73				
12	Orange U Glad	31260	81521	43121	93405	72061	321368				
13	Oranges 'n Onions	61464	80145	11682	8350	52400	214041				
14	Whistlestop Fruit Stand	108147	87934	68500	81444	149745	495770				
15	<b>Grand Total</b>	<b>614847</b>	<b>756649</b>	<b>643277</b>	<b>518888</b>	<b>715977</b>	<b>3249638</b>				
16											
17											
18	1	Region ▾	City ▾	Vendor ▾	Product ▾	Cases Sold ▾	Total Sales ▾				
19	2	North GA	Clarkesville	Fruit Direct	Apples	8203	82030				
20	3	North GA	Clarkesville	Fruit Direct	Bananas	8262	107406				
21	4	North GA	Clarkesville	Fruit Direct	Kiwi	3920	58800				
22	5					4251	51012				
23	6					686	9604				

1 You can double-click on any number within the Pivot Table.

2 You can now see a summary of the underlying numbers on a new worksheet.



# Refresh Your Pivot Table

Pivot Tables are a snapshot of your data in time. Changes to the underlying data will not be reflected in a Pivot Table until you refresh it.

1. Click the **Options** tab in the PivotTable Tools ribbon.

2. Click the **Refresh** button in the PivotTable Tools ribbon.

3. Click **Refresh All** in the dropdown menu.

4. The Pivot Table has been updated.

If you change your source data after you have created the Pivot Table, your changes won't be reflected in the Pivot Table until you refresh it. Follow steps 1-3 to manually refresh your Pivot Table.

Row Labels	Sum of Total Sales
Bob's Fruit	403746
Fruit Direct	308852
Fruit R Us	318912
Fruitju	372053
Middle Georgia Fruit	196017

A	B	C	D	E	F	
7	North GA	Atlanta	Bob's Fruit	Oranges	7818	0
8	North GA	Atlanta	Bob's Fruit	Apples	1565	0
9	North GA	Atlanta	Bob's Fruit	Kiwi	9967	0
10	North GA	Atlanta	Bob's Fruit	Bananas	9842	0
11	North GA	Atlanta	Bob's Fruit	Mixed Ber	8993	0



# Report Filter Feature

**1** Drag City into the Report Filter section.

**2** Click here to filter the Pivot Table by City.

**3** Select the City that you want to filter by.

**4** OK

**5** The Pivot Table is now filtered by the city of Atlanta.

Excel 2007 and later allows you to select multiple items.

City	(All)
Bob's Fruit	Atlanta
Fruit R Us	Atlanta
Fruitju	Atlanta
Orange U Glad	Atlanta
<b>Grand Total</b>	<b>1416079</b>

Row Labels	Sum of Total Sales
Bob's Fruit	403746
Fruit R Us	318912
Fruitju	372053
Orange U Glad	321368
<b>Grand Total</b>	<b>1416079</b>



# Generate Multiple Pivot Tables

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

**1** PivotTable Tools - Options tab

**2** PivotTable Name: Group Selection

**3** Show Report Filter Pages...

**4** OK

**5** Excel created a separate Pivot Table on individual worksheets by city.

City	Sum of Total Sales
Bob's Fruit	403746
Fruit Direct	308852
Fruit R Us	318912
Fruitju	372053
Orange U Glad	321368
<b>Grand Total</b>	<b>1416079</b>

Ready | Atlanta | Blue Ridge | Brunswick | Clarkesville | Macon | Valdosta | Pivot Table | Fruit Data



# GetPivotData function

Pivot Table 101 - Fruit.xlsx - Microsoft Excel

**3** PivotTable Tools: Options, Design

**4** PivotTable Options:  Generate GetPivotData

**5** Unclick this checkbox to prevent Excel from using the GetPivotData function when you create formulas that refer to cells within a Pivot Table.

**1** PivotTable Field List:  Vendor,  Product,  Cases Sold,  Total Sales

**2** Type = B4/C4. Notice the formula in the Formula Bar.

**6** This is what the formula looks like once the GetPivotData function is turned off.

Formula Bar: `=GETPIVOTDATA("Sum of Total Sales",$A$3,"Vendor","Bob's Fruit")/GETPIVOTDATA("Sum of Cases Sold",$A$3,"Vendor","Bob's Fruit")`

Formula Bar (after): `=B4/C4`

Row Labels	Sum of Total Sales	Sum of Cases Sold
Bob's Fruit	403746	38186
Fruit Direct	308852	25322
Fruit R Us	318912	27169
Fruitju	377052	374
Middle Georgia Fruit		
Mountain Fruit		
Navel Oranges & More	235373	20180
Orange U Glad	321368	26111
Oranges 'n Onions	214041	18030
Whistleton Fruit Stand	495770	40550



# Pivot Table Calculations

**1** Drag Total Sales into the Values section a second time.

**2** Right-click.

**3** Value Field Settings...

**4** % of Column Total

**5** (Annotation pointing to the second Total Sales field in the PivotTable)

**6** In Excel 2007 and earlier, click here to get to the Show Values As tab.

Row Labels	Sum of Total Sales	Sum of Total Sales2
Bob's Fruit	403746	12.42%
Fruit Direct	308852	9.50%
Fruit R Us	318912	9.81%
Fruitju	372053	11.45%
Middle Georgia Fruit	196017	6.03%
Mountain Fruit	383506	11.80%
Navel Oranges &	235373	7.24%
Orange U Glad	321368	9.89%
Oranges 'n Onion	214041	6.59%
Whistlestop Fruit	495770	15.26%
<b>Grand Total</b>	<b>3249638</b>	<b>100.00%</b>



# Calculated Fields

**PivotTable Tools**

**Options** (1)

**Design** (2)

**Calculated Field...** (3)

**Insert Calculated Field** (4)

Name: Per Case Price

Formula: `=Total Sales/Cases Sold` (5)

Fields:

- ReqID
- Region
- CityID
- City
- VendorID
- Vendor

**OK** (6)

**The Per Case Price field has been added.** (7)

You can also use worksheet functions, such as IF in a calculated field. This is helpful when you need to eliminate #DIV/0! Errors.

Row Labels	Sum of Total Sales	Sum of Per Case Price
Bob's Fruit	403746	10.57341888
Fruit Direct	308852	12.19698286
Fruit R Us	318912	11.73808385
Fruitju	372053	13.53559865
Middle Georgia Fruit	196017	12.61533016
Mountain Fruit	383506	13.21750819
Navel Oranges & More	235373	11.66367691
Orange U	68	12.30776301
Oranges 'n		11.87138103
Whistlestop	70	12.22614057
<b>Grand Total</b>	<b>3249638</b>	<b>12.14422973</b>

# Questions? Spreadsheet Consulting Help?

I'm happy to hear from you (*e-mail is best*):

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