

Importing & Exporting Data in BioNumerics



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Overview

- Import Demographic Information
 - Create ODBC Link
 - Download Data
- Export Data into Excel

Import Demographic Information

- What can be imported?
 - Data located in Microsoft Excel or Microsoft Access
 - Database fields (ex. patient age, source site)
 - Character data (antimicrobial profiles—not covered in this presentation)
 - Sequence data (not covered in this presentation)

Import Demographic Information

Isolate Number	Serotype	Country	State	County	SourceSite	SourceType	PatientAge	PatientSex	IsolatDat
07E01714	Infantis	USA	PA	Philadelphia	Stool	Human	25	MALE	9/6/2007
07E01715	Saintpaul	USA	PA	Dauphin	Urine	Human	63	FEMALE	9/6/2007
07E01716	Agona	USA	PA	Lycoming	Stool	Human	37	FEMALE	9/6/2007
07E01718	Sandiego	USA	PA	Philadelphia	Stool	Human	25	FEMALE	9/4/2007
07E01719	Montevideo	USA	PA	Cumberland	Stool	Human	40	FEMALE	9/4/2007
07E01720	Typhimurium	USA	PA	Lancaster	Stool	Human	42	FEMALE	9/6/2007
07E01721	Typhimurium var. O 5 - (Copenhagen)	USA	PA	Berks	Stool	Human	42	MALE	9/6/2007
07E01722	Montevideo	USA	PA	Philadelphia	ankle bone	Human	33	MALE	8/29/2007
07E01723	Litchfield	USA	PA	Philadelphia	Stool	Human	17	FEMALE	9/4/2007
07E01724	Typhi	USA	PA	Lancaster	Blood	Human	19	MALE	9/3/2007

First row of Excel should contain database field names (they do not have to be the same as those found in BioNumerics)

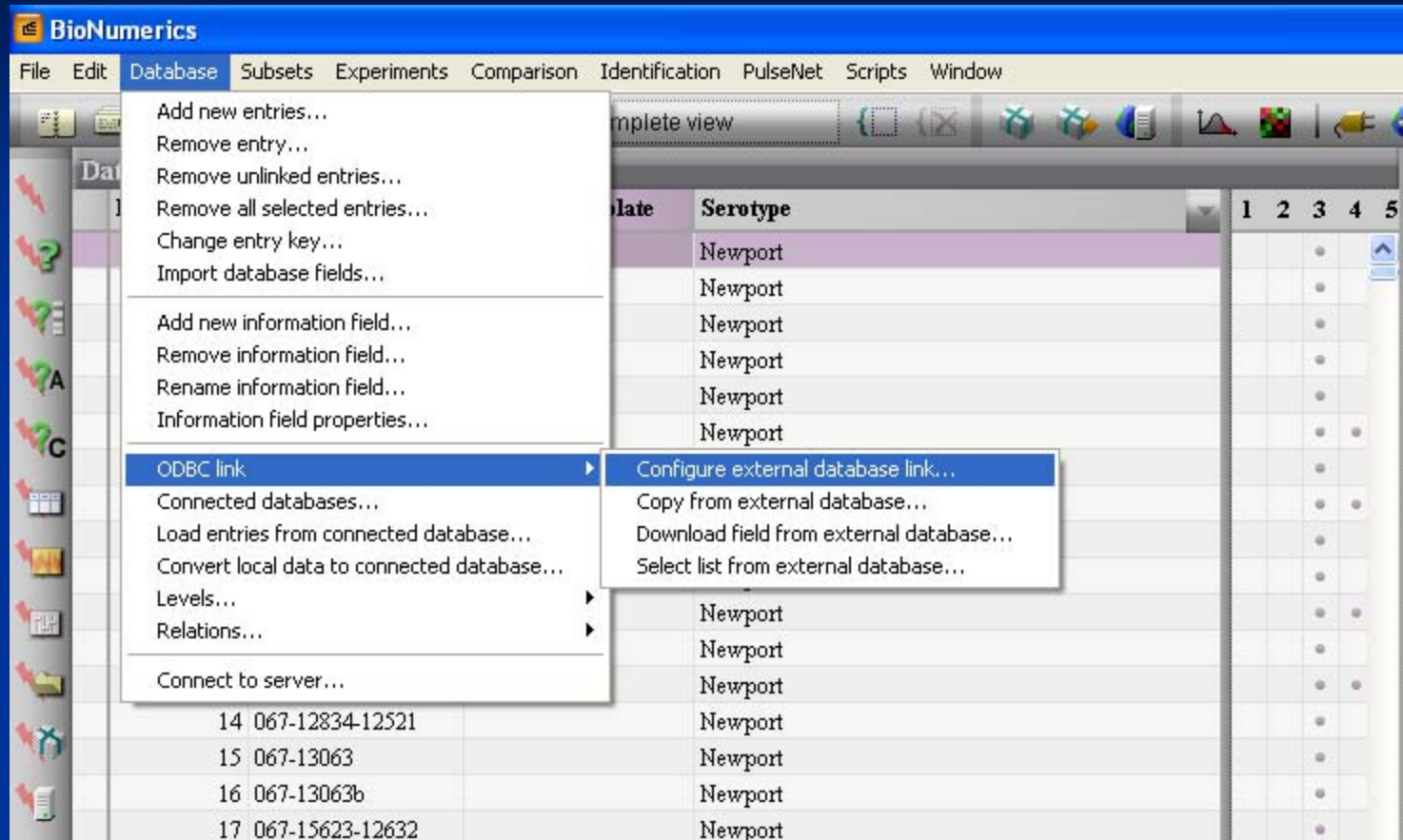
There must be a column containing isolate key numbers

Open the Excel file and note the name of the sheet (default: Sheet1)

Overview

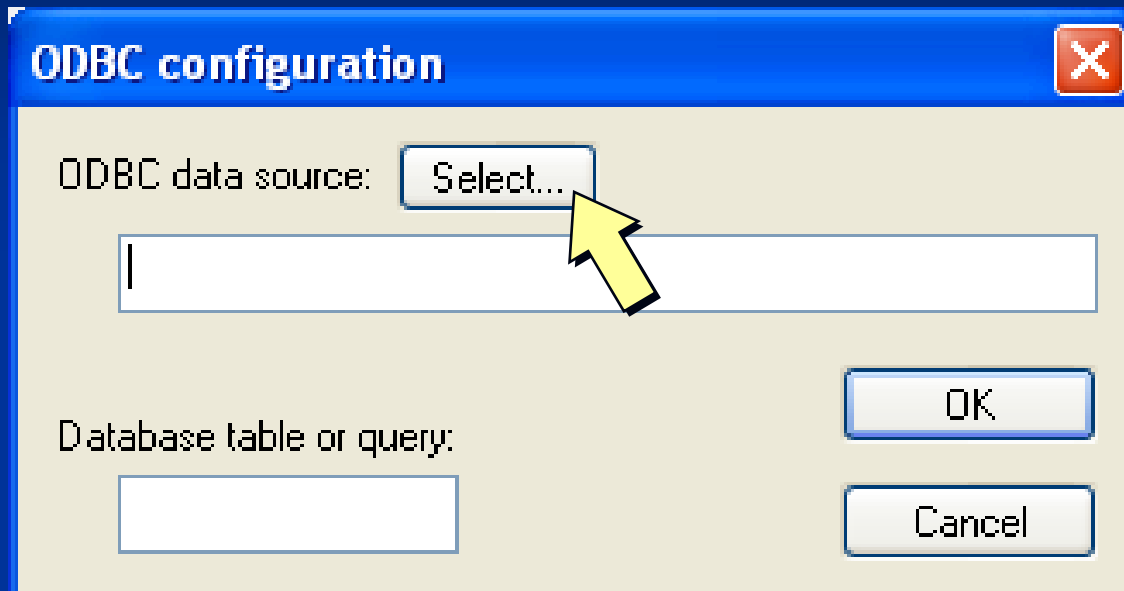
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Import: Create ODBC Link



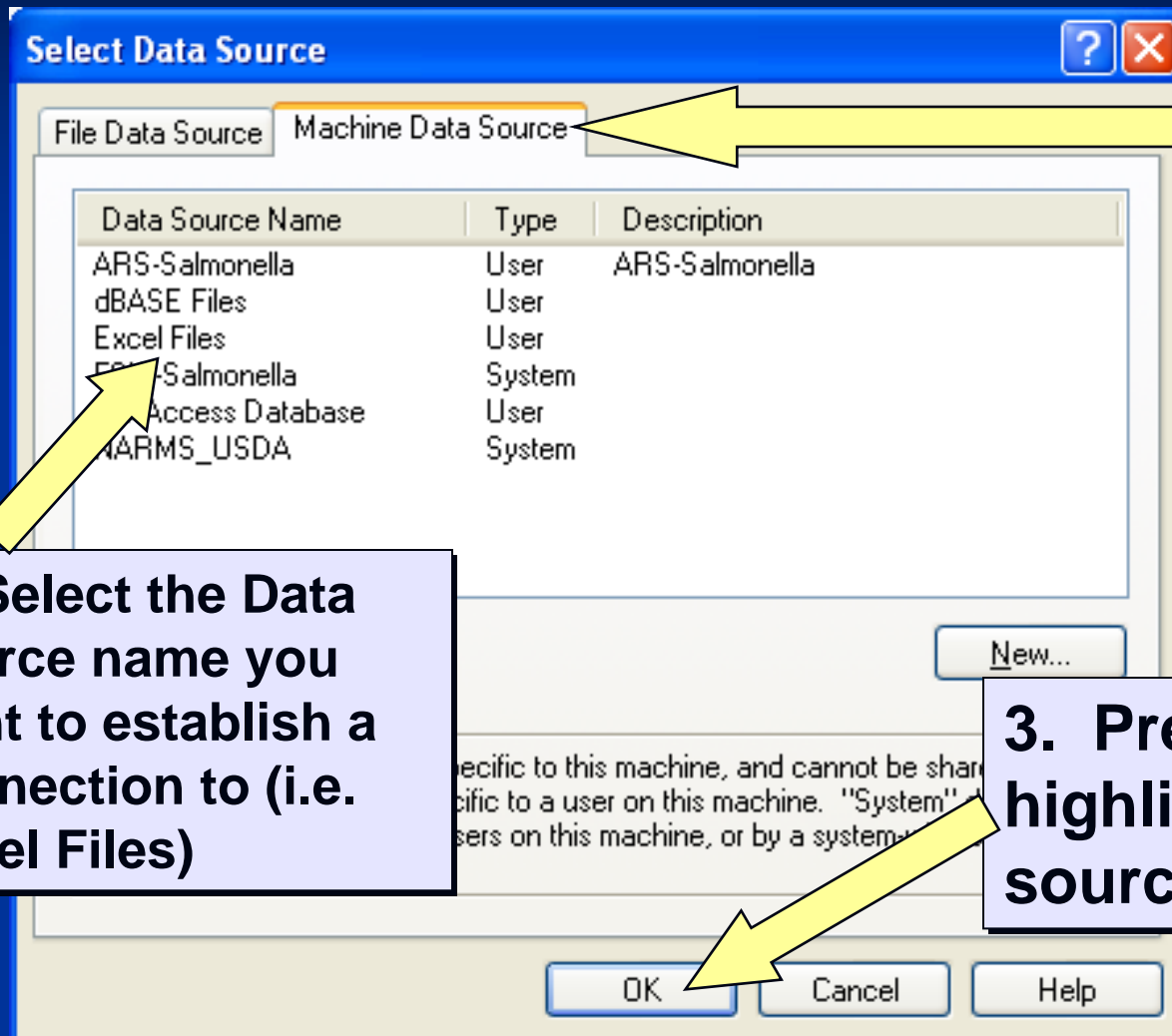
In the main screen of BioNumerics, select Database → ODBC link → Configure external database link...

Import: Create ODBC Link



Press “Select” to bring up the Windows ODBC configuration wizard

Import: Create ODBC Link

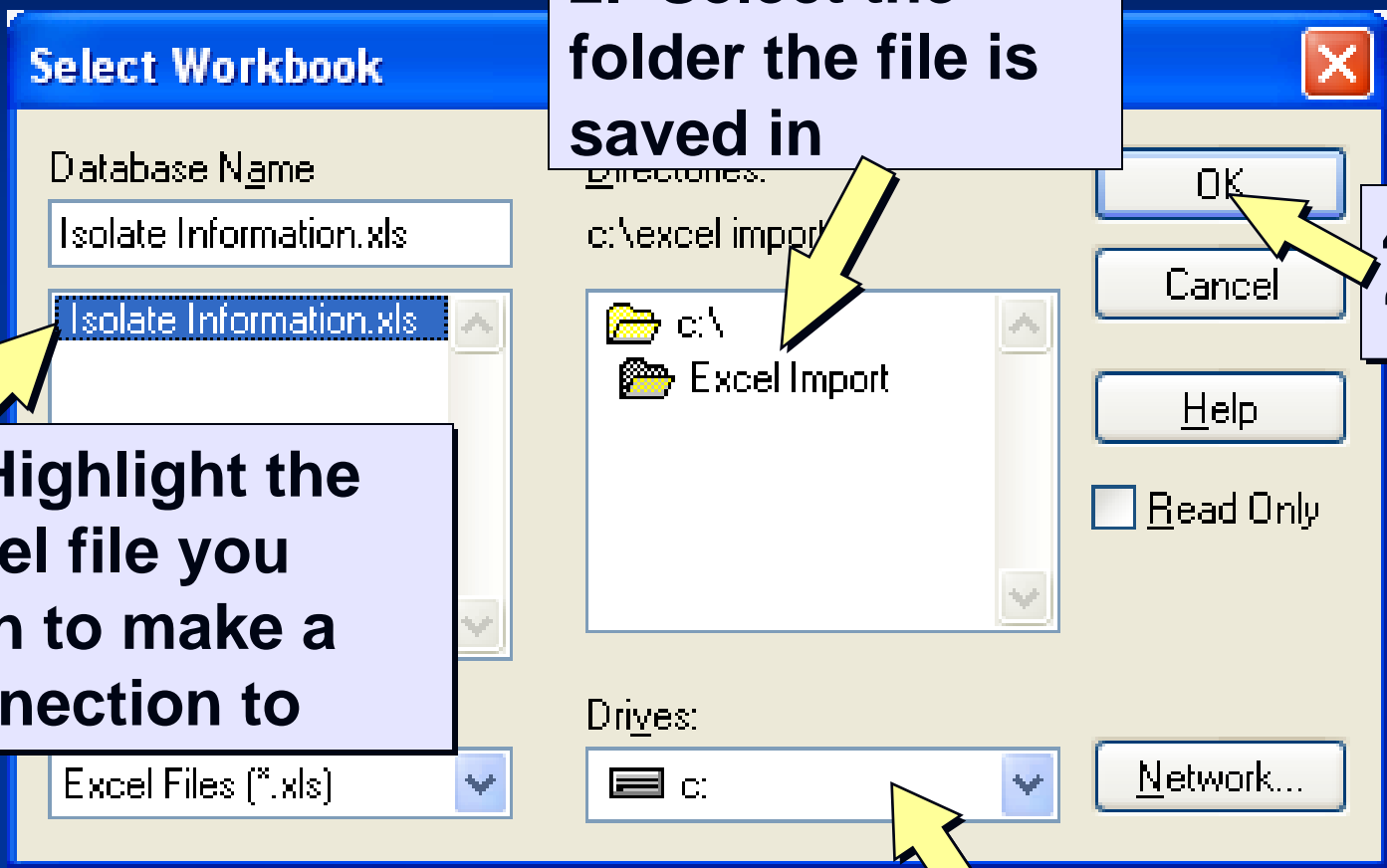


1. Select the Machine Data Source tab

2. Select the Data source name you want to establish a connection to (i.e. Excel Files)

3. Press "OK" after highlighting the data source name

Import: Create ODBC Link



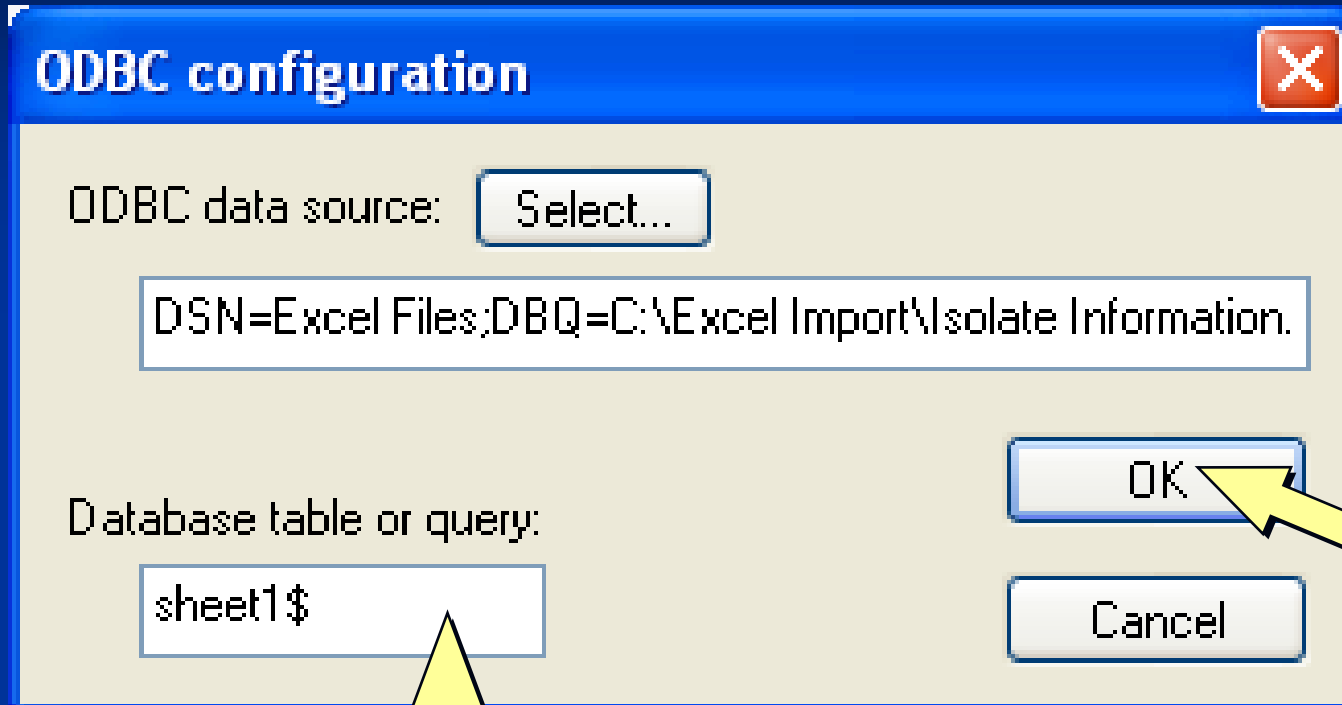
2. Select the folder the file is saved in

4. Press "OK"

3. Highlight the Excel file you wish to make a connection to

1. Navigate to the appropriate drive (i.e. desktop)

Import: Create ODBC Link



2. Press "OK"

1. Enter the name of the sheet with a '\$' sign added (ex. sheet1\$)

Import: Create ODBC Link

ODBC database import

BioNumerics	External database
Key	Isolate Number
LabID	
PatientAge	Patient Age
PatientSex	
UploadDate	
Serotype	
SourceType	
SourceSite	

Link Ok

Unlink Cancel

1. Select a BioNumerics field in the left column and the corresponding Excel field in the right column

2. Press "Link" when both fields are highlighted

Import: Create ODBC Link

ODBC database import

BioNumerics	External database
Key	Isolate Number
LabID	
PatientAge	Patient Age
PatientSex	
UploadDate	
Serotype	Serotype
SourceType	
SourceSite	

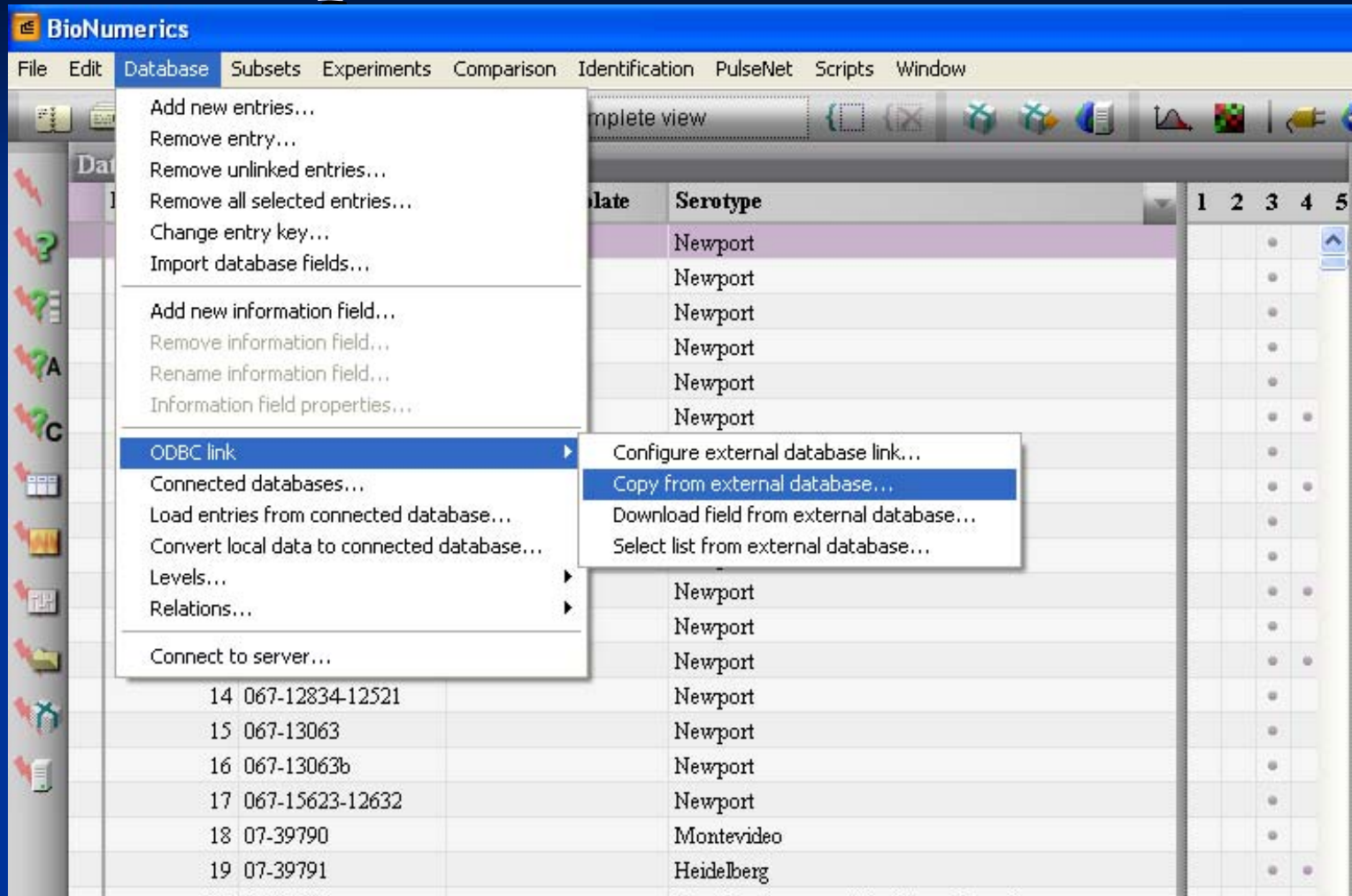
Link Unlink Ok Cancel

Press "OK"
after all
appropriate
fields are
linked

Overview

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Import: Download Data

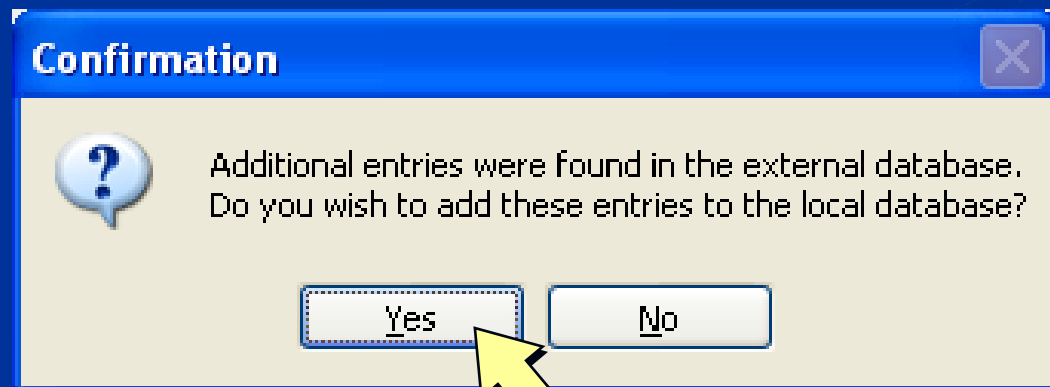
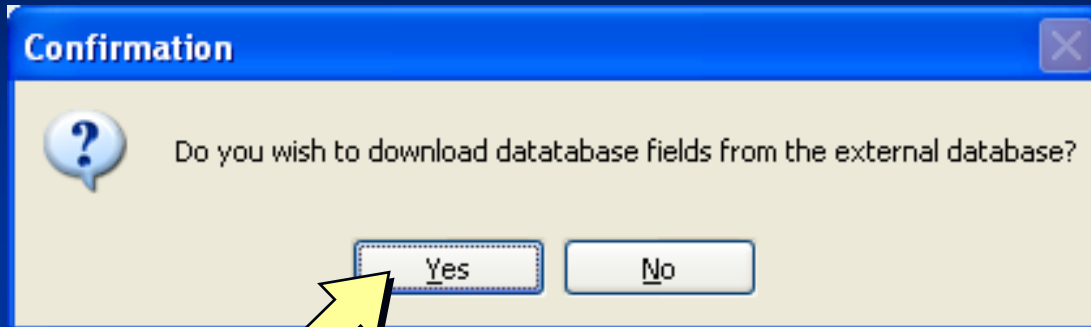


The screenshot shows the BioNumerics software interface. The 'Database' menu is open, and the 'ODBC link' option is selected, which has opened a sub-menu. In this sub-menu, the 'Copy from external database...' option is highlighted. The background shows a data table with columns for 'Date' and 'Serotype', and a grid of data points.

Date	Serotype	1	2	3	4	5
	Newport					
	Newport					
	Newport					
	Newport					
	Newport					
	Newport					
	Newport					
14	067-12834-12521					
15	067-13063					
16	067-13063b					
17	067-15623-12632					
18	07-39790					
19	07-39791					
20	07-49888					


Select Database → ODBC link → Copy from external database...

Import: Download Data



Now the data from Excel is present in your BioNumerics database!

Import Data into BioNumerics

- Link imported isolates to the appropriate lane on the analyzed gel
- Check for spelling errors for serotype and demographic information
- Click on  to make sure:
 - No extra spaces
 - No spelling errors
 - Information matches the pull-down menus
 - Information is in the proper format
 - i.e. YYYY-MM-DD date format and 00:00:00 does NOT appear after the date
- Download can be performed each time the excel file is modified

Overview

- Import Demographic Information
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Export Data into Excel

- Manually select isolates or select isolates by query (i.e., isolates that are in cluster 0901NYJJP-1) that you want to export into Microsoft Excel

The screenshot shows the 'nerics' software interface. The main window displays a table of database entries with columns for Index, Key, Serotype, LabID, and SourceCountry. An 'Entry search' dialog box is open, showing a search query for '0901NYJJP-1' in the 'Outbreak' field. A yellow arrow points to this field.

Index	Key	Serotype	LabID	SourceCountry
1	ARS_056-83515	Newport		
2	ARS_067-06257	Newport		
3	ARS_067-07331-12478	Newport		
4	ARS_067-07331-12502	Newport		
5	ARS_067-07865-12535	Newport		
6	ARS_067-07865-12558	Newport		
7	ARS_067-10215-12479	Newport		
8	ARS_067-10842-1823	Newport		
9	ARS_067-11220	Newport		
10	ARS_067-11232-12504	Newport		
11	ARS_067-11269	Newport		
12	ARS_067-12228	Newport		
13	ARS_067-12832-12529	Newport		
14	ARS_067-12834-12521	Newport		
15	ARS_067-13063	Newport		
16	ARS_067-13063b	Newport		
17	ARS_067-15623-12632	Newport		
18	ARS_100060	Gaminara		
19	ARS_100093	Braenderup		
20	ARS_100195	Uganda		
21	ARS_100220	Newport		
22	ARS_100225	Anatum		
23	ARS_10037	Enteritidis		
24	ARS_1005	Untypable		
25	ARS_1006	IV 11 z4,z23:- (Pe		
26	ARS_10062	Heidelberg		
27	ARS_10066	Typhimurium var		
28	ARS_10067	Typhimurium		
29	ARS_10077-NVSL04	Brandenburg		
30	ARS_100929A	Miami		

The 'Entry search' dialog box contains the following fields and options:

- Simple query / Advanced query tool
- SourceCountry
- SourceCity
- Traveled_To
- Exposure
- Phagetype
- PatientAge
- PatientSex
- OGroup
- Outbreak: 0901NYJJP-1
- PFGE-Blnl-status
- cdc_id
- Status
- NARMS-EB
- FoodNet
- PFGE-XbaI-pattern
- PFGE-SpeI-status
- PFGE-XbaI-status
- Search in list
- Negative search
- Case sensitive
- Buttons: Clear, Search, Cancel

Create New Comparison

The screenshot shows the BioNumerics software interface. The 'Comparison' menu is open, and the 'Create new comparison' option is highlighted in blue. A yellow arrow points from a text box to this option. The background shows a table of database entries with columns for Index, Key, and Source Country.

Index	Key	Source Country
1	067-07331-12478	USA
2	067-07331-12502	USA
3	067-07865-12535	USA
4	067-07865-12558	USA
5	067-10215-12479	USA
6	067-11220	USA
7	067-11232-12504	USA
8	067-11269	USA
9	067-12228	USA
10	067-12832-12529	USA
11	067-12834-12531	USA

Go to “Create new comparison” under the “Comparison” menu

Export Data into Excel

The screenshot shows the BioNumerics software interface in the 'Comparison' window. The 'File' menu is open, and the 'Export database fields...' option is highlighted. A yellow arrow points to this option. The main window displays a table of data with the following columns: Index, Key, Serotype, LabID, and Source Country. The table contains 14 rows of data, all with 'USA' as the source country.

Index	Key	Serotype	LabID	Source Country
1	067-07331-12478	Newport		USA
2	067-07331-12502	Newport		USA
3	067-07865-12535	Newport		USA
4	067-07865-12558	Newport		USA
5	067-10215-12479	Newport		USA
6	067-11220	Newport		USA
7	067-11232-12504	Newport		USA
8	067-11269	Newport		USA
9	067-12228	Newport		USA
10	067-12832-12529	Newport		USA
11	067-12834-12521	Newport		USA
12	067-13063	Newport		USA
13	067-13063b	Newport		USA
14	067-15623-12632	Newport		USA

In the comparison screen of BioNumerics, select File → Export database fields

Export Data into Excel

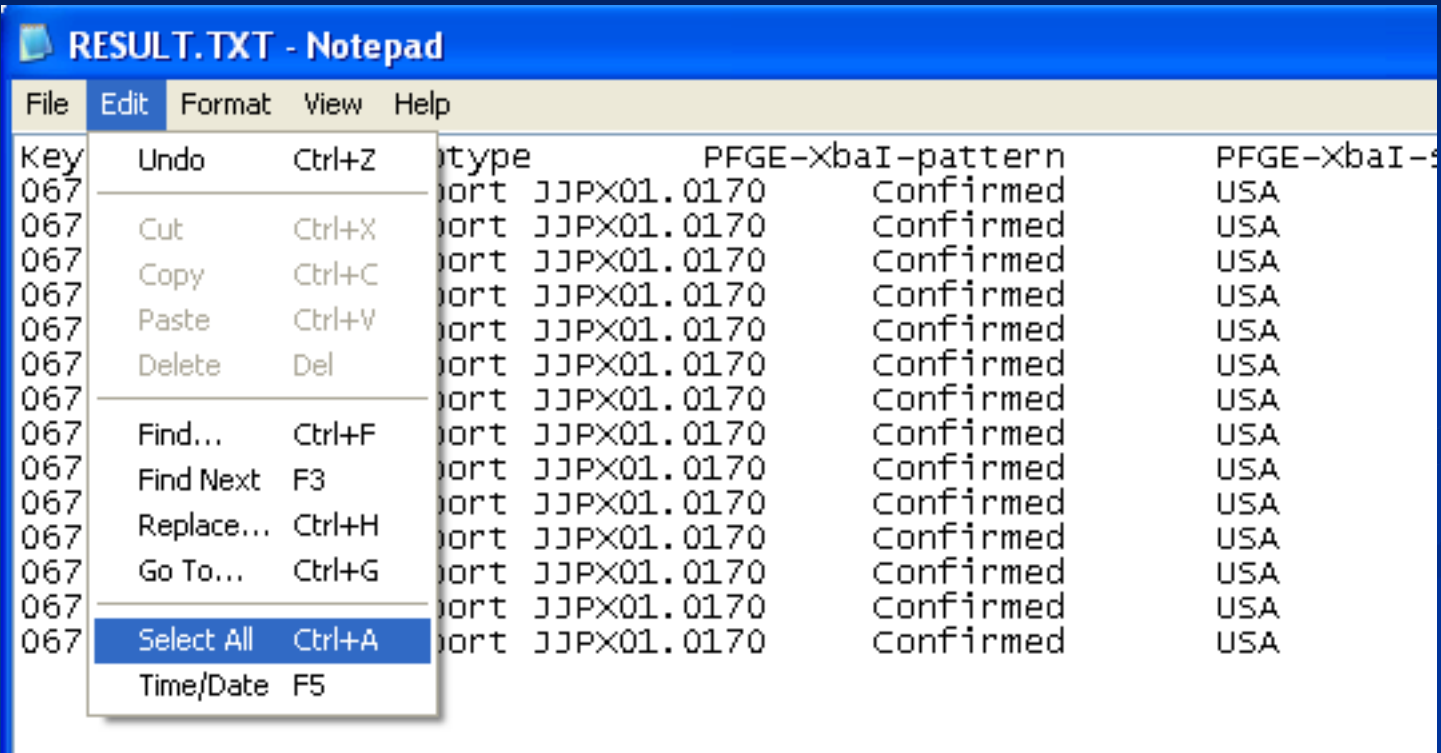
The screenshot shows a software window titled "Comparison" with a menu bar (File, Edit, Layout, Groups, Clustering, Dimensioning, Bandmatching, Characters, Sequence, TrendData, Composite, Window) and a toolbar. The main area is divided into three panes: "Experiment data", "Information fields", and "Simi...". The "Information fields" pane contains a table with the following data:

Index	Key	Serotype	LabID	SourceCountry
1	067-07331-12478	Newport		USA
2	067-07331-12478	Newport		USA
3	067-07331-12478	Newport		USA
4	067-07331-12478	Newport		USA
5	067-07331-12478	Newport		USA
6	067-07331-12478	Newport		USA
7	067-07331-12478	Newport		USA
8	067-07331-12478	Newport		USA
9	067-07331-12478	Newport		USA
10	067-07331-12478	Newport		USA
11	067-07331-12478	Newport		USA
12	067-07331-12478	Newport		USA
13	067-07331-12478	Newport		USA
14	067-07331-12478	Newport		USA

A dialog box titled "Use tab-delimited fields?" is overlaid on the table. It contains a question mark icon and the text "Use tab-delimited fields?". There are two buttons: "Yes" and "No". A yellow arrow points from the "Yes" button to a text box below the screenshot.

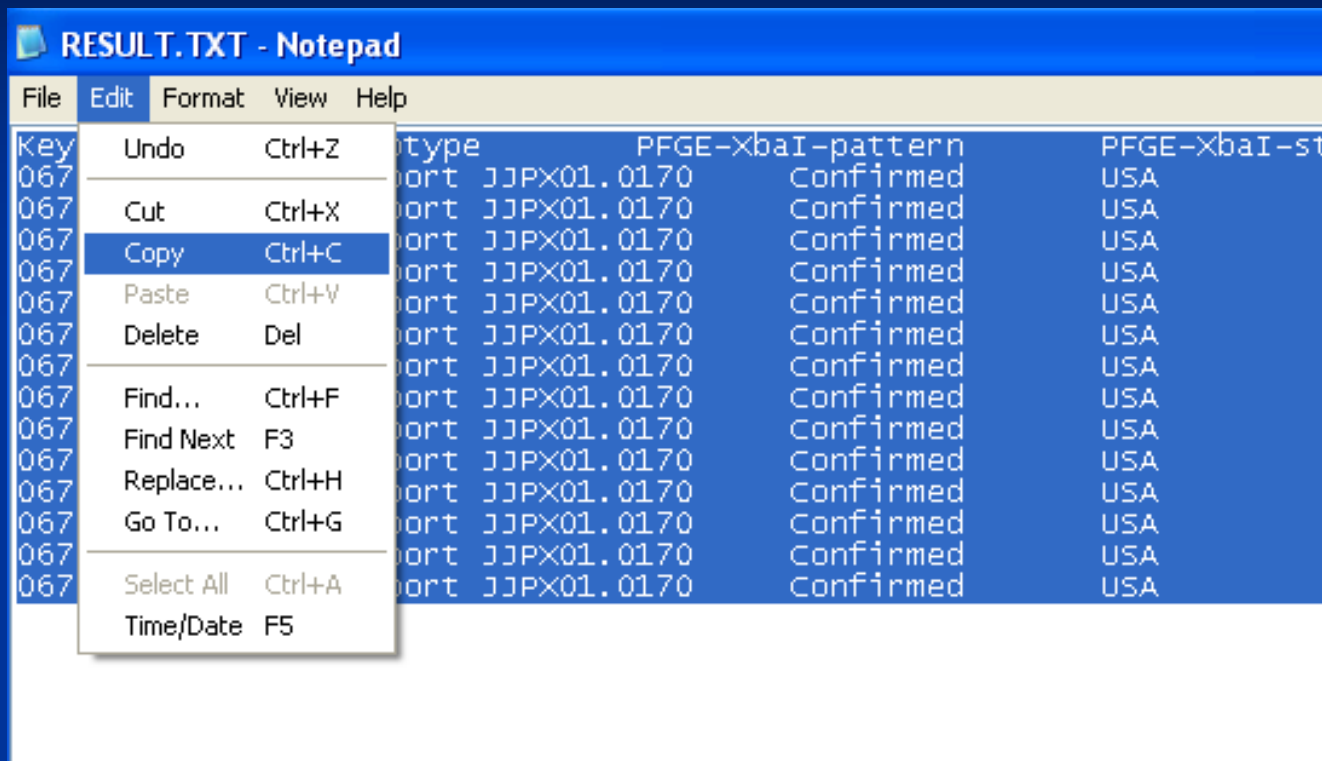
Press "Yes"

Export Data into Excel



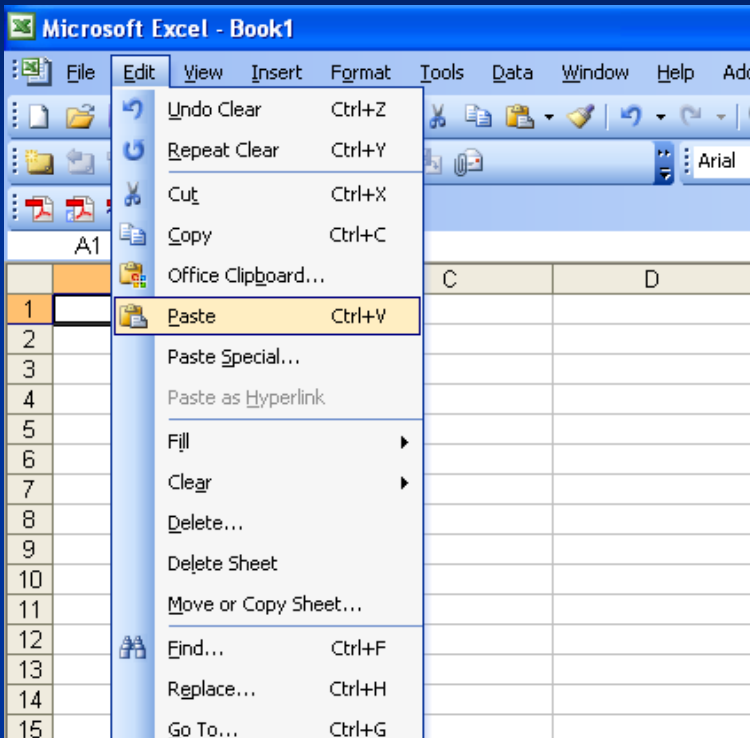
Select Edit → Select All

Export Data into Excel



Select Edit → Copy

Export Data into Excel



**In an Excel file,
Select Edit → Paste**

A screenshot of the Microsoft Excel application window titled "Microsoft Excel - Book1". The spreadsheet contains a table with 7 columns and 12 rows. The columns are labeled "Key", "Serotype", "PFGE-Xbal-pattern", "PFGE-Xbal-status", "SourceCountry", and "ReceivedDate". The data is as follows:

	A	B	C	D	E	F
1	Key	Serotype	PFGE-Xbal-pattern	PFGE-Xbal-status	SourceCountry	ReceivedDate
2	067-07331-12478	Newport	JJPD1.0170	Confirmed	USA	9/21/2006
3	067-07331-12502	Newport	JJPD1.0170	Confirmed	USA	9/21/2006
4	067-07865-12535	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
5	067-07865-12558	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
6	067-10215-12479	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
7	067-11220	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
8	067-11232-12504	Newport	JJPD1.0170	Confirmed	USA	9/21/2006
9	067-11269	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
10	067-12228	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
11	067-12832-12529	Newport	JJPD1.0170	Confirmed	USA	8/31/2006
12	067-12834-12521	Newport	JJPD1.0170	Confirmed	USA	8/31/2006

Summary

- Imported Demographic Information
 - Created ODBC Link
 - Downloaded Data
- Exported Data into Excel

Questions?



Thank you for your attention

The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention