

# Excel 2007 Data Validation – Create Dependent Lists

## Create Named Lists

Start by creating Named Lists, which will be the choices in the dependent data validation drop down lists. In this example, the first list will be named Produce.

It contains the Produce categories -- **Fruit** and **Vegetable**.

### 1. Create the first Named List

- In an empty area of the workbook, type the entries you want to see in the drop-down lists. **These should be one-word entries, to match the dependent list names that will be created.** If you need to use multiple word entries, see:

[Using Two Word Items](#) below

- Select the cells in the list (but not the heading).
- Click in the Name box, to the left of the formula bar
- Type a one-word name for the list, e.g. Produce.
- Press the Enter key.

The screenshot shows an Excel worksheet with a dropdown menu open for cell B1. The dropdown menu is titled 'Produce' and contains two items: 'Fruit' and 'Vegetable'. The 'Name Box' on the left shows 'B' and the formula bar on the right shows 'Fru'. The cells B2, B3, and B4 contain 'Produce List', 'Fruit', and 'Vegetable' respectively.

	Produce	fx	Fru
	Name Box	B	
1			
2		Produce List	
3		Fruit	
4		Vegetable	
5			

### 2. Create the supporting Named Lists

- Type the entries you want to see in the Excel data validation drop-down list for one of the Produce categories.
- Select the cells in the list.
- Click in the Name box, to the left of the formula bar
- Type a one-word name for the list, e.g. Fruit. **This name must Ebe exactly the same as the matching entry in the Produce list.**
- Press the Enter key

The screenshot shows an Excel worksheet with two dropdown menus. The first dropdown menu is for cell B3, titled 'Fruit', and contains 'Apple'. The second dropdown menu is for cell D3, titled 'Apple', and contains 'Banana', 'Lemon', and 'Peach'. The 'Name Box' on the left shows 'B' and the formula bar on the right shows 'Apple'. The cells B2, B3, and B4 contain 'Produce List', 'Fruit', and 'Vegetable' respectively. The cells D2, D3, D4, D5, and D6 contain 'Fruit List', 'Apple', 'Banana', 'Lemon', and 'Peach' respectively.

	Fruit	fx	Apple		
	Name Box	B	C	D	E
1					
2		Produce List		Fruit List	
3		Fruit		Apple	
4		Vegetable		Banana	
5				Lemon	
6				Peach	
7					

- f. Create another list with the items for the next category -- Vegetable in this example.

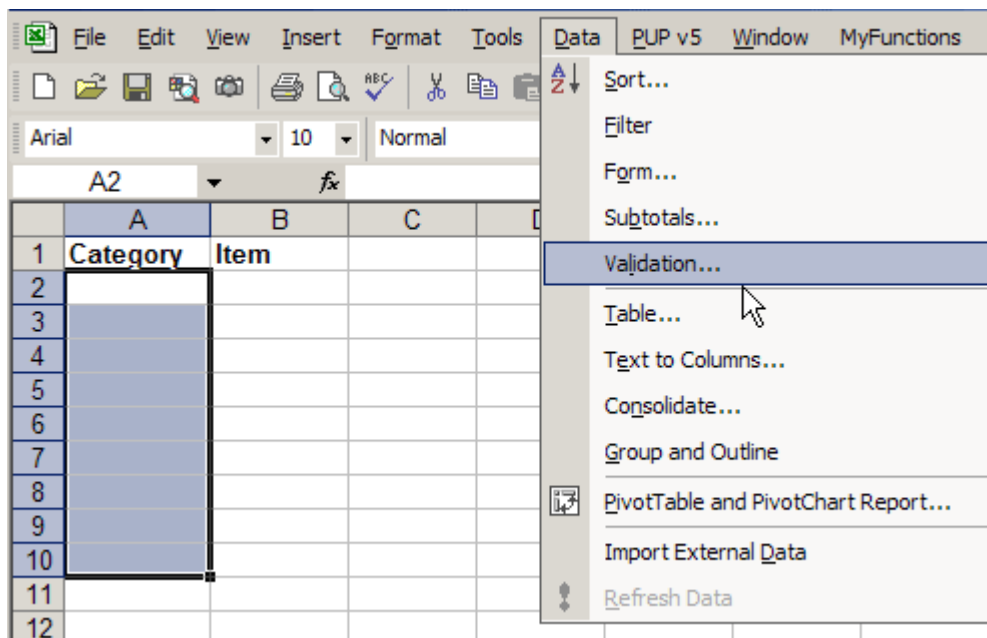
Vegetable		Cabbage			
	Name Box, B	C	D	E	F
1					
2	Produce List		Fruit List		Vegetable List
3	Fruit		Apple		Cabbage
4	Vegetable		Banana		Lettuce
5			Lemon		Rutabaga
6			Peach		

## Apply the Excel Data Validation

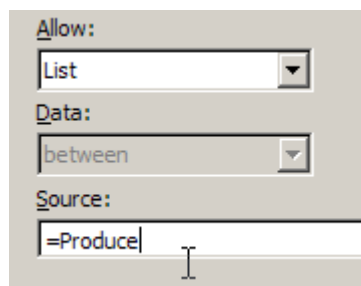
The cells in the Category column will allow a List. The cells in the Item column will use the INDIRECT function to select a list.

### 1. Apply the Excel Data Validation

- Select the cells in which you want to apply Excel data validation using the Category List
- From the Data menu, choose Validation.

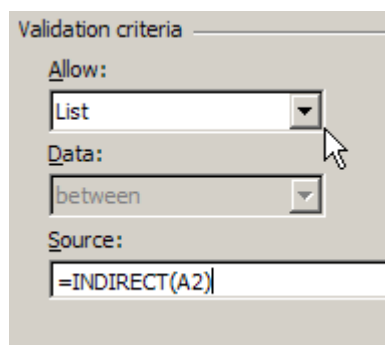


- c. From the Allow drop-down list, choose List
- d. In the Source box, type an equal sign and the list name, for example: **=Produce**
- e. Click OK.

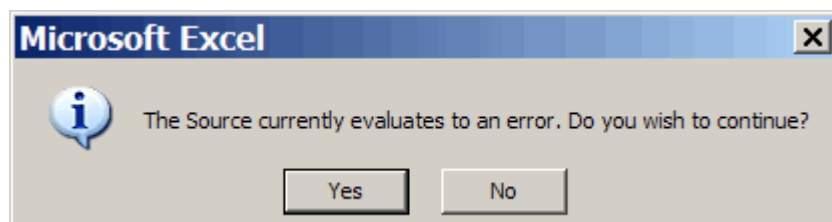


## 2. Create the Dependent Data Validation

- a. Select the cells in which you want to apply dependent data validation using the Fruit or Vegetable List, dependent on which Category has been selected
- b. From the Data menu, choose Validation.
- c. From the Allow drop-down list, choose List
- d. In the Source box, type an equal sign and INDIRECT function, referring to the first data cell in the Category column:  
=INDIRECT(A2)
- e. Click OK.



**Note:** If cell A2 is empty, you'll see the message shown below. Click **Yes** to continue.



## Test the Dependent Data Validation

1. Click on a cell in the Category column, and select either Fruit or Vegetable, from the Produce drop down list.
2. Press the Tab key on your keyboard, to move to the Item column, in the same row.
3. In the Item column, click the drop down arrow, and select an item. The drop down list shows either Fruit or Vegetable items, depending which has been selected in the Category column

	A	B	C
1	Category	Item	
2	Vegetable	Cabbage	
3	Fruit	<input type="text"/>	
4		Apple	
5		Banana	
6		Lemon	
7		Peach	

**NOTE:** If a Category has not been selected, the Item drop down in that row will not work.

## Adding a Third Dependent List

You could add another set of dependent data validation dropdown lists that depend on the selections in the first two dropdowns. For example, select a country and region, then select a city in that region.

	A	B	C	D	E
1	Country	Region	City		
2	Canada	Quebec	Quebec City		
3	USA	New York	<input type="text"/>		
4			New York City		
5			Albany		
6					

1. Create the two named ranges and dropdown lists as described above.
2. Create another set of named ranges, naming them for the available combinations in the first two Excel data validation drop-downs. For example, you might create ranges named CanadaOntario and USANewYork.
3. For the third dropdown, choose to Allow: List, and use a formula that combines the entries in the first two columns, and removes the spaces from the names. For example, in cell D2, the data validation formula would be:

CanadaOntario	USANewYork
Ottawa	New York City
Toronto	Albany
London	

**=INDIRECT(SUBSTITUTE(B2&C2," ",""))**

## Using Two-Word Items

You may need to have two-word items in the first Excel data validation drop-down list. For example, your choices are 'Red Fruit', 'Green Fruit' and 'Yellow Fruit'

1. Create the first named range and dropdown list as described above.
2. Create the supporting named lists, using one-word names, e.g. RedFruit, GreenFruit, YellowFruit
3. For the second dropdown, choose to Allow: List, and use a formula that removes the spaces from the names. For example:

**=INDIRECT(SUBSTITUTE(A2," ",""))**

	A	B	C	D
1				
2	Yellow Fruit			
3				
4				
5	Red Fruit	Apple	Banana	Lime
6	Yellow Fruit	Raspberry	Lemon	Kiwi
7	Green Fruit			
8				
9				

Validation criteria

Allow: List

Data: between

Source: =INDIRECT(SUBSTITUTE(A2," ",""))

## Using Items with Illegal Characters

You may need items in the first Excel data validation drop-down list that contain characters not allowed in range names, such as the ampersand (&).

	A	B
1	Dropdown List 1	Dropdown List 2
2	Yellow & Orange Fruit	Lemon
3		Banana
4		Lemon

For example, your choices are 'Red Fruit', 'Green Fruit' and 'Yellow & Orange Fruit'. For the dependent lists, you can create ranges with one-word names, such as **YOFruit**. Then, you can create a lookup table, which lists each item in the first Excel data validation drop-down list, and the range where its dependent items will be stored.

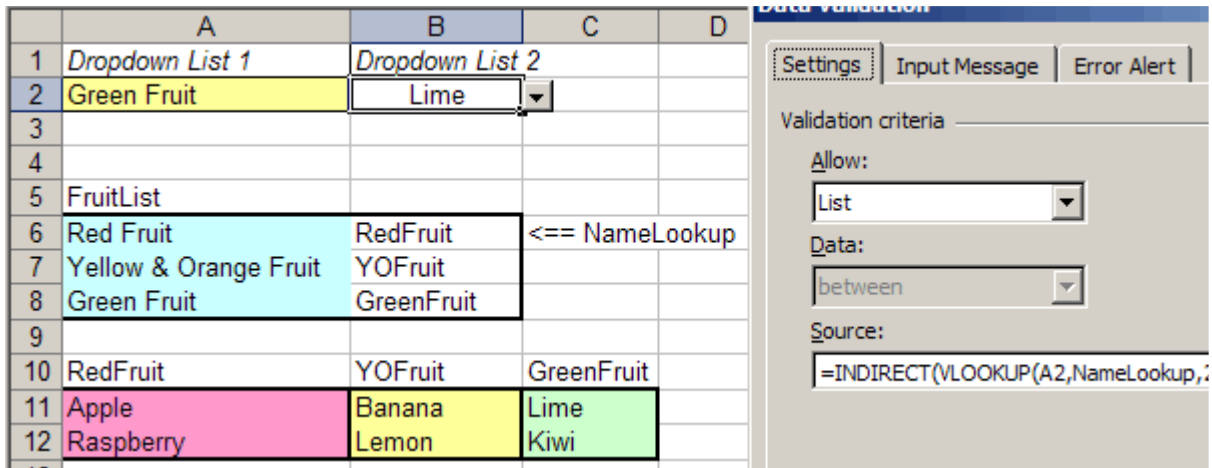
To start, create the item lists and the first Excel data validation drop-down:

1. Create the first named range and drop-down list as described above. In this example, the range is named **FruitList**, with values in cells A6:A8. The drop-down list in cell A2 uses FruitList as its source.
2. Create the dependent lists, and name them, using one-word names, e.g. **RedFruit**, **GreenFruit**, **YOFruit**. In this example, **RedFruit** is in A11:A12, **YOFruit** is in B11:B12 and **GreenFruit** is in C11:C12.
3. Select an item from the drop-down list in cell A2.

Next, you'll create the lookup table, to match each item with its dependent items' range name.

1. In the column to the right of the FruitList range, enter the range name for each item's dependent list. For example, YOFruit is entered as the dependent range name for Yellow & Orange Fruit.
2. Name the lookup table. In this example, the range A6:B8 is named **NameLookup**.
3. Select cell B2, and from the Data menu, choose Validation.
4. Choose to Allow: List.
5. For the Source, enter a formula that uses a VLookup formula to find the dependent list's range name.  
For example: **=INDIRECT(VLOOKUP(A2,NameLookup,2,0))**

With *Green Fruit* selected in cell A2, the VLookup formula will return **GreenFruit** as the range name for the dependent list. The GreenFruit list will be displayed in cell B2's drop-down.



## Using Dynamic Lists

Because the INDIRECT function only works with references, not formulas, the previous method for dependent data validation won't work with dynamic lists. Instead, you can use the following method:

1. Create the first named range and dropdown list as described [above](#).
2. Create the supporting named lists, and name the first cell in each range, e.g. cell B1 is named Fruit and cell C1 is named Vegetables.
3. Name the column in which each list is located, e.g. column B is named FruitCol and column C is named VegetablesCol
4. For the second dropdown, choose to Allow: List, and use a formula that calculates the lookup range. For example, if the first dropdown list is in cell E2:

	Fruit	Apples
1	Fruit	Apples
2	Vegetables	Oranges
3		Lemons
4		Grapes
5		Brussels Sprouts
6		Celery
7		

**=OFFSET(INDIRECT(\$E2),0,0,COUNTA(INDIRECT(E2&"Col")),1)**

if two-word items will be used, you can include the SUBSTITUTE function in the formula:

**=OFFSET(INDIRECT(SUBSTITUTE(\$F2," ", "")),0,0,COUNTA(INDIRECT(SUBSTITUTE(\$F2," ", "")&"Col")),1)**