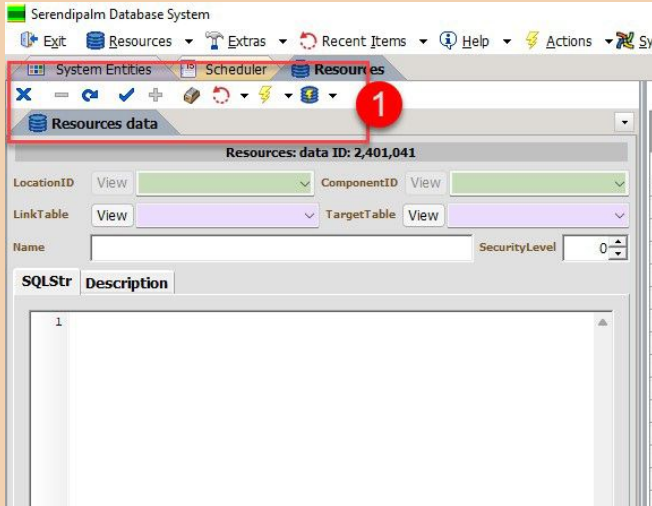


Code for production of a Farmer List with Crop Hectages

This help topic works through the steps needed to create a Resource which can be used to show farmer acreages based on the current Inspections data for each farmer.

Steps to create the Resource

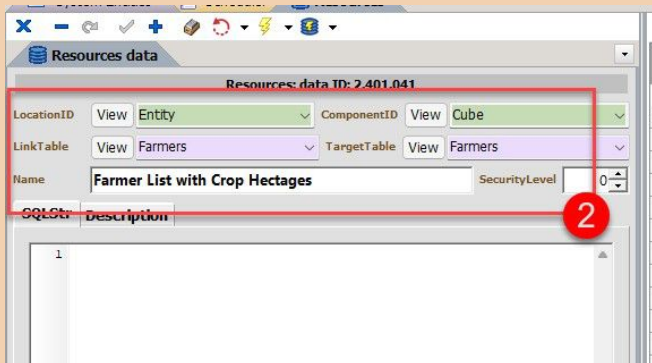


Create new Resources Record

Go to System, View / Edit Resources.

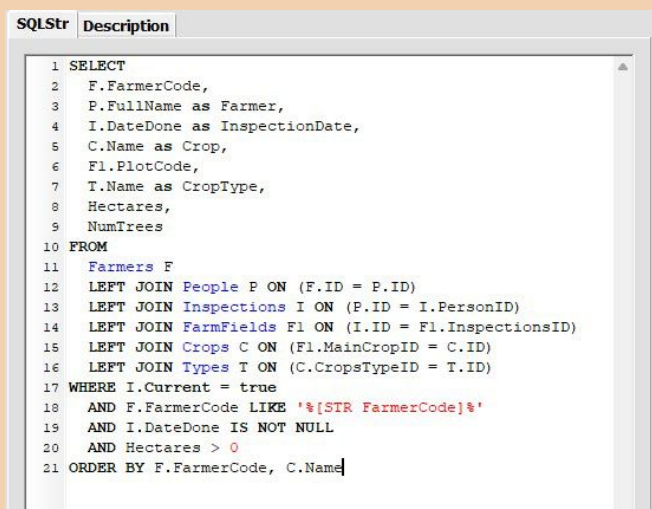
When the Grid opens, double click on any record to open the edit-window.

Click on the "+" in the toolbar to add a new Resources record to the data-table (1).



Set values of Resource meta-data fields

To enable the resource to appear, linked to part of SerendiSys, set the meta-data fields as they need to be set (2). Note particularly that the "ComponentID" is set to "Cube" so a data-cube report will be generated.

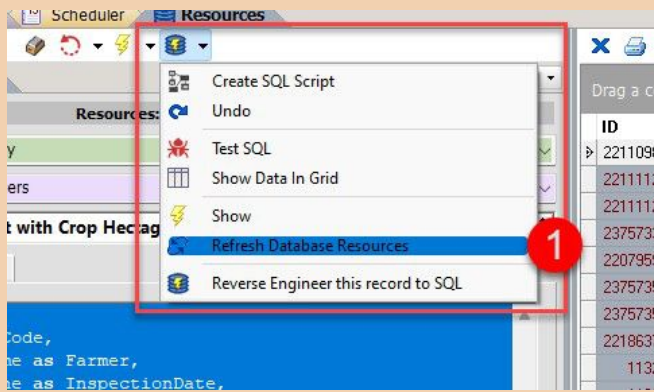


Draft SQL (explanations of individual lines follows below)

Draft the SQL.

Remember that you can right-click on the SQL Editor and select "Add Script created using SQL Modeller", which opens the Orixia SQL modelling tool which will create a first-draft of SQL for you.

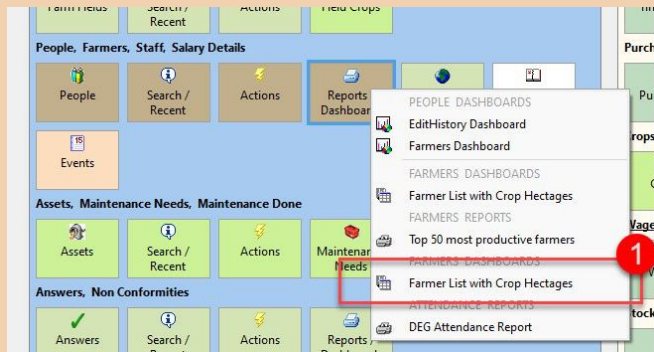
As you draft the SQL remember you can right-click on the SQL Editor and select "Test SQL" or "Show data in Grid" to see whether your script works, and what it shows.



Click on the SQL Toolbar, and select "Refresh Database Resources"

Once the SQL is complete, you will want to design the user interface which appears when users run the resource.

To update the list of active resources, click the SQL toolbutton and select "Refresh Database Resources".



New Resource will be added to the "People, Farmer" entity

Once database resources are updated, the new Resource will automatically appear, as shown in the screen on the left.

Explanation of SQL Script

```

SELECT
    F.FarmerCode,
    P.FullName as Farmer,
    I.DateDone as InspectionDate,
    C.Name as Crop,
    F1.PlotCode,
    T.Name as CropType,
    Hectares,
    NumTrees
FROM    Farmers F
        LEFT JOIN People P ON (F.ID = P.ID)
        LEFT JOIN Inspections I ON (P.ID = I.PersonID)
        LEFT JOIN FarmFields F1 ON (I.ID = F1.InspectionsID)
        LEFT JOIN Crops C ON (F1.MainCropID = C.ID)
        LEFT JOIN Types T ON (C.CropTypeID = T.ID)
WHERE  I.Current = true
        AND F.FarmerCode LIKE '%[STR FarmerCode]%'
        AND I.DateDone IS NOT NULL
        AND Hectares > 0
ORDER BY F.FarmerCode, C.Name

```

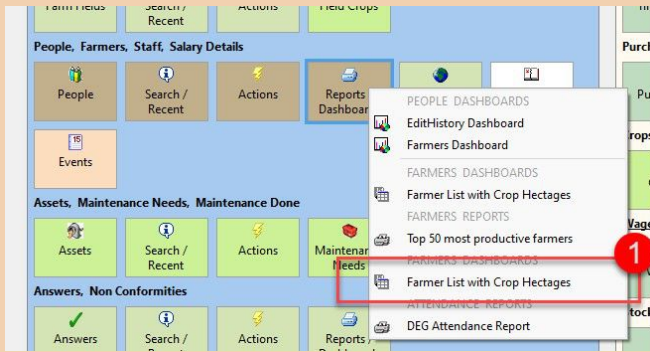
SerendiSys stores farmer data relating to the crops and land they own in the "FarmFields" data-table, so this is the "main" data-table we need to access to find the needed data. However, this data is update each year via a new Inspection, so for Current data, we have to add some lines to the SQL to ensure we only bring back data we want.

The SQL Returns the "FarmerCode" from the Farmers data-table, which is the "lead table" in the SQL statement. This means it is the first table to appear after the FROM keyword. The SQL then returns the "FullName" of the farmer from the People data-table.

After this it pulls back the InspectionDate, Name of Crop, Farm-Fields PlotCode, CropType Hectares and NumTrees data-fields from the FarmFields data-table.

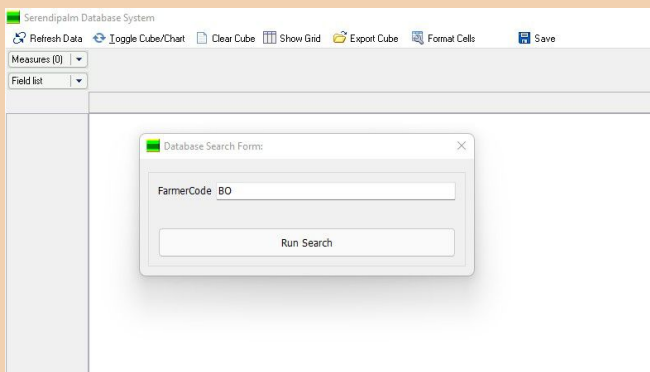
Note the **WHERE** clause. This ensures that the data which is returned is only for the "Current" inspection (the most recent inspection) and then uses the syntax [STR FarmerCode] to allow users to enter part of the farmer-code to allow the resulting data to include only farmers from one farmer-group. As some Inspections may not have been completed, we add "I.DateDone IS NOT NULL AND Hectares > 0" to remove incomplete Inspections.

Steps to Design the "Data Cube" to show data as desired, and export it in Excel Format so non-System Users can view the data



Click on the resource to activate it.

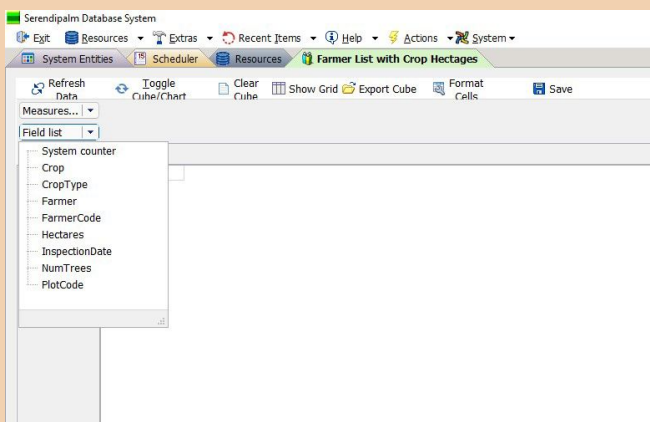
New Resource will be added to the "People, Farmer" entity



Because the SQL Script includes a search-text syntax, you are asked to enter some search text.

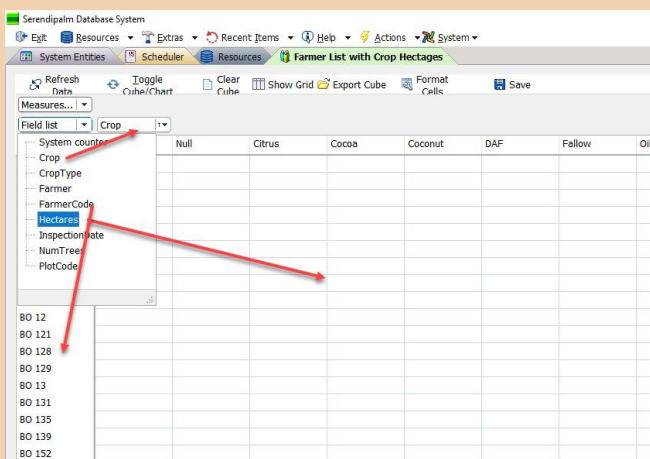
Remember, if you leave this **blank** then all farmers will be returned.

Run the Resource and enter a FarmerCode search



Once data is returned, the Data-cube interface will update with extra "Field List" "Measures" and Toolbar user interface elements

Find Fields generated from the SQL



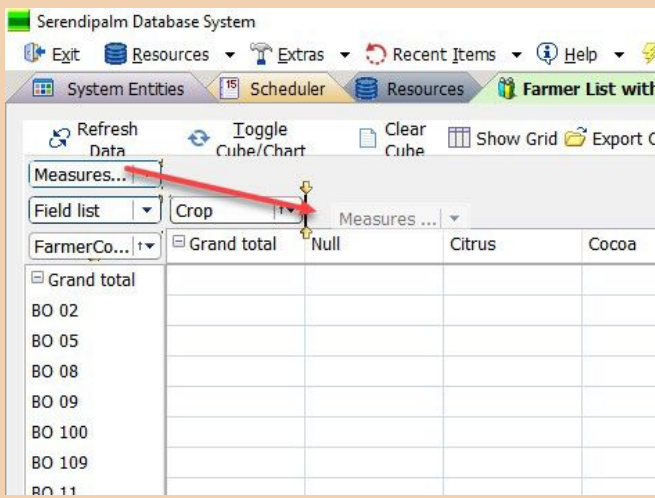
Click on the Field-list item to show the list of available fields, and **click-and-drag** individual fields to different parts of the data-cube.

Fields you want to be "rows" should be dragged down to the "rows" area.

Fields You want to be "columns" should be dragged up to the "columns" area.

Fields you want to see inside the data-cube should be dragged into the centre of the data-cube.

Drag fields to the axes of the data-cube



Key step: Drag "Measures" to sit beside the "Columns"

Once all the fields are arranged as you want them, there is one more step.

Click on the "Measures" item and **drag** it so it sits beside the column fields.

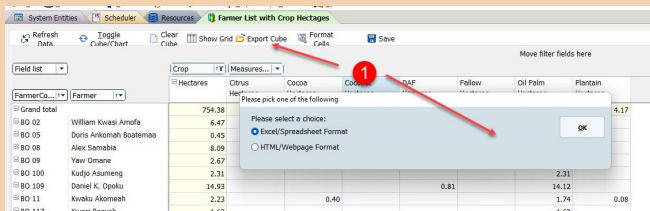
Once this is done the data will appear in the data-cube, based on the data-set you have created in the earlier steps.

The screenshot shows the data-cube displaying a table of data. The table has columns for 'FarmerCo...', 'Farmer', 'Crop', 'Hectares', 'Citrus Hectares', 'Cocoa Hectares', 'Coconut Hectares', 'DAF Hectares', 'Fallow Hectares', 'Oil Palm Hectares', and 'Plantain Hectares'. The data is organized by 'Grand total' and then by individual farmer cooperatives (BO 02 to BO 117).

FarmerCo...	Farmer	Crop	Hectares	Citrus Hectares	Cocoa Hectares	Coconut Hectares	DAF Hectares	Fallow Hectares	Oil Palm Hectares	Plantain Hectares
Grand total			794.38	6.88	226.34	0.20	10.32	65.05	441.41	4.17
BO 02	William Kwasi Amofa		6.47		2.63			0.61	3.24	
BO 05	Doris Ankomah Boateng		0.45		0.45					
BO 08	Alex Samaha		8.09	2.02		1.21			4.86	
BO 09	Yaw Omana		2.67		0.81				1.86	
BO 100	Kudjo Asumeng		2.31						2.31	
BO 109	Daniel K. Opoku		14.93				0.81		14.12	
BO 11	Kwaku Akomeah		2.23		0.40				1.74	0.08
BO 117	Kwasi Baareh		1.62						1.62	
BO 12	Yaa Tusumaa		2.43						2.43	
BO 121	Wilson Amana		3.72		2.43				1.29	
BO 128	Op. Yaw Asarfi		1.42		0.81				0.61	
BO 129	Seth Adu Opoku		12.71		3.48				9.23	
BO 13	zzz/Daniel Aperko		4.05						4.05	
BO 131	Adwoah Otiwah		1.46						1.46	
BO 135	Yaw Asante		2.23		1.01				1.21	
BO 139	Emmanuel Paddy		8.86		2.43		0.40		6.03	
BO 152	Felix Ohene Asiedu		9.31						9.31	
BO 166	John Akuafo		12.95						12.95	
BO 171	George Kofi Yamash		6.27						6.27	
BO 172	Kwadwo Agyei Asirfi		3.48						3.48	
BO 180	Prosper Tinkorang		0.73						0.73	
BO 181	Omana Tawia		6.15		4.21				1.94	
BO 182	Wilfred Akomor		1.74		0.81				0.93	
BO 187	Carle Robinson Adindou		32.78						32.78	
BO 188	Kofi Ameyuo Twum		4.86		1.62				3.24	
BO 189	Collins Amponseh		2.86		0.61			0.40	1.05	
BO 20	Owusu Bodi		1.62						1.62	

Data shown for resulting data-cube

Full data on show in the data-cube



Exporting resulting data to Excel

Click on the "Export Cube" button to open opens to export the data cube to Excel

The screenshot shows the data-cube with the 'Measures...' dropdown menu open. The dropdown menu is showing a list of crops with checkboxes: 'Null', 'Citrus', 'Cocoa', 'Coconut', 'DAF', 'Fallow', 'Oil Palm', and 'Plantain'. The 'Cocoa', 'Fallow', and 'Oil Palm' checkboxes are checked. A red circle with the number '1' is placed over the 'Measures...' dropdown menu.

FarmerCo...	Farmer	Crop	Hectares	Citrus Hectares	Cocoa Hectares	Coconut Hectares	DAF Hectares	Fallow Hectares	Oil Palm Hectares	Plantain Hectares
Grand total			34		65.05			441.41		
BO 02			63		0.61			3.24		
BO 05			45							
BO 08			21					4.86		
BO 09			81					1.86		
BO 100								2.31		
BO 109								14.12		
BO 11			40					1.74		
BO 117				1.62					1.62	
BO 12				2.43					2.43	
BO 121				3.72	2.43				1.29	
BO 128				1.42	0.81				0.61	
BO 129				12.71	3.48				9.23	
BO 13				4.05					4.05	
BO 131				1.46					1.46	
BO 135				2.23	1.01				1.21	
BO 139				8.46	2.43				6.03	
BO 152				9.31					9.31	
BO 166				12.95					12.95	
BO 171				6.27					6.27	

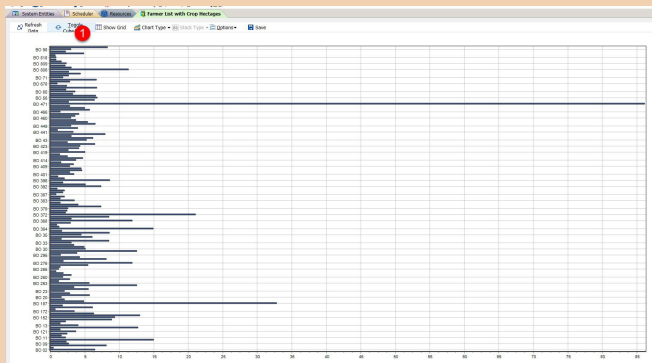
Note that prior to export, you may want to **filter** the data. Click on the right hand side of any field as shown at (1), the list of values in the data will be shown, and you can tick and untick the ones you want.

Filtering resulting data to only show certain Crops

FarmerCode	Farmer	Citrus Hectares	Cocoa Hectares	Coconut Hectares	DAF Hectares	Fallow Hectares	Oil Palm Hectares	Plantain Hectares
Grand total		754.38	6.88	226.34	0.20	10.32	65.05	441.41
BO 02	William Kwasi Amofa	6.47		2.63			0.61	3.24
BO 05	Doris Ankomah Boatema	0.45		0.45				
BO 08	Alex Samabia	8.09	2.02	1.21				4.86
BO 09	Yaw Omsene	2.67		0.81				1.86
BO 100	Kudjo Asumeng	2.31						2.31
BO 109	Daniel K. Opoku	14.93				0.81		14.12
BO 11	Kwaku Akomeah	2.23		0.40				1.74
BO 117	Kwasi Baayah	1.62						1.62
BO 12	Yea Twarmwa	2.43						2.43
BO 121	Wilson Amone	3.72		2.43				1.29
BO 128	Op. Yaw Asirifi	1.42		0.81				0.61
BO 129	Seth Adu Opoku	12.71		3.48				9.23
BO 13	zzz/Daniel Aperko	4.05						4.05
BO 131	Adwoah Onimwaah	1.46						1.46
BO 135	Yaw Asante	2.23		1.01				1.21
BO 139	Emmanuel Paddy	8.86		2.43		0.40		6.03
BO 152	Felix Ohene Asiedu	9.31						9.31
BO 166	John Atufo	12.95						12.95
BO 171	George Kofi Yamoah	6.27						6.27
BO 172	Kwadwo Agyei Asirifi	3.48						3.48

Resulting data displayed in Excel

Resulting data shown in Excel from saved file



Note that SerendiSys data-cubes can also show data in Chart format. Simply click on the "Toggle chart"/cube tool-button.

Data-cube data can also be shown in Chart format

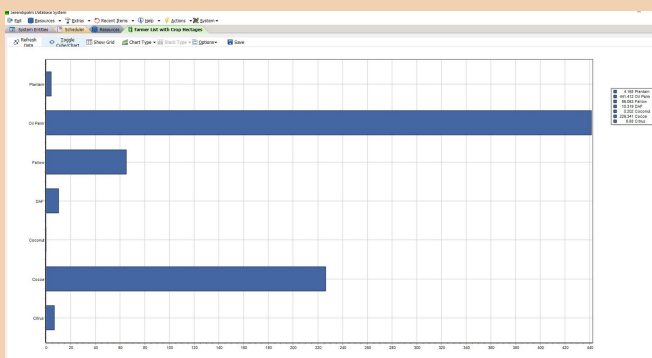
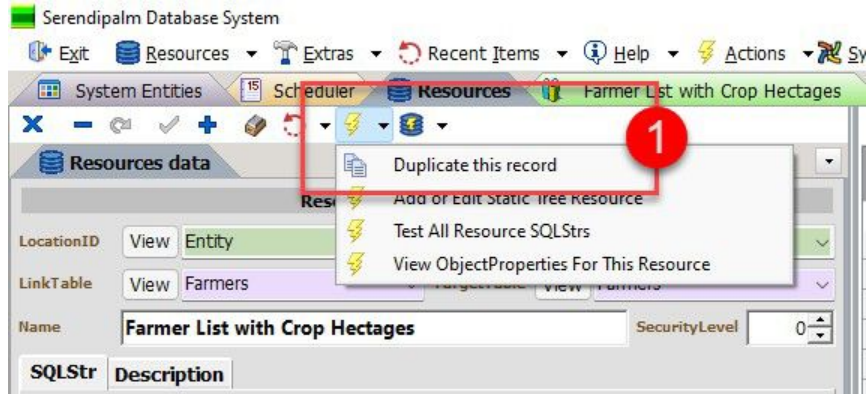


Chart can be toggled to show total by Column as well as by Row

And charts can be "toggled" to show totals for either rows or columns. Click on the "Format Cells" toolbutton, and then show the chart.

Extending this resource to show other data



Duplicate Resource Record

Note that you can add:

1. Farmer Gender
2. Farmer Age(s)
3. Total Deliveries of palm / cocoa.
4. Size of famer household (if recorded)

to the above data-set, just by extending the SQL.

The resulting data can be shown in new data-cubes, or in other data formats including charts.