GRIN-Global Curator Tool v 1.9.6.41

User Guide

Revision Date
January 13, 2016

Tip

This guide provides an overview to the GRIN-Global Curator Tool and provides details on the program's interface. For a quick start in using the program, read the Frequently Asked Questions document.

Software release notes are in the Appendix. The Appendix also contains a GG overview, links to other documents describing other supporting documents which describe details about the GRIN-Global database, and this document's revision notes.

Review the Table of Contents which contains links to the document's sections

Comments/Suggestions:
Please contact feedback@ars-grin.gov with any suggestions or questions related to this document. This and other GRIN-Global –related documentation can be downloaded from the GRIN-Global Training page.

Topic Quick List

A detailed Table of Contents immediately follows this "Quick List." (This topic list was compiled for new users.)

Topic	Links to Additional References [tbd]
Starting the Curator Tool Connecting to a GG Server	

Records
    Creating a New Record to the Database
    Editing Existing Records
    Deleting Records
    Importing Data (from an External Spreadsheet)
    Drag & Drop
    Searching for Records in the GG Database	

Curator Tool Interface
    Overview
    Keyboard Shortcuts
    Folders (Lists)
        Static
        Dynamic Folders (Dynamic Queries)
        also: Dynamic Folders (online)
    Organizing Accessions by lists
    Datagrid
    Dataviews
    Passwords
    Wizards
    Customization Options
    Hiding Columns	

Images	

(continued on next page)

Related Resources

Videos Illustrating Curator Tool Concepts

These videos illustrate basic Curator Tools concepts and features:
http://www.ars-grin.gov/npgs/gringlobal/sb/videos.htm

Accessions and Passport Data

Accession overview and instructions for adding, editing, and deleting accession data [document]

Multicrop Passport Descriptors

The FAO/BIOVERSITY Multi-Crop Passport Descriptors (MCPD V.2) is the result of a thorough revision of the original publication released by FAO/IPGRI in 2001. This document describes how GRIN-Global handles these descriptors. [document]

Source Habitat Observations

Five new (after version 1.0.7) tables provide an extremely flexible method for adding more detailed information about the collection site which was not possible with 1.0's single accession_source table. Now genebank personnel can create custom descriptors and codes for an unlimited amount of detail on the collection site. [document]

Inventory

Overview of the Inventory-related dataviews and inventory processing. Inventory is the physical stock for each accession, whereas accession tables contain, among other items, the passport information and other descriptors.

An accession may have several inventory samples. For example, there may be different generations, storage types, locations, sites, etc. [document]

Order Processing

Explains how to process orders and use the Order Wizard [document]

Observations: Crop Descriptors (Traits) & Observations

Examples explain the relationship among the dataviews in the family of Crop dataviews [document]

English vs. ENG

An "alternative" language to English was developed specifically for the National Plant Germplasm System (NPGS) – some of the GRIN users prefer to use Codes rather than the longer Titles when entering Observations and other data; this document explains how to use the ENG language to accomplish this. [document]

GRIN-Global Documentation Website

Links to various GRIN-Global documents, videos, project history, etc.
http://www.ars-grin.gov/npgs/gringlobal/sb/home.html

Contents

Introduction to GRIN-Global

GRIN-Global (GG) is a plant genebank management system. The initial GG project involved the **USDA Agricultural Research Service**, **Bioversity International**, and the **Global Crop Diversity Trust**. Project information and background, software download links, documentation, and training resources can be found on the GRIN-Global website.

GRIN-Global is public-domain software freely available to the world's crop genebanks. GG is versatile – it can be implemented different ways, ranging from a simple genebank inventory application on a single PC to a widely distributed networked system supporting on-line user searching and germplasm ordering.

What is Needed to Access GRIN-Global?

The GRIN-Global germplasm information system consists of several distinct components. In organizations that will be using a networked server, the GRIN-Global administrator will install server-based GRIN-Global programs onto the organization's server. Genebank workers connecting to the server will have several programs installed on their PCs.

One GG component that does not require any installation is the GRIN-Global Public Website – it is a browser-based application that runs in a standard browser such as Internet Explorer. In a networked environment, the user would point to a valid URL established by the GRIN-Global administrator.

End User Components

In a networked environment, the three main GRIN-Global user components are:

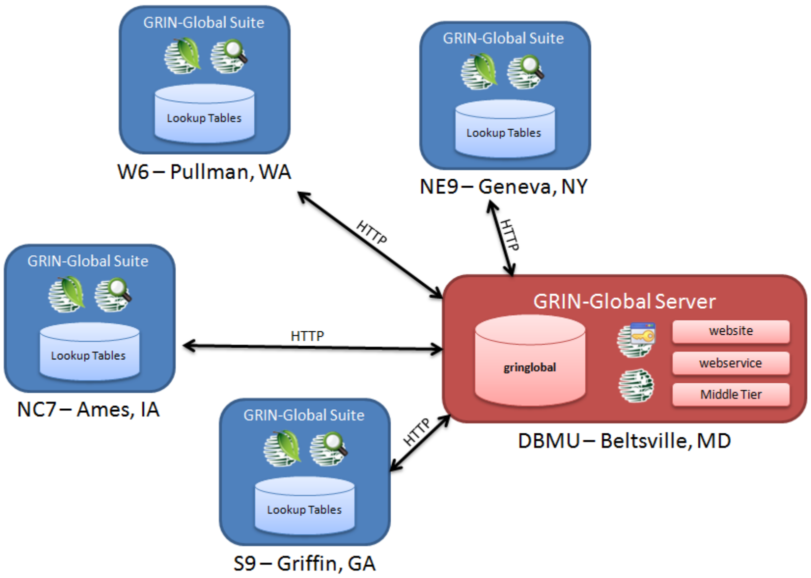
- **Public Website** (PW) – you access the PW via a browser window, typically Chrome, Internet Explorer, or Firefox. Since no additional software is installed, just point to a valid URL in a browser window. For example, during their pre-implementation period, the U.S. National Plant Germplasm System used this URL for their training purposes :   http://npgsweb.ars-grin.gov/gringlobal/search.aspx?.

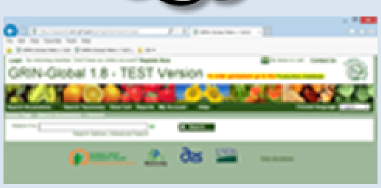
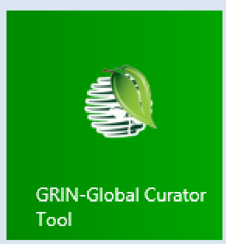
- **Curator Tool** (CT) – the GRIN-Global **Curator Tool** is an application that must be installed on the user's PC in order to connect to the remote GRIN-Global server. The GRIN-Global Curator Tool is used by curators and users who manage genebank data. This guide documents the Curator Tool.

  In order for a PC to run the Curator Tool program, a copy of SQL Server Express is installed on the user's PC when the CT is initially installed, regardless of what database product is used to run the server's main GG database. Why? SQL Server Express manages a set of lookup tables that are also installed with the Curator Tool.

- **Search Tool** (ST) – the Search Tool is automatically installed when the Curator Tool is installed. The ST can run as a stand-alone application, but generally it is launched from within the CT. (There is a **Search** button in the CT.)

In the United States National Plant Germplasm System (NPGS), only the Curator Tool and Search Tool are installed on a user's PC; the GRIN-Global server components are installed on a network server. (When installing the Curator Tool, the Search Tool is installed automatically.)



Public Website (only)	Curator Tool (& Search Tool)	GRIN-Global Network Server
No GG software is installed; only requires a browser  	CT is installed via its self-installing .exe file GRIN-Global.Client.Installer...exe 	The GG Updater  installs the Server Components (Admin Tool, Middle Tier, IIS-Web server, GG website, Search Engine, Database Engine) 

GG Updater

The GRIN-Global **Updater** program is used to install the GRIN-Global server software components. There is a complete set of instructions in the GRIN-Global Installation Guide. Users in a networked environment will not use the Updater program – it is only used by the GG administrator on the GRIN-Global server.

Server Components

Admin (Administrator) Tool

This program is used by individuals responsible for setting up the GRIN-Global applications and environment for an organization. In some cases, especially in smaller organizations, where the user's PC serves also as the server, one person may function as both the administrator and the primary user.

There is a separate GRIN-Global Administrator's Guide.

Users working on a shared, networked GG database will not have the Admin Tool installed on their PCs. However, in rarer situations where a user will be running the GG database locally on her PC, the Admin Tool will also be installed.

Public Website

The GRIN-Global Public Website (PW) is designed for users who will query the GRIN-Global database for germplasm information or who will order germplasm to meet their research needs. Besides researchers, breeders, and other scientists, curators and other internal genebank technicians may also use the Public Website as a complement to the Curator Tool to look up Accessions, Orders, Observations, etc.

No installation is required for the users of the Public Website. The PW requires a standard browser and incorporates an easy-to-use interface for extracting Plant Genetic Resource information from the database. The user documentation for the Public Website is embedded in its help function. The GG administrator must provide the user with a valid URL to which the user can direct his browser.

Database Engine

In order for GRIN-Global to function, an underlying database engine must be installed, either on a network server, or on an individual's PC when the data is stored locally. GG has been designed to work on any of the following four databases: Microsoft SQL Server, Oracle, MySQL, and PostgreSQL.

In larger organizations, a database administrator may be responsible for initially establishing the GRIN-Global database table structures on the organization's server. In smaller organizations, one person may be responsible for installing the entire GRIN-Global application on one PC and serving not only as the primary user, but also as the administrator. In either case, as part of the installation, the database program (engine) is required. On a server there is usually a preferred database already installed. GRIN-Global is compatible with SQL Server, Oracle, MySQL, and PostgreSQL .

Tip: GG uses many tables which relate to each other by key fields. By dividing the data into relational tables, the database can be expanded and grow over time without restructuring the tables. For more background information, read the overview of relational databases in the appendix.

Conventions Used in this Manual

To simplify directions in this manual, “Excel” or “spreadsheet” will sometimes be substituted for “Excel or your preferred spreadsheet program” since the Curator Tool data is compatible with many spreadsheet programs.

The following instructions illustrate how you work within the Curator Tool; in following sections, more thorough explanations will explain *why* you do specific functions.

Keyboard Shortcuts

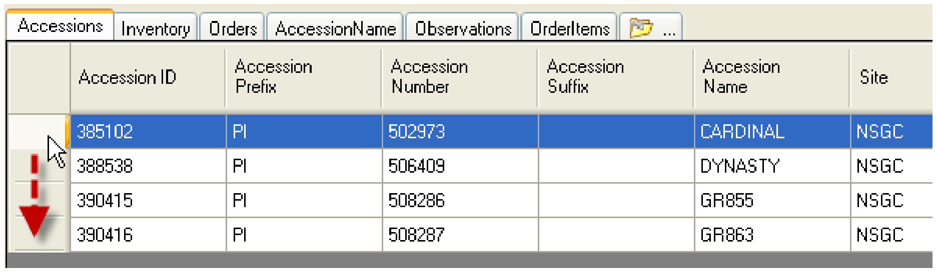
The GRIN-Global Curator Tool adheres to many of the standard Windows conventions. (The following shortcuts work within the Curator Tool and Windows, but on non-English keyboards the Windows keyboard shortcuts may be different.) For instance, when you need to copy data on the screen, you can highlight the data being copied and then use the keyboard shortcut **Ctrl-C**. This notation means “*while holding* the Ctrl key, *tap* the ‘**C**’ key.”

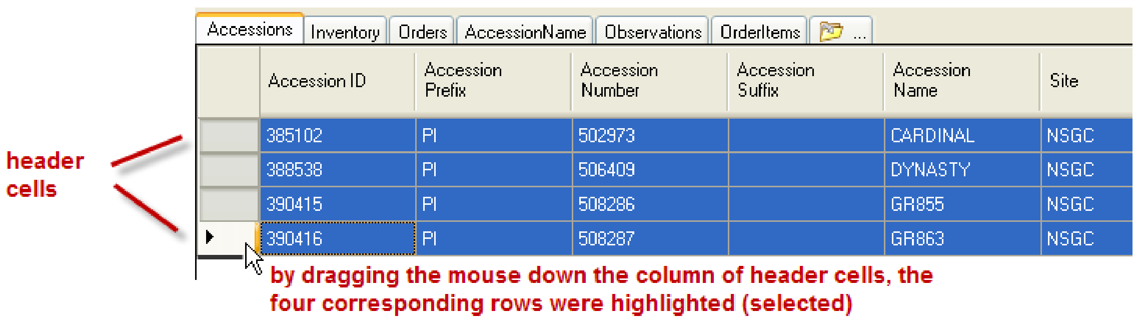
There are other standard Windows keyboard combinations that are frequently used:

Keyboard Combinations	Effect
Ctrl + A	Select all (highlight everything in the current “group”)
Ctrl + C	Copy
Ctrl + D	When a group of cells are selected, the top cell in the group is duplicated *down* from the top cell to the bottom cell. (Must be in Edit mode; also works when a block of cells across multiple columns are selected.)
Ctrl + E	Edit – when the cell is a text cell, you can display the full text in a separate text window. If the Datagrid is in Edit mode, you can edit or add new text.
Ctrl + N	Create a *new* record (when in Edit Mode). Select a record to be duplicated; press Ctrl-N (the duplicate record is created below the selected record).
Ctrl + ‘	Duplicates the contents from the cell directly above into the cell you are currently editing
Ctrl + V	Paste
Ctrl + X	Cut
ALT	Puts the CT into “block select” mode. In this mode, a user can select one cell or a block of cells to be copied and pasted into another program, such as Excel. To exit “block select” mode, complete the copy /paste operation or press any key (Esc, Spacebar, etc.). (Note: two key exceptions: the CTRL and ALT keys will not exit the “block select” mode.)
F2	When in Edit mode, you can double-click on a cell to edit it or press the **F2** key. If the cell uses a Lookup Picker, F2 will open the Lookup Picker window.
Del(ete)	When in Edit mode, press the **Del** key to clear the cell

Drag Data

If you are familiar with other PC applications, such as word processors or spreadsheets, then you are probably familiar with dragging the mouse to select text or data. To "drag" the mouse involves clicking on some screen object, either text or a graphic, and then *while holding the mouse button*, you drag the mouse. The following example illustrates dragging:

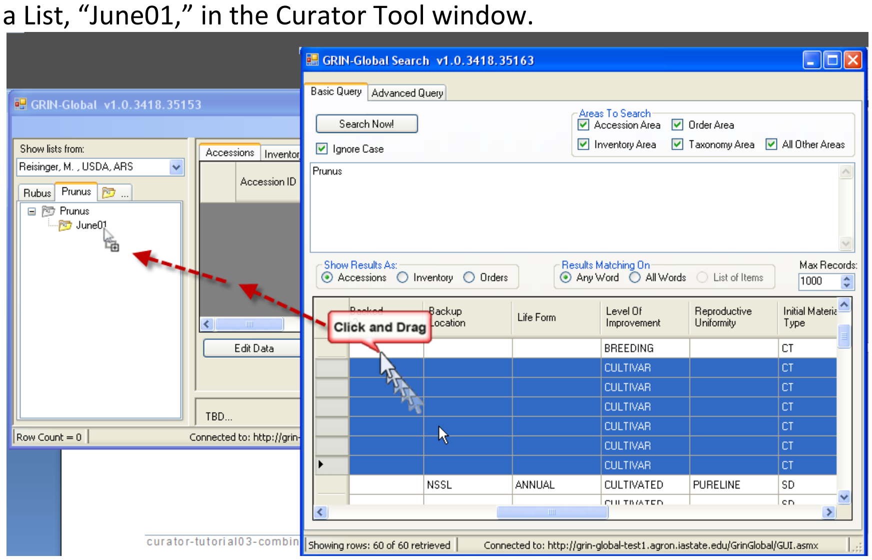




Drag and Drop

The expression "drag and drop" indicates that the mouse is being used to copy data or an object from one location to another. For instance, records displayed in the Search Tool or Curator Tool Data Grids may be dragged to spreadsheet. (The detailed specifics will be explained later.)

In this next example, highlighted rows in the right window (a Search Tool window) are being dragged to a List, "June01," in the Curator Tool window.



To accomplish this, the person using the Search application selected the rows in the right window, clicked in the highlighted area, dragged the mouse to the left Curator Tool window, and then "dropped" (released the mouse key) when the cursor was over the **June01** folder name. This is easier to do than to describe! For a "drag and drop" demonstration, see the http://www.ars-grin.gov/npgs/gringlobal/videos/draganddrop.swf video.

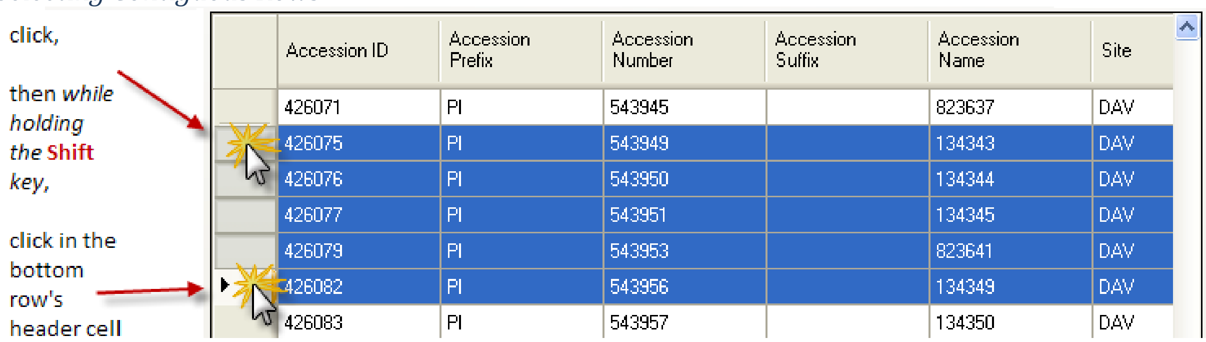
Tip The easiest method for accomplishing dragging and dropping is to position both windows on your screen so that they are simultaneously visible.

Selecting Multiple Rows

When working within a grid, you can either highlight (select) multiple records by using the mouse "Drag" method described on page 14, or use the Shift or Ctrl keys to include multiple records.

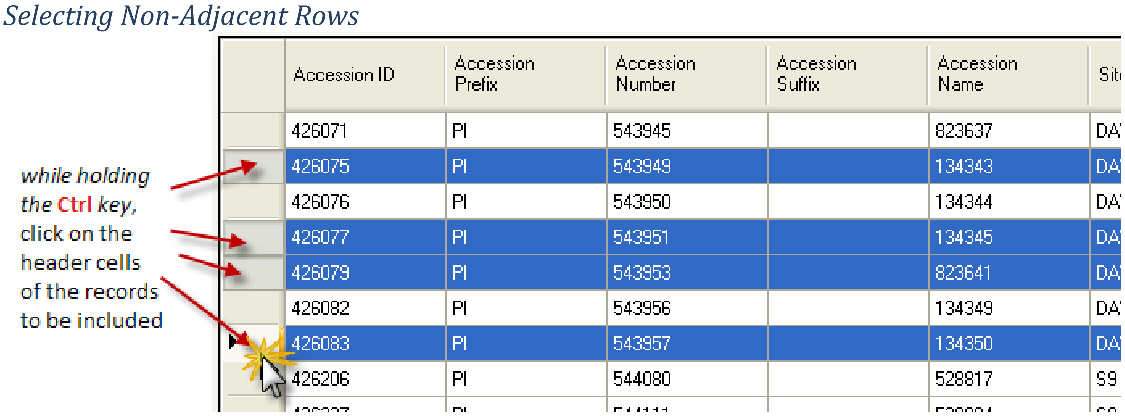
To Select	Do This
A contiguous group of records	Click the header cell of the first row in the group, and then while holding down the **Shift** key, click the header cell of the last row in the group. You can scroll to make the last cell visible.
Non-adjacent records	Select the header cell of the first row, and then while holding down the **Ctrl** key, click on other nonadjacent rows.

Selecting Contiguous Rows



Accession ID	Accession Prefix	Accession Number	Accession Suffix	Accession Name	Site
426071	PI	543945		823637	DAV
426075	PI	543949		134343	DAV
426076	PI	543950		134344	DAV
426077	PI	543951		134345	DAV
426079	PI	543953		823641	DAV
426082	PI	543956		134349	DAV
426083	PI	543957		134350	DAV

Selecting Non-Adjacent Rows

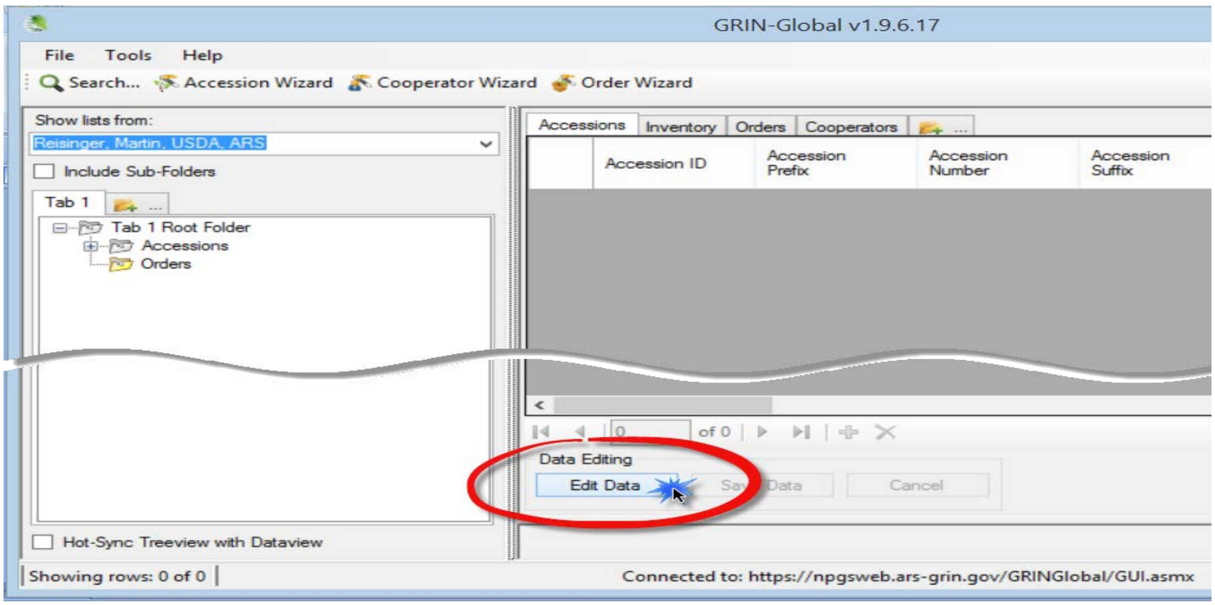


Accession ID	Accession Prefix	Accession Number	Accession Suffix	Accession Name	Sit
426071	PI	543945		823637	DA
426075	PI	543949		134343	DA
426076	PI	543950		134344	DA
426077	PI	543951		134345	DA
426079	PI	543953		823641	DA
426082	PI	543956		134349	DA
426083	PI	543957		134350	DA
426206	PI	544080		528817	S9

Selecting Cells

In Edit Mode, you can select a single cell or a block of cells and then copy and paste the cells' contents into a spreadsheet. Beginning with version 1.9.6.17, you can also do this in Read-Only mode, but you must first click the **ALT** key. Click **ALT** once, copy, and paste.

"Edit Mode" – the **Edit Data** button has been clicked. You can then create, update, or delete records in the datagrid (on the right side of the window). Otherwise, the alternative to Edit Mode is Read-Only Mode – you can only read (display) records in the grid.



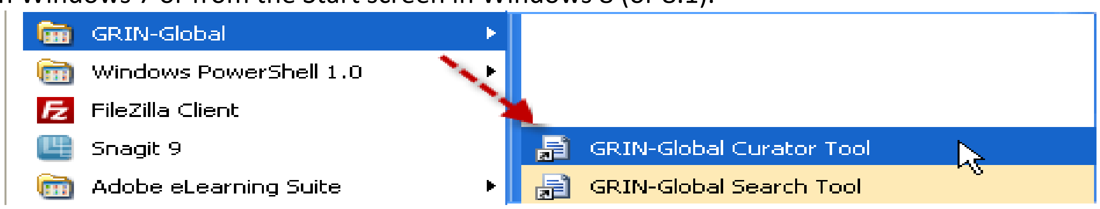
Clicking the ALT key places the Curator Tool into "block mode." If you do this accidentally, or no longer intend to copy and paste, press the **ESC** key or the **Spacebar** to exit "block mode."

Curator Tool Overview

Starting the GRIN-Global Curator Tool

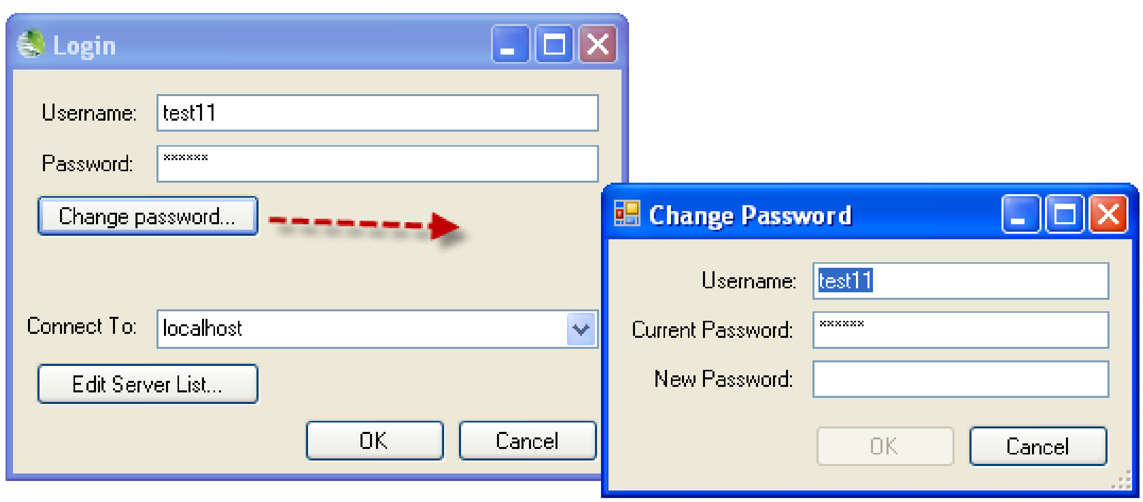
To access the Curator Tool, you need a Username and Password. These are assigned by a GRIN-Global Administrator. Also, the Curator Tool must be installed on your PC.

1. Select **GRIN-Global Curator Tool** from the Windows Start menu or the Curator Tool desktop icon in Windows 7 or from the Start screen in Windows 8 (or 8.1).



(If the icon is not visible and the Curator Tool is installed, you can add the shortcut icon to your desktop. See the online Frequently Asked Questions document.)

2. In the **Login** window, input your **Username** and **Password**. Select the desired database from the **Connect To:** dropdown box. Click the **OK** button.

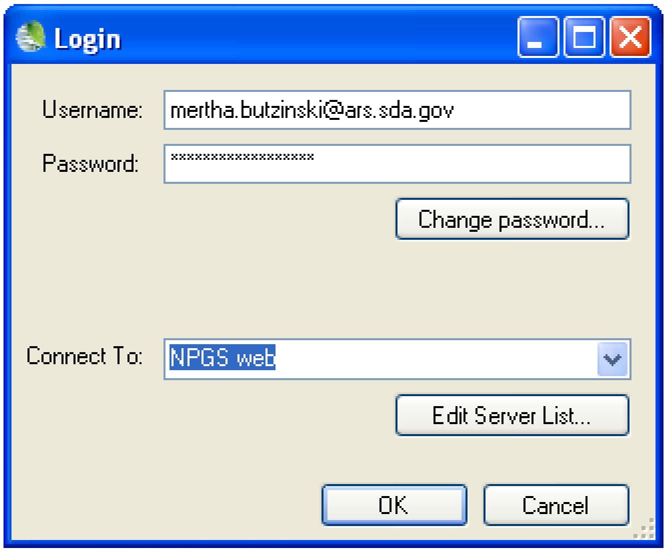


In the example, the server's name is **localhost**. However, in a networked environment, the server name will not be localhost. ("Localhost" is jargon for the database on your PC which is not appropriate in a networked environment.) Typically the GRIN-Global administrator will indicate a valid server name. The next section *Changing Servers* provides more details on servers and server name.

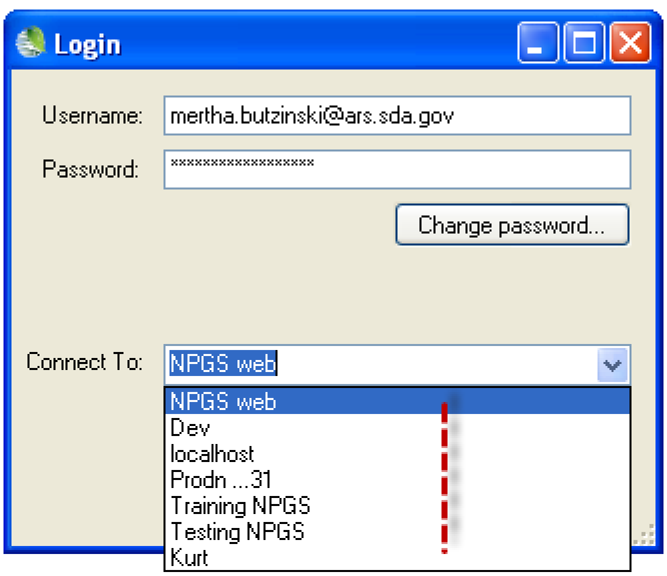
Changing Servers

In most organizations the GRIN-Global database will reside on a remote server. In others, especially smaller genebanks, the entire GRIN-Global suite may be installed on a single user's PC. In either case, to login you must indicate on the **Login** window the GRIN-Global database location.

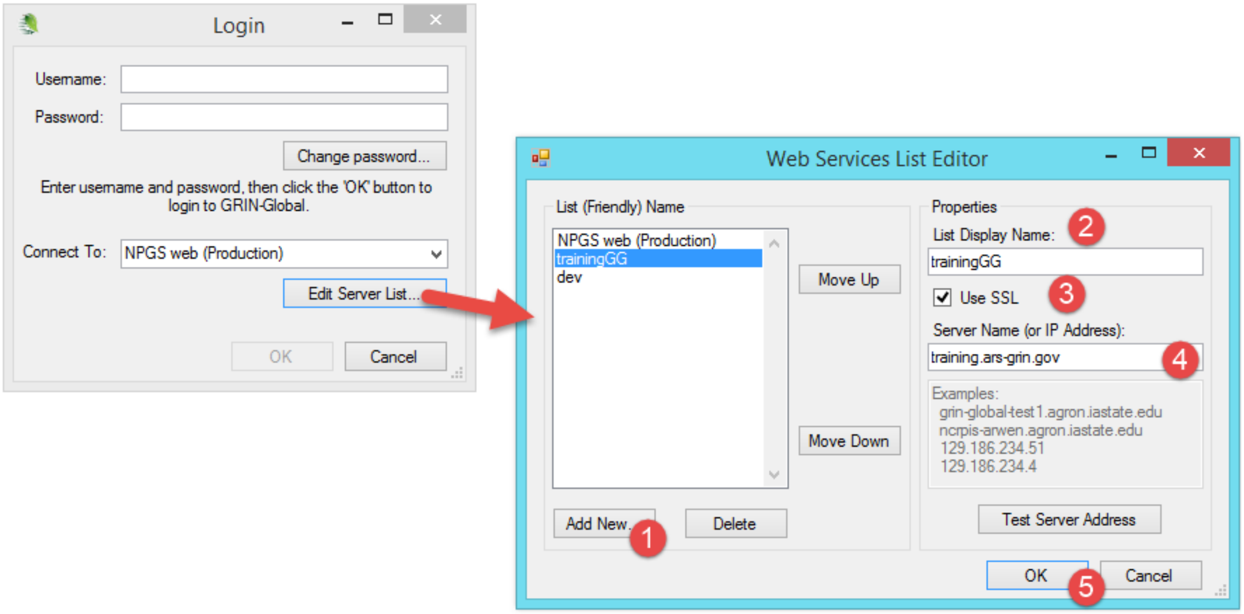
By default, a server will be listed in the **Connect To:** dropdown box. In the following example, the default server is NPGS web:



However, if you click the **Connect To** dropdown, you will see several other potentially available servers (if any have been previously set up). (Since the following screen was taken by a tester, he sees many servers listed, whereas in most organizations only one will be typically listed.)



To include or delete servers from the list, click the **Edit Server List** button:

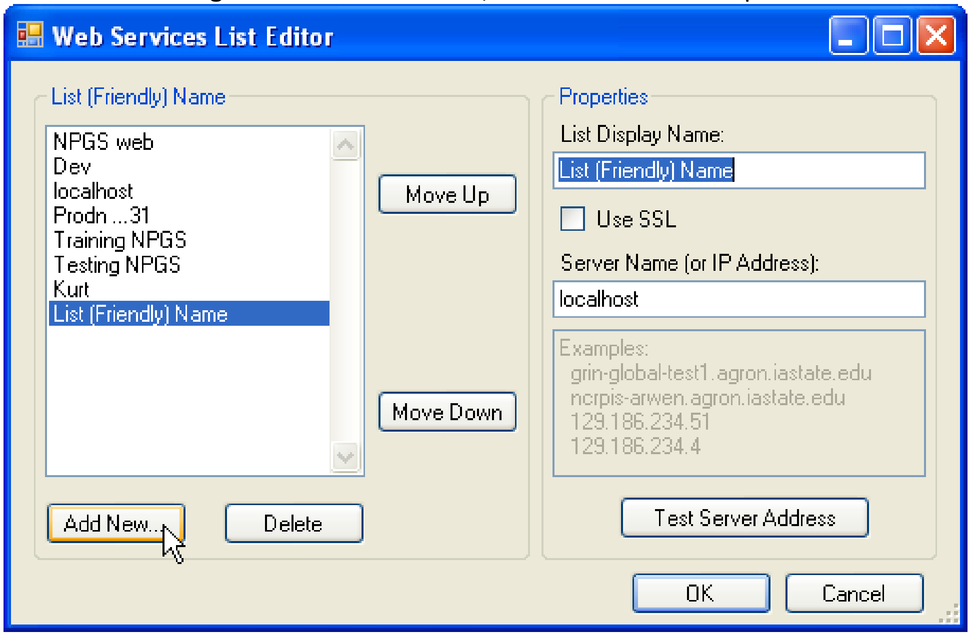


Input a name (can be any text) for the database in the **List Display Name** box. Some organizations will be using SSL. Typically your organization's GRIN-Global administrator will indicate if you are or not and provide the server information. if she does not have a Domain Name Server available, she will supply an explicit IP address.

Note

NPGS is using Secure Sockets Layer (SSL) security. The Use SSL checkbox must be selected. The actual NPGS server address is shown here. Each organization will determine its own Server Name / IP Address. Contact your organization's GG administrator if you do not know what server name to use.

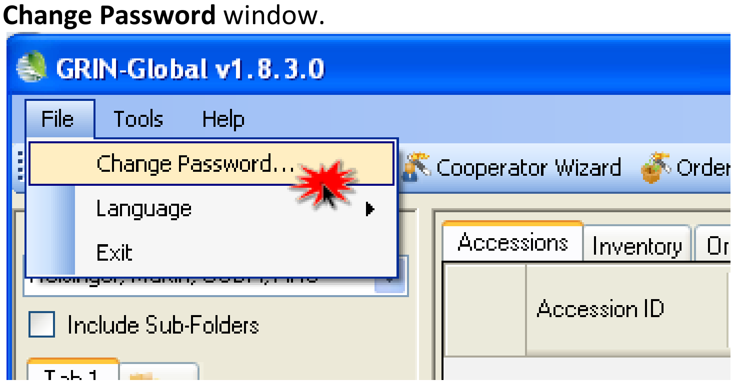
On the **Web Services List Editor** window, click the **Add New** button to add a new server. A new generic entry will be added at the bottom of the list in the left box. In this case, it is displayed as "**List (Friendly) Name**." On the right side of the window, edit the name and input the true server name or address.



The list's order can be adjusted by selecting a server name in the left frame and then clicking on the **Move Up** and **Move Down** buttons. When you work from multiple servers, move the server which you will use most of the time to the top at the list. The top one listed will display as the default server when you log in.

Changing Passwords

To change the Curator Tool password, click the **Change password** button on the **Login** window as shown above, or when in the Curator Tool, select from the menu **File | Change Password**. Complete the **Change Password** window.



International Password Guidelines

Organizations implementing GRIN-Global can determine their own organization-specific password requirements. The organization's GG administrator controls the password settings (via the Admin Tool) and should indicate the organization's requirements to the Curator Tool users.

NPGS Password Guidelines

Beginning with CT version 1.9.4, the user name is the user's email address.

Passwords

Passwords must follow the current ARS guidelines:

- 12 characters minimum
- at least one of each are required: upper case, lower case, digit, and special character
- passwords can change only once per day
- five failed logins initiates a temporary lockout for 15 minutes

If a password is forgotten, the GG administrator must be contacted (to create a new one).

Logging on to the CT

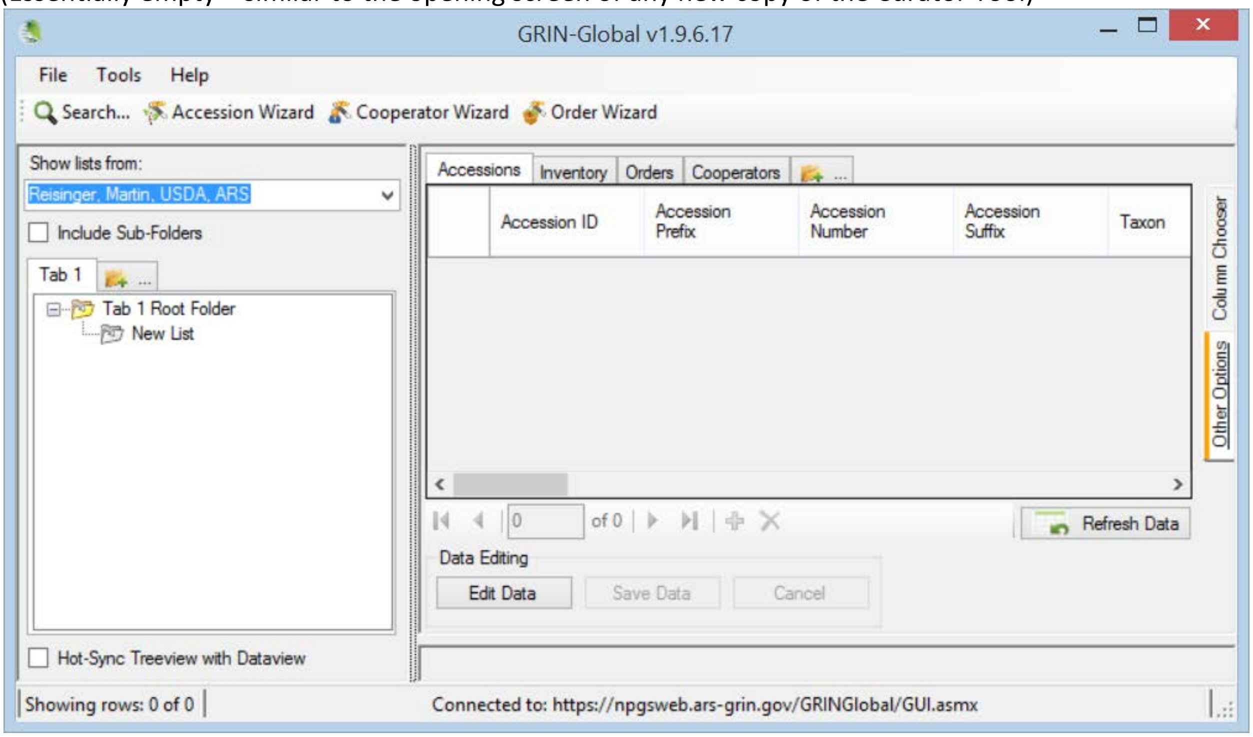
For NPGS, VPN or being on the ARS network is *not* required.

Curator Tool Interface

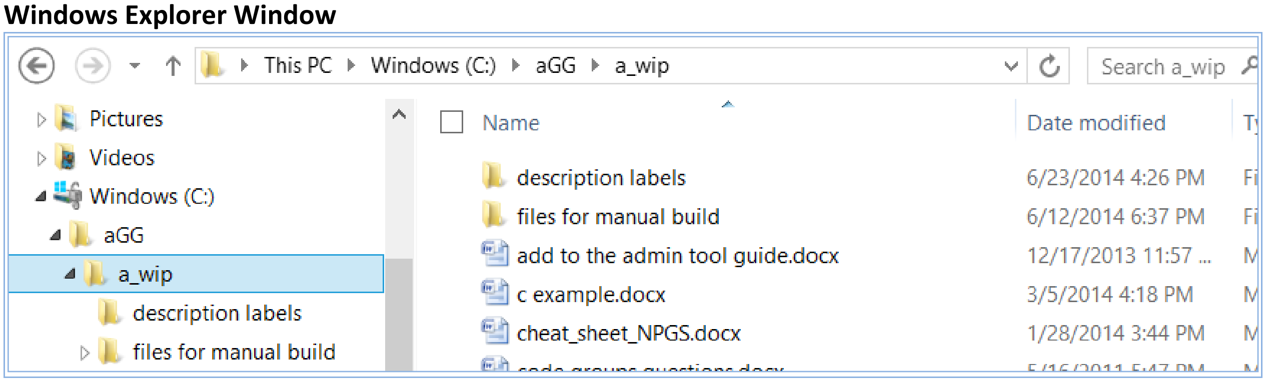
The Curator Tool's main screen is similar to other Windows programs in that it has menus, buttons, and icons. We will refer to the left panel as the "List Panel." Some users refer to it as the "Tree View." Just as Windows Explorer uses folders and subfolders to organize files, so too does the Curator Tool. You can use folders and subfolders to organize your personal lists and easily review GG records in which you are interested. The records may be accessions, inventory, orders, observations – any type of GG record.

Curator Tool Window

(Essentially empty – similar to the opening screen of any new copy of the Curator Tool)



Windows Explorer Window

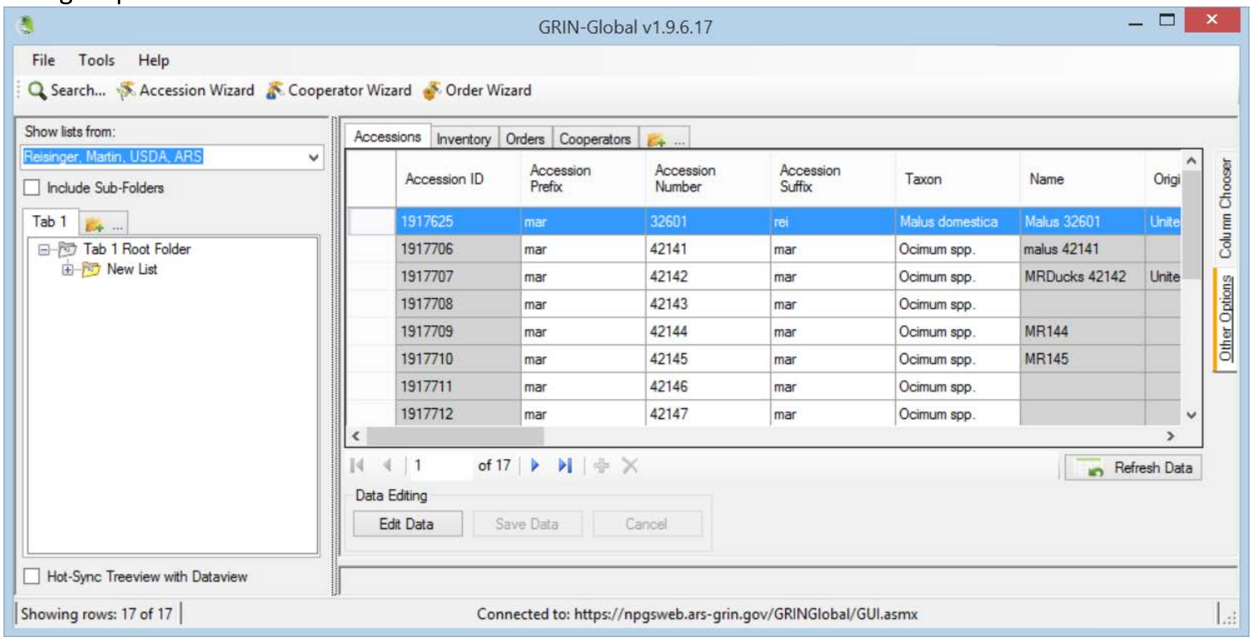


Note

In Curator Tool jargon, a "folder" has the same meaning as "list." So if the directions indicate "...the folder's name ...," this is equivalent to stating "...the list's name..."

Data Grid (or "Datagrid")

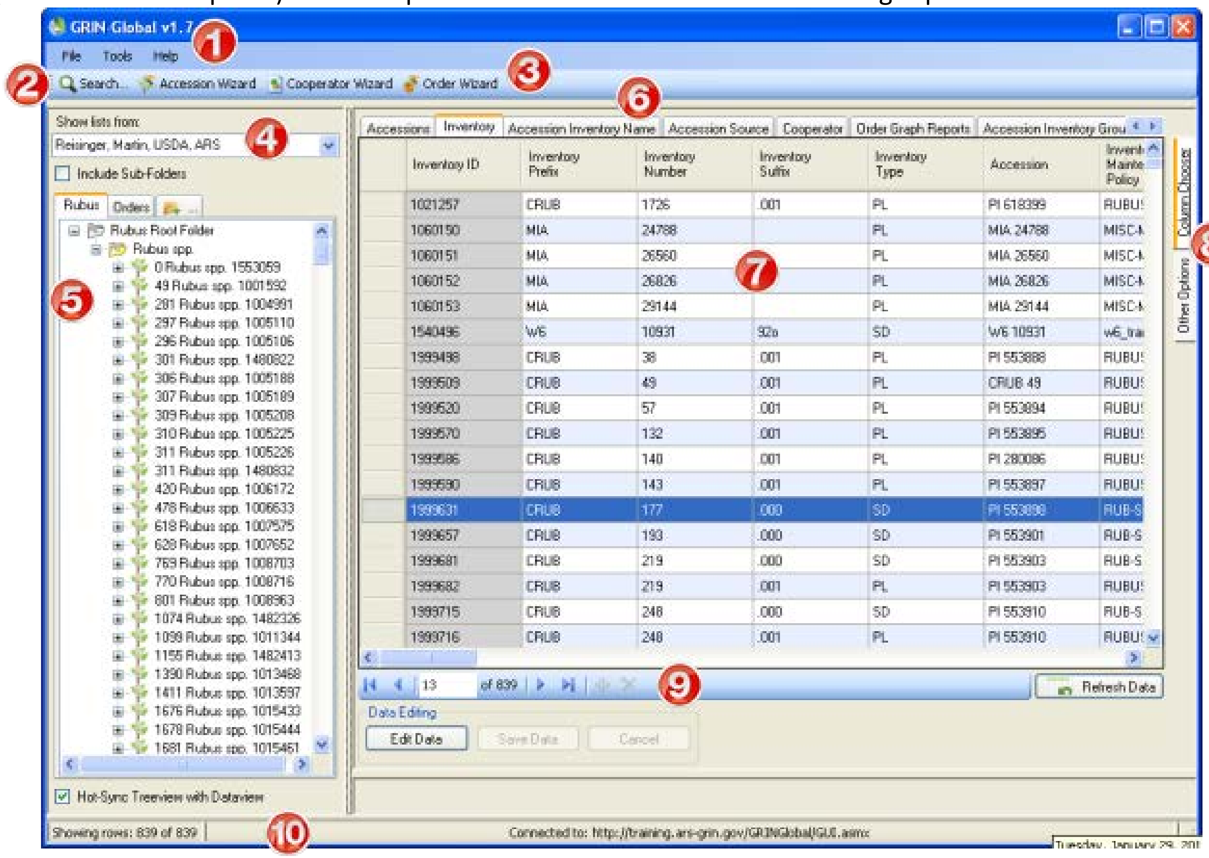
The Curator Tool's right section, the "Data Grid," is similar to a spreadsheet, with the data displayed in columns and rows. The sample window below displays existing data in the grid. We'll see later how data gets placed here.



Later we'll see that some dataviews also have associated forms. With those, you have a choice – you can display the data in rows, with many records visible in the grid, or in a form, with one record at a time.

Typical Screen

The image below illustrates a typical Curator Tool screen. In this example, the user has created lists (shown in the left panel) and has opened additional dataview tabs in the right panel:



This screen is similar to a user screen when the user has been working with the Curator Tool for some time. When you initially start the Curator Tool, you do not see records listed in the datagrid, nor the number of dataviews that are shown here. As you proceed to use the Curator Tool, you typically create lists in the left List Panel; the lists point to database records displayed in the right data grid.

(The table below relates to the preceding illustration.)

Num.	Screen Component	Feature
1	**Menu**	The menu options include features such as changing the interface language or password, resetting lists and the user defaults. The Help option contains an important item for CT administrators to use when setting up user connectivity.
2	**Search Button**	Opens the Search Tool in its own window for initiating database searches.
3	**Wizard Buttons**	Start wizards which assist you in supplying data for a new record

Num.	Screen Component	Feature
4	**Show lists from** dropdown	Use the dropdown to view other users' lists. (The owner of the data determines the authorizations for editing lists.)
5	**List Panel**	You as the user will organize data into lists that are meaningful to you. The List Panel is covered in detail, starting at page 61.
6	**Dataviews**	Initially four tabs display. The user can display an infinite number of tabs; each tab has a corresponding dataview related to it.
7	**Data Grid**	Each dataview in this area displays its respective column headings. When data (records) are brought into this area, columns and rows will display.
8	**Column Chooser & Other Options**	You can select which columns to display in the Data Grid. Under the **Other Options** tab there are various features that will be explained later.
9	**Navigation Bar**	Used for moving to different records I the dataview. Also, when in Edit mode, the "+"key initiates the adding of a new blank record; the "x" key deletes a record.
10	**Status Bar**	Displays information about the records in the data grid (such as count) as well as the name of the current server.

Tip

When you first use the Curator Tool on a PC, both the List Panel and the Data Grid are basically empty. To display data in the Data Grid, you will either create new records, search for existing records in the GRIN-Global database, or copy records into the Curator Tool from an external spreadsheet such as Excel. All three scenarios are described in this guide in the following sections.

Topic	References
Create new records	p. 101; video
Search for existing records	p. 71; video
Copy records into the Curator Tool	p. 55; video
Deleting records	p. 107

Definitions

Data Grid — **(Also Datagrid)** Spreadsheet-like table with columns and rows and header cells.

Dataview — A pre-defined, programmed query to the database. Within the Curator Tool, the user can select from various dataviews. Physically, the data may be stored in multiple tables, but it will appear in the dataviews as if it is coming from one table.

Dynamic Folder — **(New in CT 1.8.3)** A dynamic folder is a hybrid of a query and a folder – you set up criteria in the folder's properties, so that the displayed records dynamically reflect any database changes.

Folder Synonym for List. Beginning with the 1.8.3 release of the Curator Tool, there are two kinds of folders: **static**, and **dynamic**. A folder is user-defined – a user decides what database records he is interested in reviewing or tracking and then creates lists to point to those records. The user decides what lists he needs, what records to point to, and whether the folder should be static or dynamic. (Folders are explained in detail within this document.)

List Panel Left-side of the screen where users manage their folders (“lists”) and list items. (Some users refer to this as the treeview, since the folders may have subfolders, which after awhile resemble branches.)

List A list contains pointers to records in the database. If you delete items in the list, the original database records remain intact. You are essentially deleting the pointers to the records, not the records.

Nulls NULL data is sometimes called "absent" data because there is no data value stored in the field. A NULL is not equal to a space character. NULL data will sort to the bottom if the sort is in ascending order and to the top if the sort is in descending order.

Lists (Folders) Overview

The main focus of the Curator Tool is to provide a tool with which curatorial teams can:

- manage their genebank’s accessions
- track their inventory
- process germplasm orders
- record observations

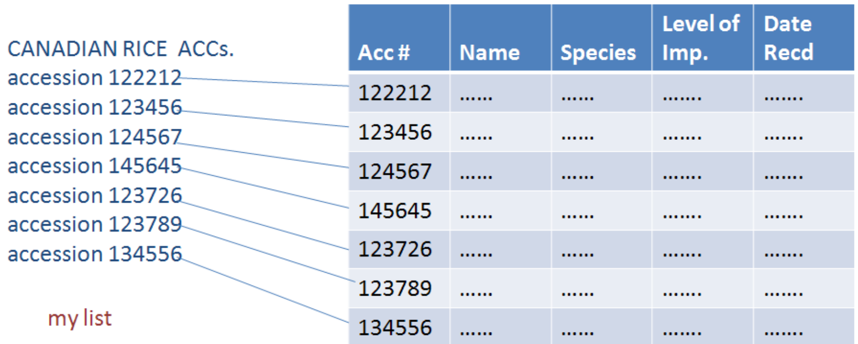
With the Curator Tool, users build and maintain lists pointing to database records which interest them and which they may need to periodically review.

Note Dynamic lists were introduced in the Curator Tool version 1.8.3. In earlier Curator Tool versions, there was just one type of list: static. This section focuses on static lists; dynamic lists will be explained later. You should understand the fundamentals of static lists before reviewing dynamic lists. As you get comfortable with lists and querying, you will most likely create dynamic lists for managing your data.

What are “lists” and how are they different from the database records? This section explains the rationale for creating lists. It also provides a broad overview of the Curator Tool’s interface so you can see how the lists point to the physical database records. The step-by-step details for building and managing lists will be provided in later sections of this guide.

Static Folders ("Static Lists")

As you continue to work with specific accession records, you will want to access these records, perhaps on a fairly frequent basis. GRIN-Global has a "list" feature that provides a means for pointing to records in the database:

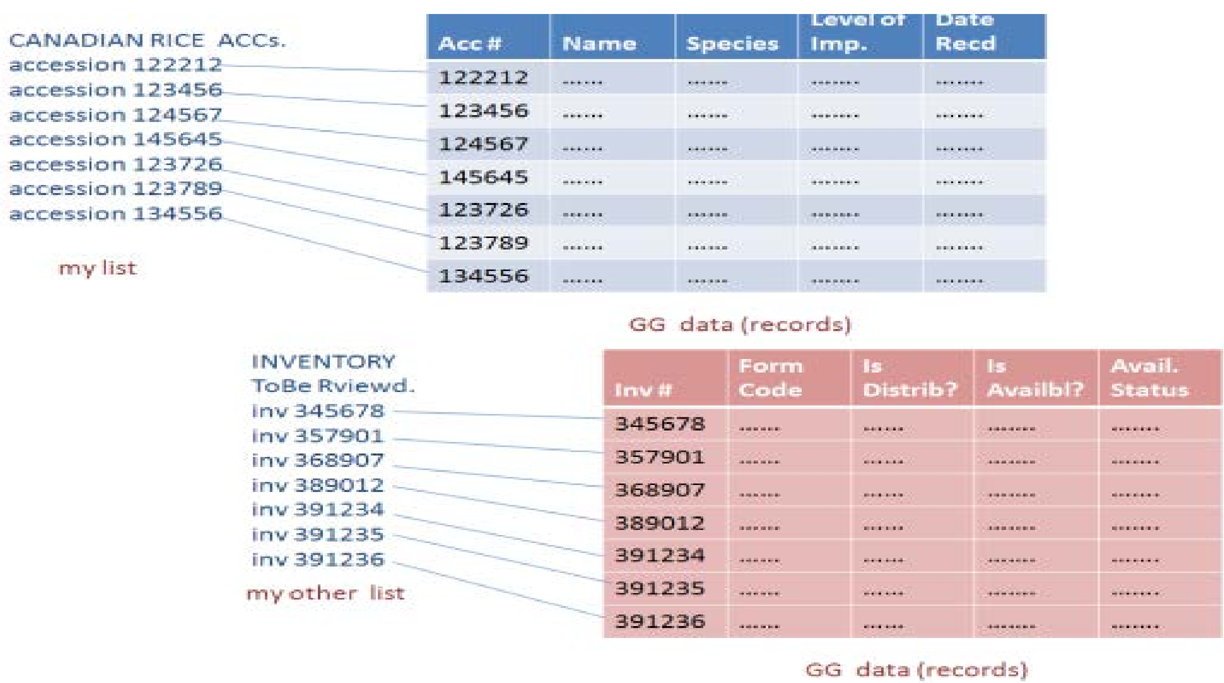


GG data (records)

You can build as many lists as you want. There are two types of lists: static and dynamic. Static lists are simpler to understand, so we will explain them first. Later we'll discuss dynamic lists. [See Dynamic Lists.]

Typically, a static list points to database records that you have grouped together for some reason. For example, you may want to keep track of a group of accessions received by a specific donor. Sometimes people track accessions that have the same country of origin.

Lists can point to other records besides accessions. You may build a list to point to accessions that recently had inventory increases. With lists, you can easily track inventory records, orders, even people (using the cooperator records stored in GRIN-Global). The lists are personal; you create them as you need them. Lists can also be shared with other users.

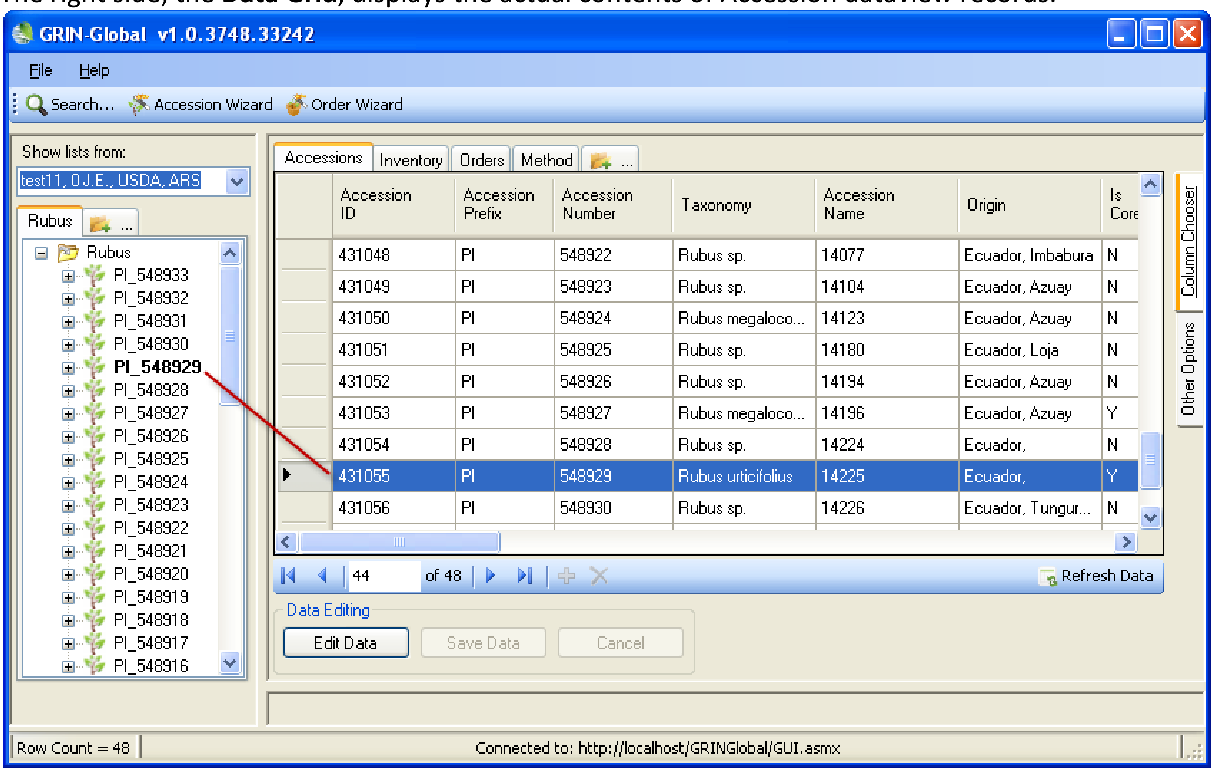


The actual accessions, inventory, orders, and other germplasm records kept by a genebank are stored in tables in the GRIN-Global database. Rather than repeat searches each time you want to review certain database records, use your lists to revisit and display them.

As a user of the GRIN-Global Curator Tool, you most likely will build many lists in unique ways to match your particular work flow. The lists are a handy tool for tracking and managing records that interest you. You maintain these lists in your copy of the Curator Tool. Each time you start up the Curator Tool, your lists are displayed giving you a quick connection to the records in the database.

Think of lists as shortcuts pointing to specific records. The list items *are not the actual database records*, but just pointers to the database records.

In the illustration below, the user's tabs and lists are shown on the screen's left side in the **List Panel**. The right side, the **Data Grid**, displays the actual contents of Accession dataview records.



Using Lists to Organize Your *Accessions*

With the Curator Tool, you can build and arrange lists to meet your specific needs. For example, lists could be used to organize accessions by:

- recently added inventory
- work-in-progress
- dates: review dates
- location: field, shelf, etc.
- utility patents
- group (e.g., cultivated pears vs. wild pears)
- sources, such as material from overseas or by supplier

Using Lists to Organize Your *Order Requests*

Lists may be used to organize orders by:

- date or by batch
- type of processing needed
- completion status: pending, filled and ready for shipping, shipped, sent to pathologist, etc.
- phytosanitary test results: e.g. tracking accessions with pathogen infections for regulatory considerations

Undoubtedly you will discover additional reasons for building lists.

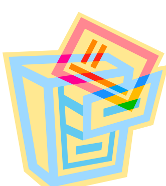
The List Panel is a File Cabinet

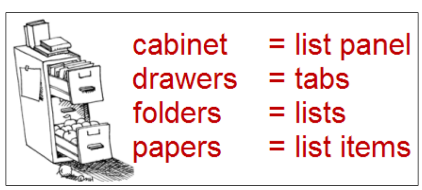
The List Panel on the left side of the Curator Tool may display tabs, folders ("lists"), and items within the folders. What is the difference between a tab and a folder? What is a folder?

Think of the List Panel as *your* filing cabinet. Most filing cabinets have multiple drawers, and the drawers can store multiple folders. The folders in turn store documents.

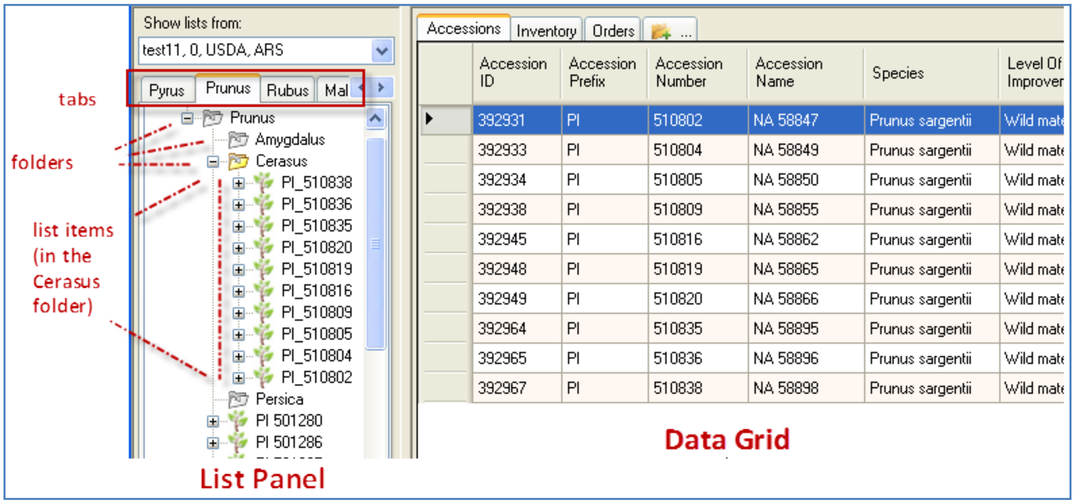
Just as a filing cabinet can have multiple drawers, the Curator Tool can have multiple tabs. Think of tabs as your "drawers" in which you organize your lists and items. Set up the tabs to facilitate your work and needs. You can create as many tabs as you desire, whenever you need them, to organize your lists that you intend to use. You can hide tabs and redisplay them when needed.

Each Curator Tool user will decide what works best for her. For example, suppose that a technician is responsible for processing orders for three different genera. That technician may decide to initially create three tabs, one for each genus. Another technician may look at his needs and decide to create monthly tabs, and then organize orders by the time they were received. A third technician may set up a tab for each species that she handles.





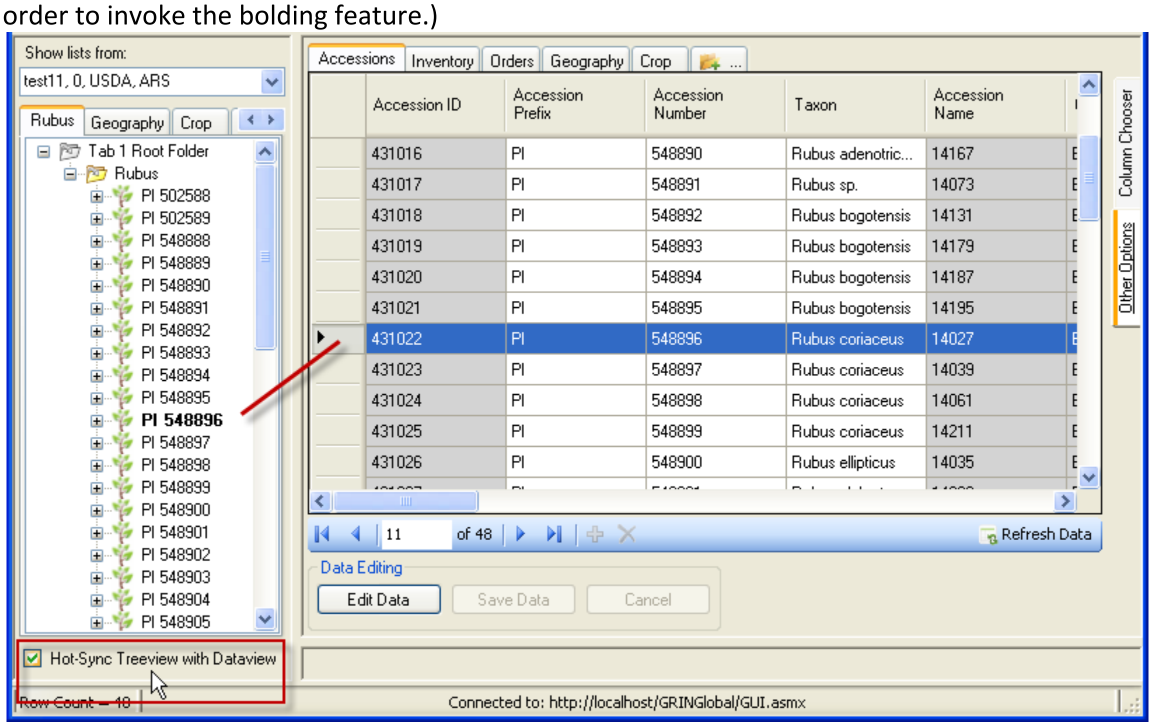
In the List Panel shown here, the "Cerasus" folder is expanded and is showing 10 items in it. The Data Grid on the right side is displaying 10 Accession records. Think of the folder as the listname; in this example this folder lists 10 items – each item points to a database record in the datagrid.



Because she created this list, the user can now easily review and track these 10 records repeatedly without needing to search the entire database again. Typically, a list points to records that have something in common and which the user intends to track or review again later. In this case, the folder is pointing to 10 specific Cerasus accessions records in the database.

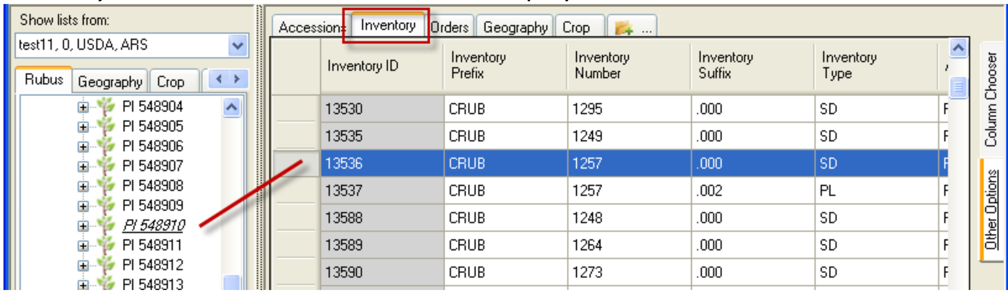
Displaying a List of Accessions

In the example below, the list **Rubus** points to 48 Accessions items. Each list item points to a record in the Accessions dataview. The **bolded** item in the list panel corresponds with the **Accession** row highlighted in the grid. (Note: The **Hot-Sync Treeview with Dataview** checkbox must be selected in order to invoke the bolding feature.)



Inventory Items when the Hot-synch Feature is Enabled

When this Hot-Sync feature is on, when an *inventory record* in the datagrid is selected, the related *inventory list item* will be underlined and displayed in italics:



Dynamic Folders ("Dynamic Lists" or "Dynamic Queries")

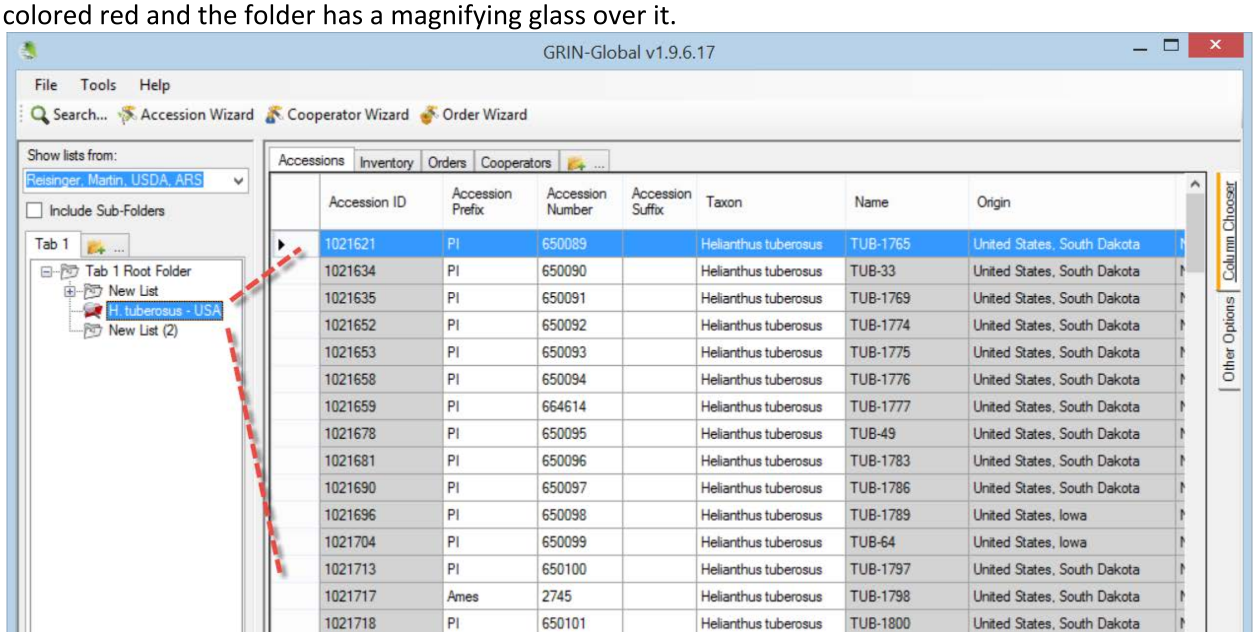
(Feature Added in Curator Tool 1.8.3)

Starting with Curator Tool version 1.8.3, there is a second folder type – dynamic. What is the difference between a dynamic folder and a static folder? A dynamic folder contains embedded search criteria. Records that meet the folder's criteria are displayed in the datagrid. Think of the dynamic folder as a stored query. Some CT users refer to these folders as "dynamic queries."

Initially, the Curator Tool had one folder type – static – which pointed to specific records. To have the list point to different records in the datagrid, you would manually add or remove items from the list. For example, if you knew a colleague had recently added some accessions to the database and you wanted to review them, you would need to invoke a search and then drag the newly found records into the CT. This scenario can be handled automatically by a dynamic folder.

Recognizing Dynamic Folders

The dynamic folder below has neither a "+" (plus sign) indicator or any items listed under it. Its folder is colored red and the folder has a magnifying glass over it.



Deciding Which Type Folder to Use

So why ever use a static folder? First, they are simpler in some respect. Secondly, many times you will want to review specific records, and *only those* records. Listed below are a few examples of when each folder type is preferable:

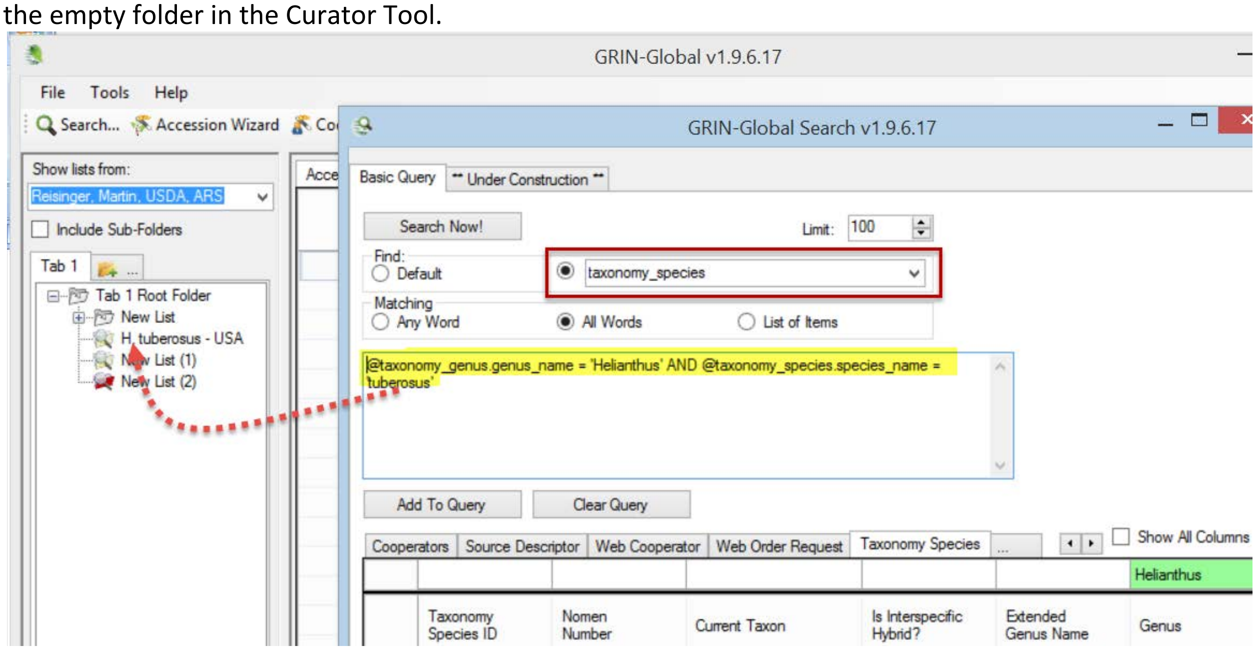
Situation	Folder Type
Keep track of what you are working on from one day to the next	Static
List of orders processed on a specific day	Static
Maintain a list of all accessions for a specific Taxon	Dynamic
Review a site's inventory	Dynamic

Steps in Creating Dynamic Folders

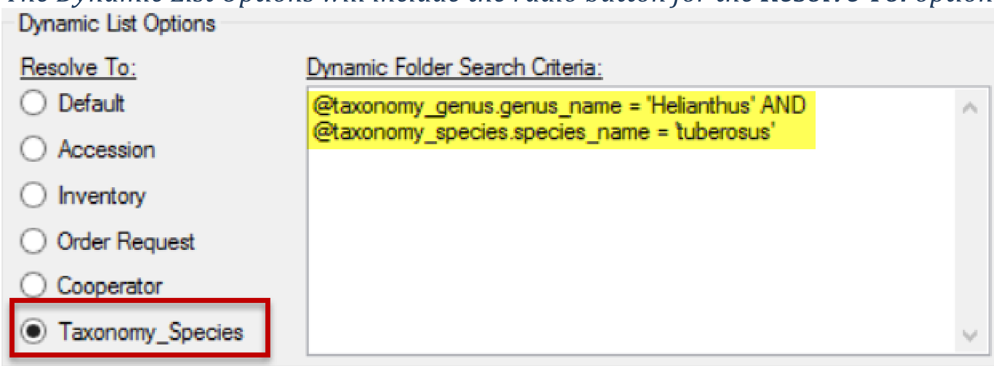
There are several methods for creating a dynamic folder. Each starts similarly: In the Curator Tool , create an empty folder.

Method 1 (Recommended method)

Switch to the Search Tool; create a query. Drag the *code* from the text box (generated by the QBE) onto the empty folder in the Curator Tool.



*The Dynamic List Options will include the radio button for the **Resolve To:** option*



Method 2

While still in the Curator Tool, right-click on the empty folder. Select **Properties** from the menu. Switch to the Search Tool; create a query. *Copy the code* in the large text box (generated by the QBE) into the **Dynamic Folder Search Criteria** box in the Curator Tool.

While the two methods are similar, they exhibit two distinct behaviors. In method 1, the active radio button in the **Find** frame (**Default** or the selected choice from the dropdown menu) will activate the corresponding button in the folder's **Resolve To** properties. If method 2 is chosen, the folder's **Default** radio button will be selected. (Later you can change which button is selected.)

The "Default"' behavior means that the dataview will look to see if the dataview supports the IDs in this order:

- Accession_IDs
- Inventory_IDs
- Order_Request_IDs
- Cooperator_IDs

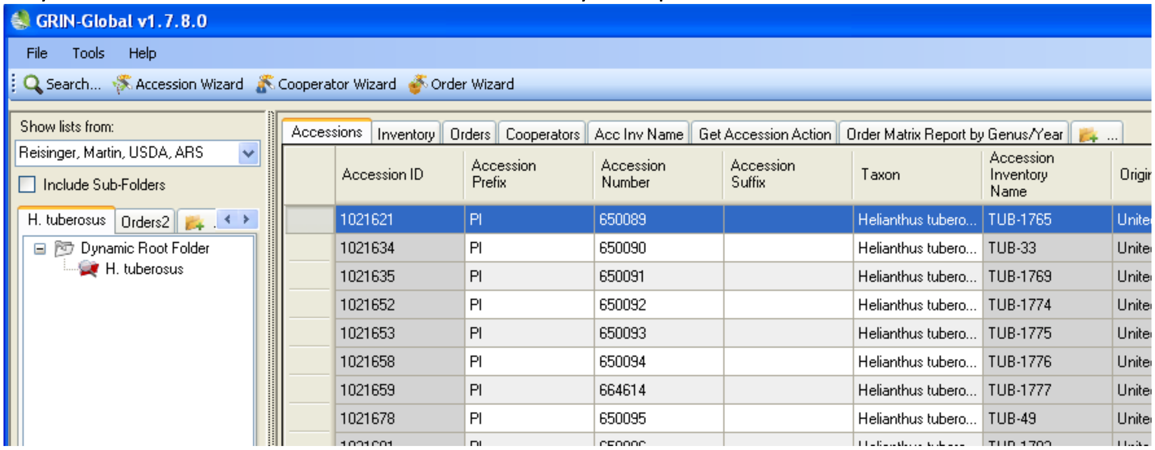
The first match wins. If no matches are found nothing is returned.

Method 1 is recommended if you are not sure about the expected results.

Method 3

A third method for creating a dynamic folder is to copy the query criteria of an existing dynamic folder and use that code as the basis for a new dynamic folder. Edit the new folder's criteria as desired.

A dynamic folders lists the same records found by an equivalent search in the Search Tool:



Refreshing a Dynamic Folder

If any new records are added to the GRIN-Global database that meet the folder's criteria, the records will be displayed when the dynamic folder is the active folder and has been refreshed. You can refresh a dynamic folder by invoking any of the following methods:

- right-click on the folder and select the **Refresh List** command [1.9.6.41: not working]
- switch to another tab and then back to the tab with the dynamic folder
- switch to another user and return back to the original user
- click the Refresh Data button in the right panel
- press F5
- start the CT

Dataviews

In the Curator Tool, the DataViews ("dataviews") serve as camera lenses to the GRIN-Global data.

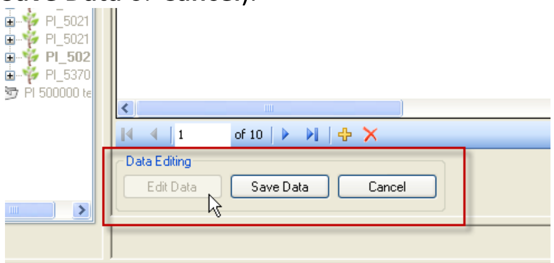
The Curator Tool installation provides many general dataviews that are used by most genebanks. Additionally, an organization may create supplementary dataviews to match the genebank's specific needs. A dataview is a programmed query that displays data stored in the GRIN-Global tables. These dataviews will have been programmed by someone who codes SQL (Structured Query Language). Fortunately, as a Curator Tool user, you do not need to know how to write SQL code in order to use dataviews – you only need to understand the data displayed in the dataviews.

To Display a Dataview Whose Tab is Visible

As a Curator Tool user, you typically display only the dataviews that you intend to use – you do not need to display all of them.

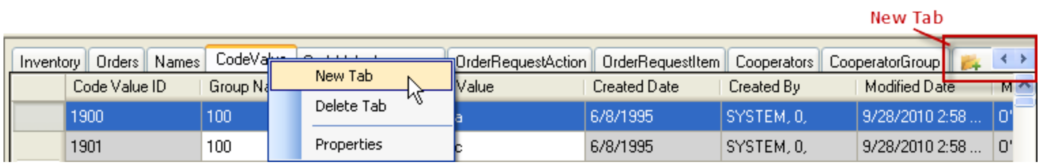
To use a dataview, click on the dataview's tab:

You must be in **Read-Only** mode to switch dataviews. When your **Edit Data** button is grayed out, you are in Edit mode. To switch dataviews, you will need to either save your data or cancel (click **Save Data** or **Cancel**).



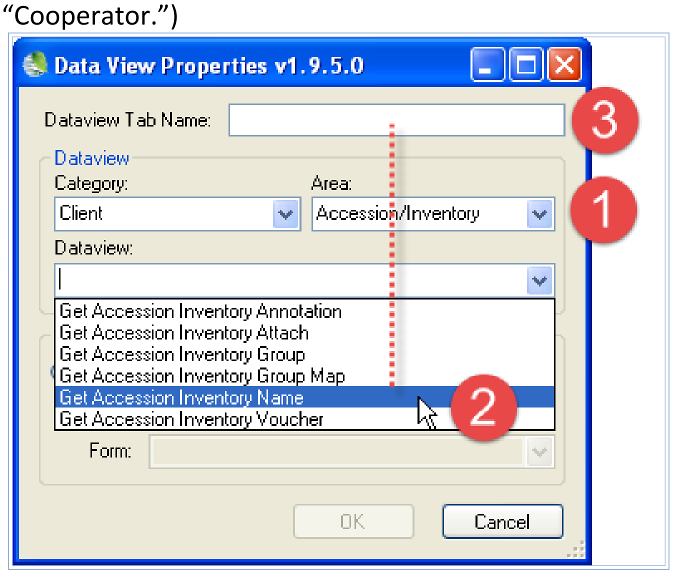
To Display a Dataview Whose Tab *isn't* Visible

1. Click the **New Tab** icon. (When there are many tabs displayed, use the right arrow button to scroll to the right to display the New Tab icon):



Alternatively, you can right-click on any tab and select **New Tab** from the menu. However, there is a slight disadvantage in using this alternative method. If that dataview is currently displaying many records, (thousands), it generally will be quicker to use the **New Tab** icon.

2. Select a dataview from the list; type a name in the **Dataview Tab Name** field; click **OK**. (Create a name that reflects the data being displayed. For instance, name the **get_cooperator** dataview "Cooperator.")



(Typically you will select "Client" for the **Category**; by selecting an **Area** you can filter the large list of dataviews to display just those dataviews in a specific area. The "area" is essentially a grouping of the related dataviews: Accession, Inventory, Order, Crops, Methods, Taxonomy, etc.)

Dataview Naming Conventions

Dataviews designed for use within the Curator Tool were consistently named with **Get...** such as **Get Accession** or **Get Inventory**.

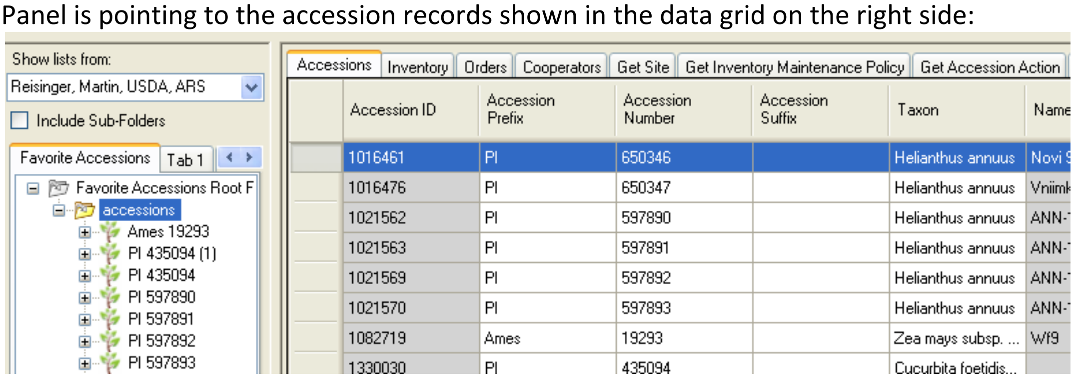
Certain dataviews are considered the parent dataview and the dependent dataviews can be considered as the "children." Names of the children dataviews are typically prefixed by the parent's name. Accessions ("Get Accession") is the parent dataview for various children dataviews such as "Get Accession IPR" and "Get Accession Quarantine." In the example above, the dataviews display records that are children of both the Accession table and the Inventory table, hence the name **Get Accession/Inventory**...

Some Dataviews Display Data, Some Do Not

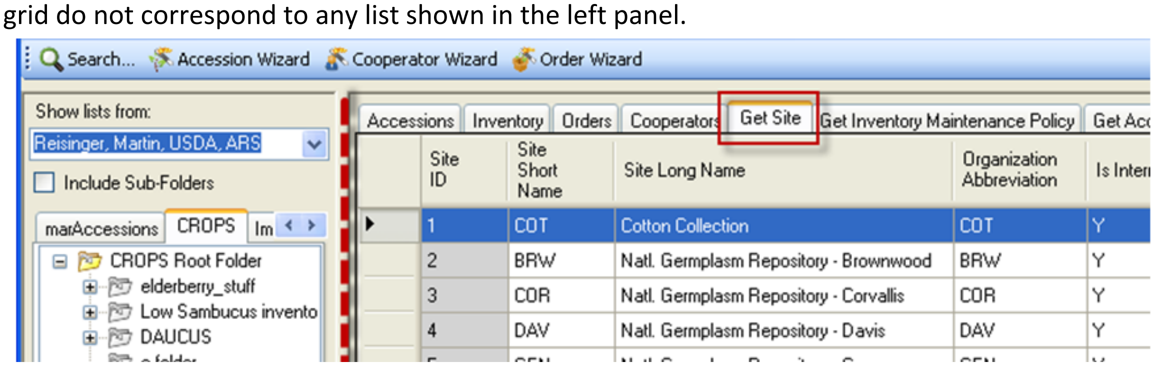
Each dataview fits into one of three broad groups, explained in more detail below. The dataview…

1. has an associated list object -- when the dataview is active, the list in the List Panel points to related records. (*typical*)
2. is designed to show all of the records referenced by the dataview and has no relationship to the left list panel. It does not matter what is displayed in the left List Panel; when looking at the dataview in the Data Grid (the right panel), you see all of the records related to the dataview
3. will not display any existing records. (*These are dataviews not typically seen by the CT user, but rather by the Administrator.*)

In the example below, the Accession dataview is the active dataview, and the list in the left List Panel is pointing to the accession records shown in the data grid on the right side:

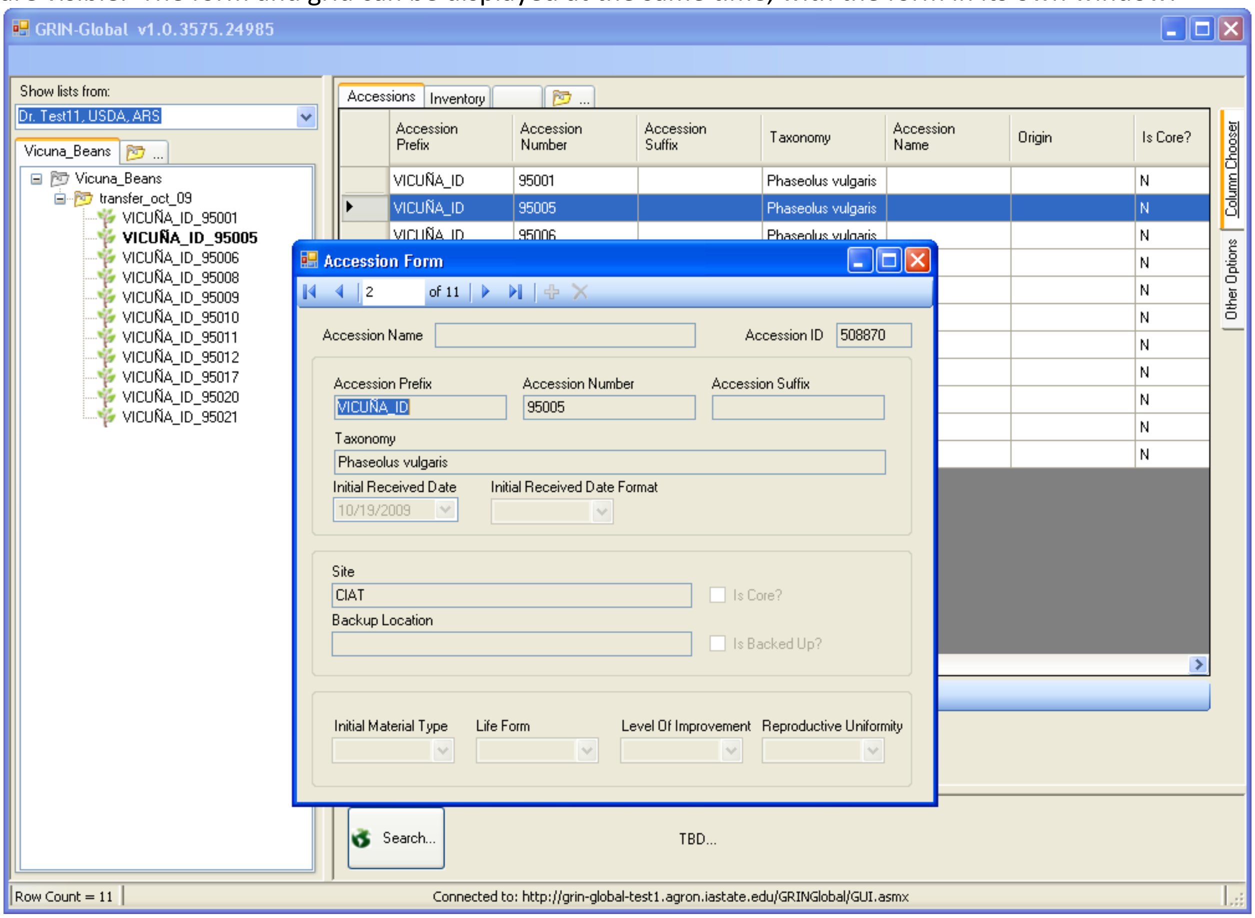


The second group of dataviews displays all of the records in the associated table(s). For example, the **Get Site** dataview lists all of the records in the **Site** table. The records in the right grid do not correspond to any list shown in the left panel.



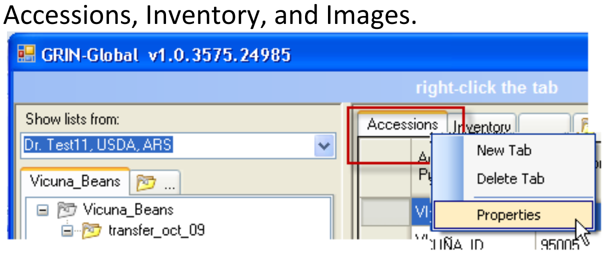
Form View

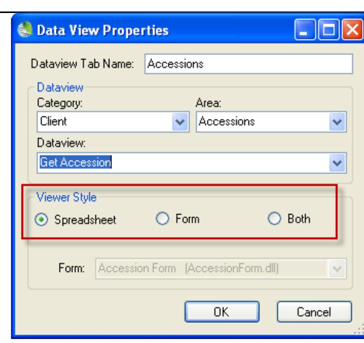
The Accession (and Inventory) dataviews have associated forms. (Other dataviews are expected to eventually have forms.) The forms are alternative means for displaying (or editing) the data records. One record at a time displays in a form, as opposed to the grid (spreadsheet) view, where multiple records are visible. The form and grid can be displayed at the same time, with the form in its own window:



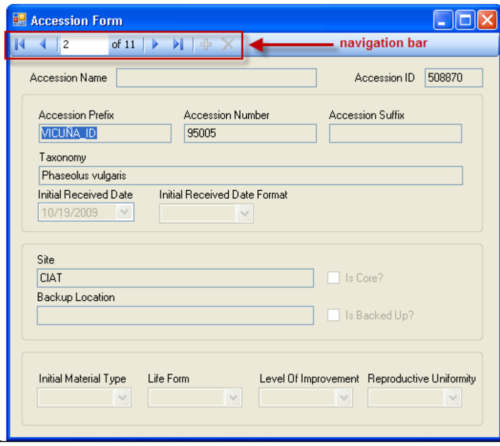
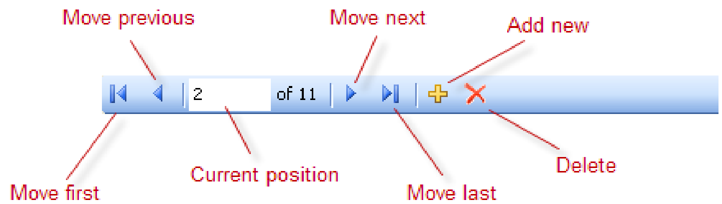
Displaying Forms

To display a form or to switch from a form view to the spreadsheet view, right-click on a tab; select **Properties**. Currently this feature is available for three tabs: Accessions, Inventory, and Images.



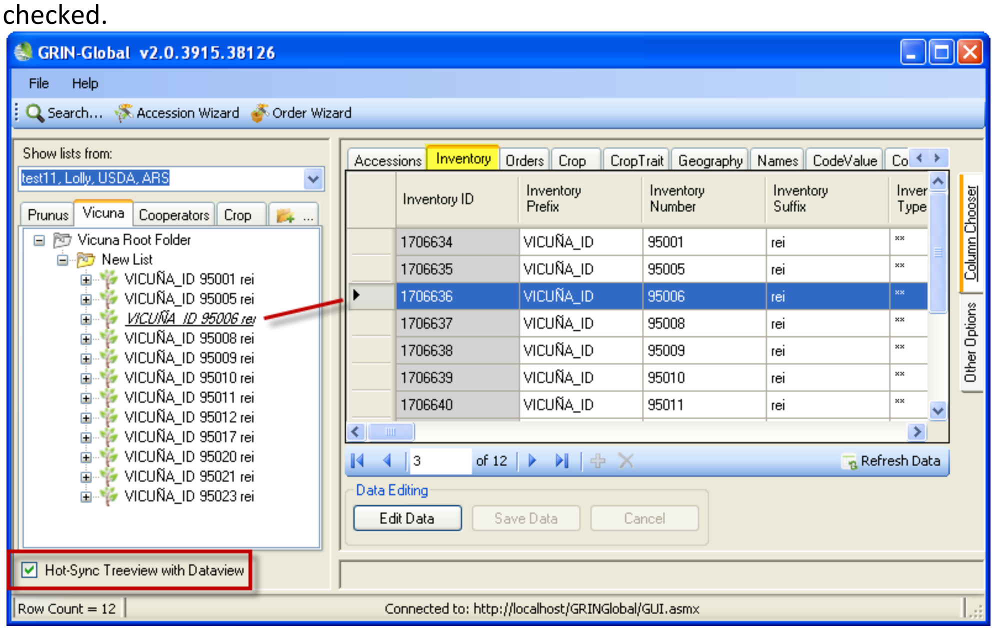


On the **Data View Properties** window, select the desired **Viewer Style**.

Accessions Data Form	Navigation Bar
	Use the **Navigation Bar** icons to move through the records. You must be in Edit mode for the **Add new** and **Delete** buttons to be active. 

Visual Clues

When selecting an Inventory record in the grid, the record's <u>*corresponding Accession*</u> item in the List Panel will be <u>underlined</u> and *italicized* when the **Hot Synch Treeview with Dataview** checkbox is checked.



Icon Legend

Each object type has its own unique icon; however, icons are customizable and may be different for your organization. (Two alternatives for each are shown here.)

Accession Selected* Accession	Inventory Selected Inventory	Order Selected Order	Cooperator Selected Cooperator
Crop Selected Crop	Geography Selected Geography	Genus Selected Genus	

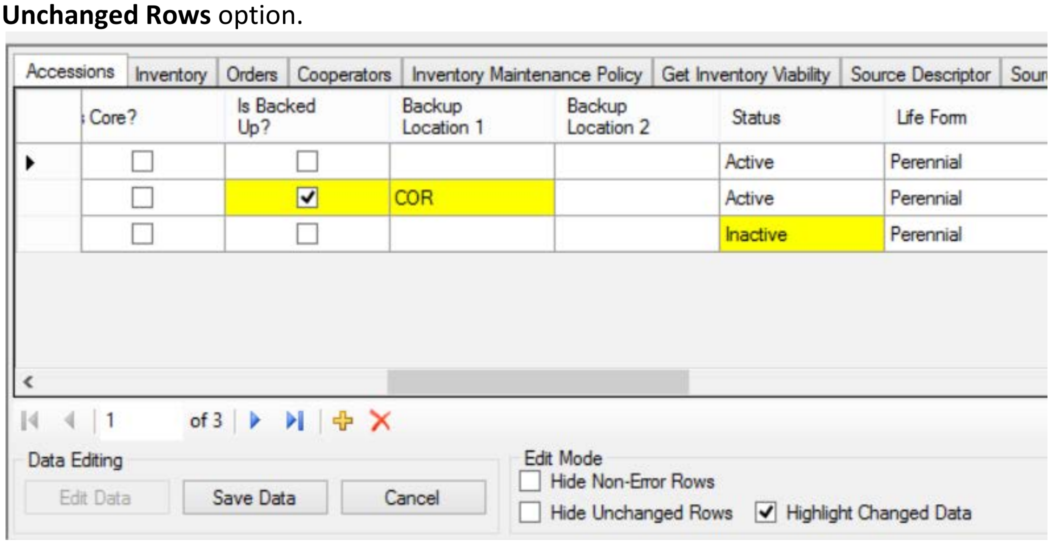
Note: Icons and labels for the list items are highly customizable. Detailed information for doing this is included in the Admin Guide. (An AppSettings.txt file on your PC affects the labels for the list items. Most CT users will simply use the settings defined for them.)

Cell Colors

When changes are being made to database records, the Curator Tool must be in "Edit Mode." The following table summarizes the implication of the cell's color when In Edit mode:

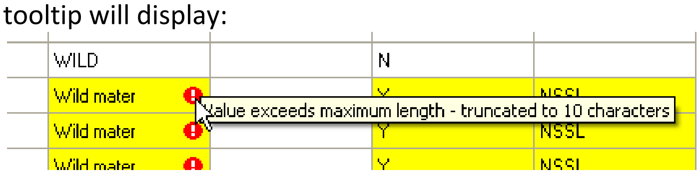
Cell Color	Meaning
gray	cell cannot be edited
violet	field is required; a record cannot be saved until all required fields are filled
yellow	when a record is being edited, fields that have changed
white	data hasn't changed in the cell when a record is being edited
dark blue	dark blue cells display when a record is being added and data in the cell is the same as the cell's default value
blue	current cell

In Edit mode, click to select the **Highlight Changed Data** option. Another handy option is the **Hide Unchanged Rows** option.



Warning Indicators

This screen example also illustrates a warning indicator. Move the mouse over the **!** and the message tooltip will display:



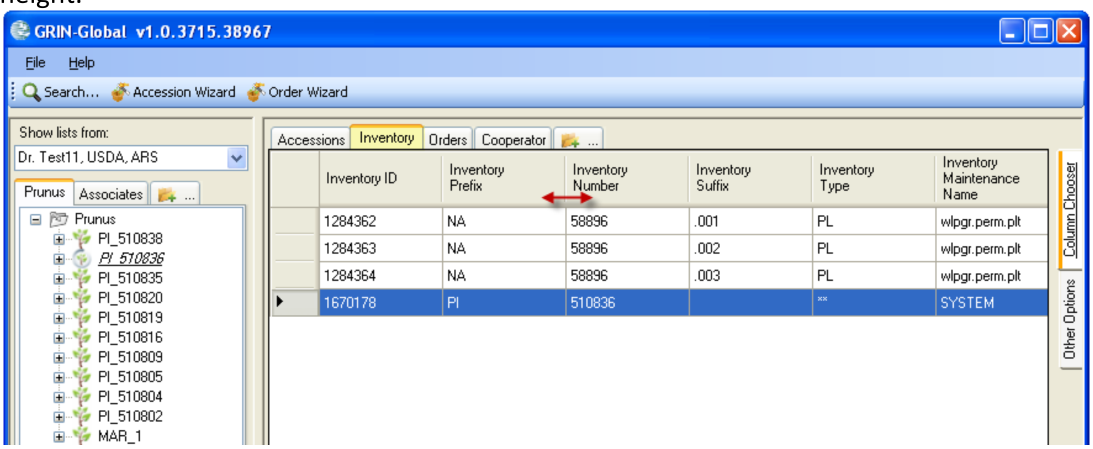
Spreadsheet Similarities

Columns & Rows

The data grid columns and rows are similar to the columns and rows in a spreadsheet. For instance, you can widen and narrow both columns and rows. **Drag** the mouse on the edge of the column or row when the mouse pointer appears as a double-arrow. **Double-click** on the column or row edge to return to the original size.

Note The Curator Tool remembers your view and will display the view in the same manner (same columns, widths, etc.) the next time you use the program.

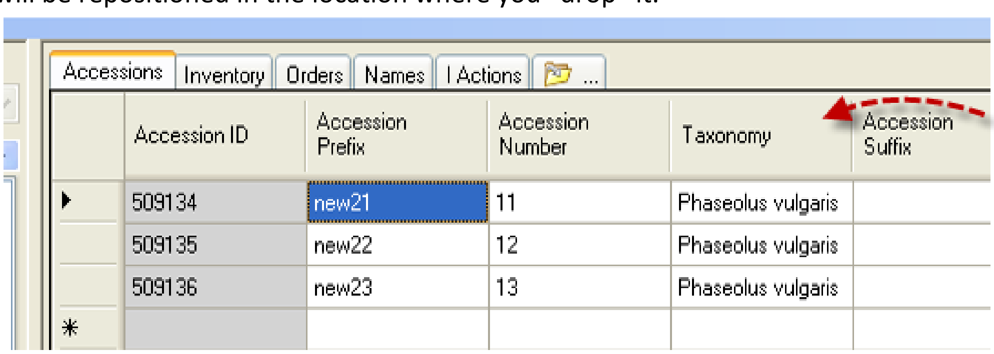
You can adjust the widths of columns and the height of rows just as you do with Excel – drag the dividing bar between the headings to adjust column width or between the left row header cells to adjust row height.



Tip Many of Excel's keyboard shortcuts and navigation keys also work in the Curator Tool and Search grids. Two that are very useful are **Ctrl-D** and **Ctrl- '** – these are discussed in detail later. Refer to the list for others.

Column Order

Reorder the columns by dragging any column heading left or right. Release the mouse and the column will be repositioned in the location where you "drop" it.



In this example, the Taxonomy column in the Curator Tool was shifted to the left. To reposition a column, drag the column heading left or right as needed.

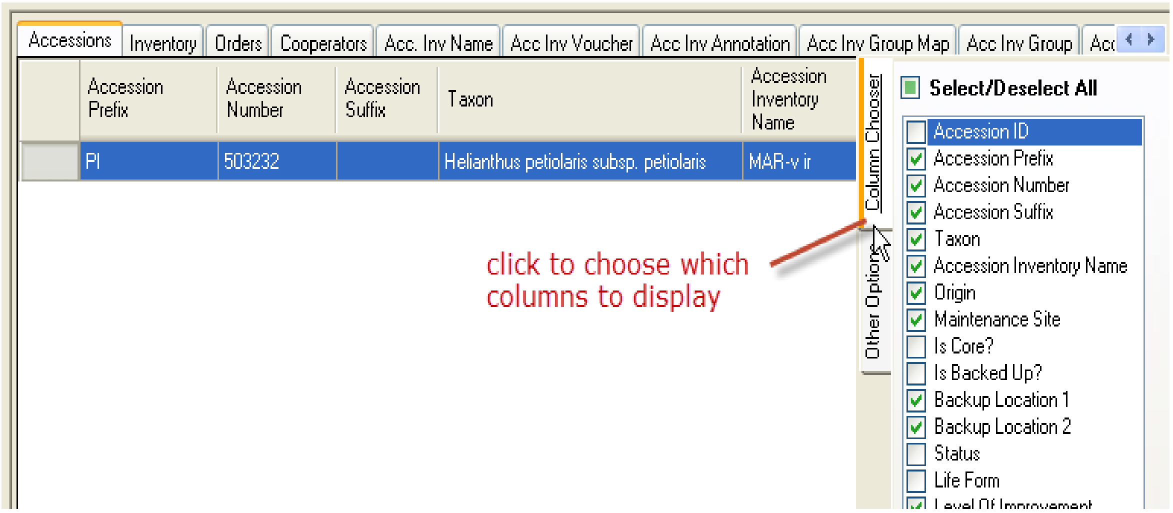
Demo: See http://www.ars-grin.gov/npgs/gringlobal/videos/columns.swf

Hiding / Displaying Columns

Not only can you reorder columns, but you can also choose which columns to display or not display. For each dataview, certain columns are displayed automatically. However, you can control which columns are displayed (or not).

To Select Which Columns to Hide / Display

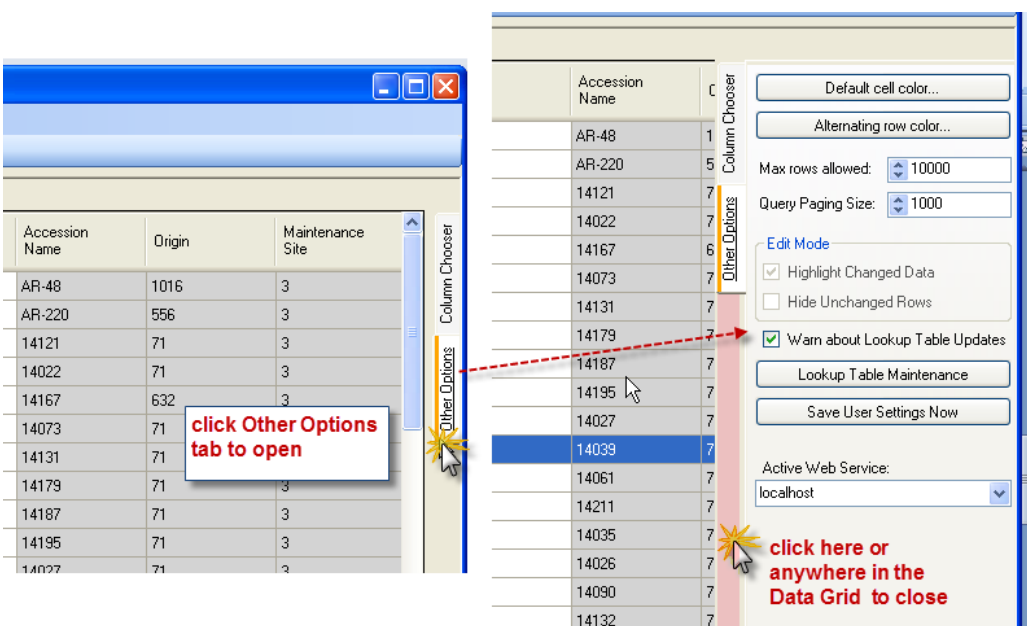
Click on the **Column Chooser** tab near the right edge of the data grid.



Select which columns to display by clicking in their checkboxes; click anywhere in the data grid to close the Column Chooser Panel

Personalizing Your Curator Tool: Other Options Tab

The **Other Options** tab on the right side of the Grid has various settings that can be used to adjust the row colors, the number of rows allowed, and options for highlighting charged data and for hiding unchanged rows. Click on the **Other Options** tab to open this panel; click anywhere in the Data Grid to close the tab.



Cell and row colors

Use the **Default cell color…** and **Alternating row color…** buttons to change colors. Each dataview can have its own color mix, making it easier to quickly recognize which dataview is currently being displayed.

Max rows allowed

Use this setting to control the maximum number of rows displayed in the Data Grid. (The number must be greater than one.) Be aware that a very large value for **Max Rows Allowed** could negatively impact the response time when accessing data from a remote server. Typically, **1000** or even **10,000** is okay.

When considering setting the value, remember that the Curator Tool stops displaying rows at whatever maximum level you set. If you import a large number of records, some may not display because the total number of rows has reached the upper limit. It may seem that all of your records did not get imported when in reality they were imported, but they are just not displaying.

Performance Enhancement Option: Query Paging Size

By increasing the **Query Paging Size**, *you can greatly enhance the performance of your PC*. By adjusting the **Query Paging Size** to fit the conditions – keep it lower if slow conditions exist such as a slow internet connection or when working with a local database on a small, slow hard drive a PC with minimal memory – otherwise, raise the number when you have a fast internet connection.

When increasing the **Query Paging Size,** remember that a large page size means a less responsive Escape Key. If you increase the size too high, you might experience a "server timeout" error indicating that you are asking for so much data in one round trip that the server cannot deliver the volume of data in the allotted time. I f that happens, reduce the size.

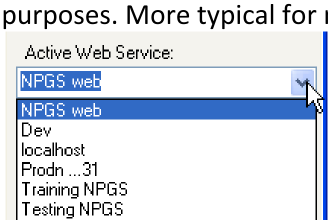
Save User Settings Now

Click the **Save User Settings Now** button to save the dataviews' row colors and column settings (column order, width, and visibility) as well as the **Options Tab** settings "Max rows allowed" and "Query Paging Size."

Active Web Service (Switching to another Database)

Under the **Other Options** tab, you can switch databases if your PC has been configured to use different databases. Why would you need to do this? In the U.S., in the NPGS, there isn't a need to do this, but some international organizations may be using different servers to house completely separate GRIN-Global databases.

In the following example, the user has access to multiple servers, primarily for testing and training purposes. More typical for most users would be just one available service.



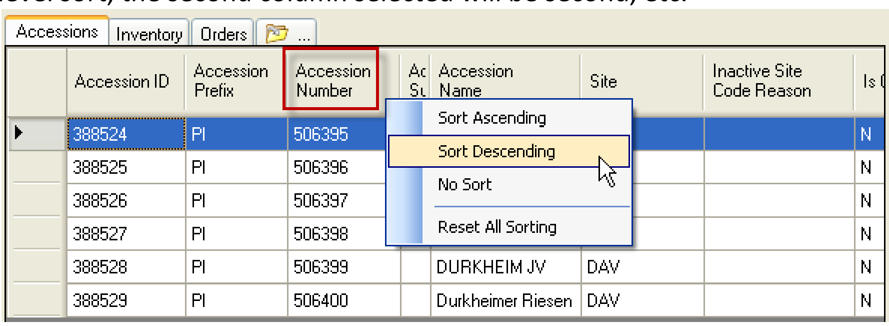
Sorting and Filtering Records

Frequently you may want to sort or filter records to organize and locate specific data easier.

Sorting Data

Select a column heading on which the sort will be based; right-click. Then select the appropriate menu option, **Sort Ascending** (or **Sort Descending**).

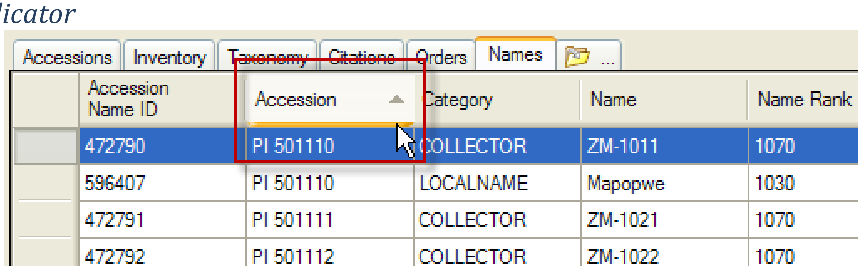
You can sort by multiple columns. The sequence is important – the column sorted first will be the first level sort, the second column selected will be second, etc.



Other Sort Options

Option	Effect
No Sort	“undo” the sorting of one specific column – click on the column heading first; then right click and select **No Sort**
Reset All Sorting	clears all sorting, returning the records back to their original order

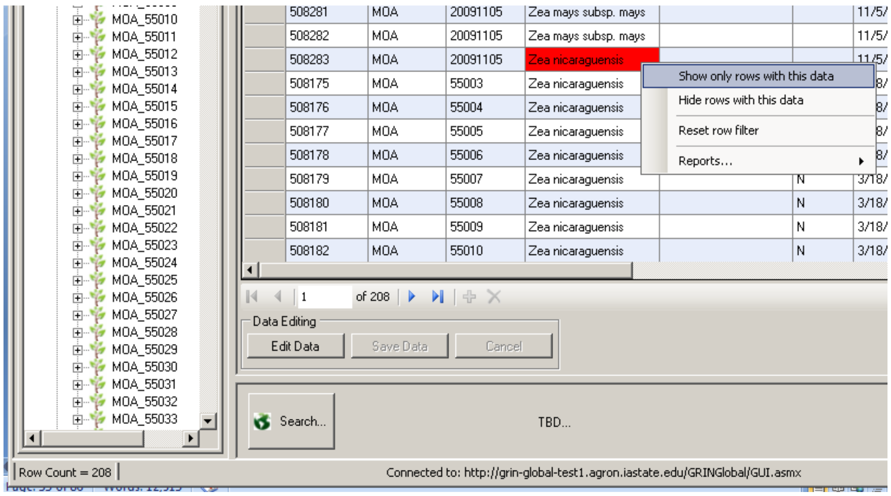
Sort Indicator



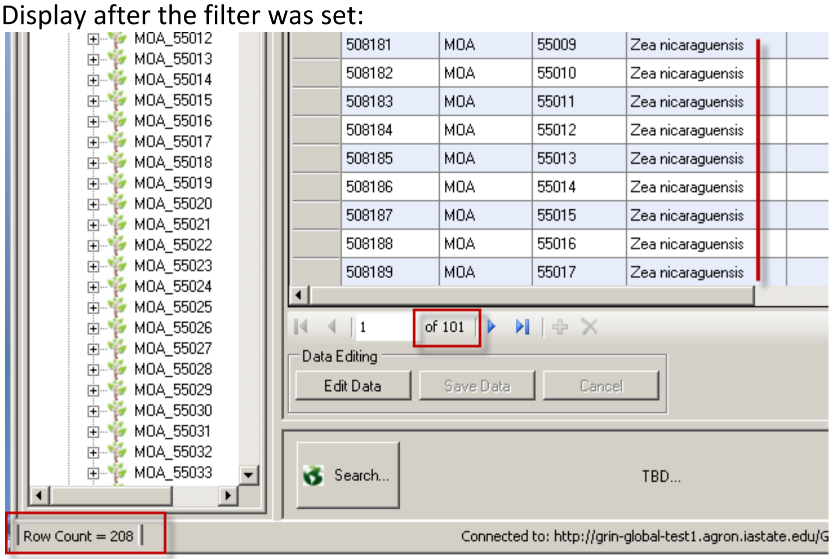
Filtering Records

You can filter the data grid in order to display a subset of the records. Use any cell's contents as the basis for your filtering criteria. Right-click in the data cell; select the desired filtering choice from the menu.

Before the filter is set:



Display after the filter was set:



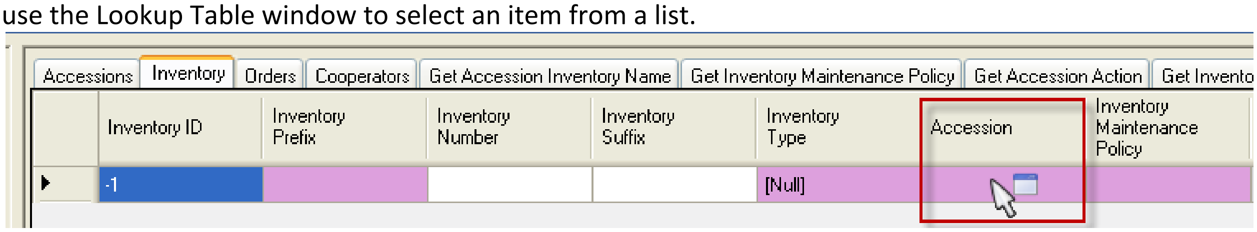
To turn off filtering, right-click in *any* cell in the grid; select **Reset row filter**.

Lookup Tables

When adding or editing data into tables, there are times when you will want the Curator Tool to control what can be entered. For example, if you were adding a new inventory record for an accession, you would want the GRIN-Global software to list the existing accessions from which you could then select the one accession with which the inventory is associated. (Every inventory record must have a parent accession record. You cannot enter an inventory record if its accession record hasn't been already added to the GG database.)

In the following example, the user moved the cursor over the **Accession** field. The Inventory tab is active, and the grid is in **Edit** mode (the violet color is only visible when in Edit mode). When the user rolled the mouse, the cursor changed from a simple pointer to one that includes a small table graphic:

This cursor indicates that the file is using a lookup table; you cannot type in this cell, but rather you must use the Lookup Table window to select an item from a list.

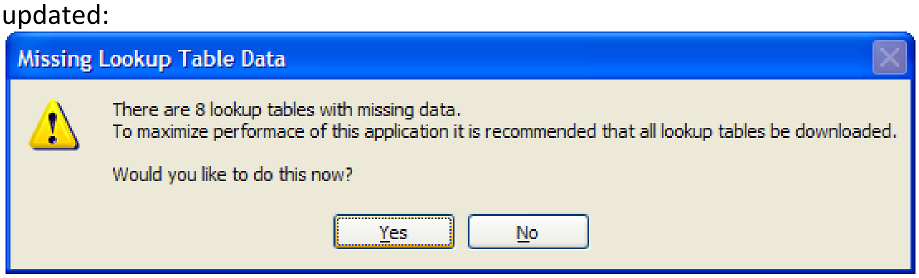


Complete directions for using lookups when entering or editing data is found in the *Restricted Fields* subsection of the Creating New Records section of this guide.

Lookup Table Warnings

The first time you open the Curator Tool you will be prompted to update your lookup tables. After all lookup tables are updated, the lookups will maintain themselves automatically.

The first time* you start the Curator Tool, you will be prompted if your lookup tables are not completely updated:



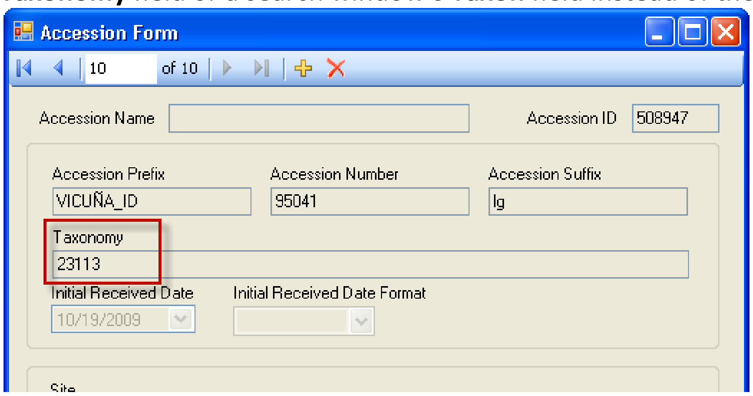
* The number of lookup tables varies, depending on the database.

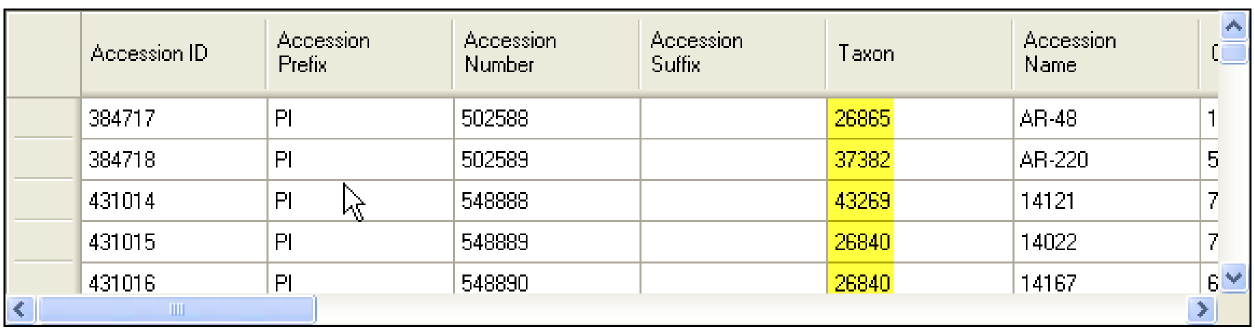
The rest of this section contains detailed instructions on handling the lookup tables.

After the initial startup, every time the CT starts, it automatically updates the lookups – *all of the lookups*, sequentially, in alphabetical order. When you use the CT on a daily/regular basis, this updating should not take long. The more frequently you use the CT, the less time it takes to update them when you start up the CT. On the other hand, if you use the CT on a monthly basis, the CT will take longer to update the lookup tables in order to reflect all of the new records that have been added to the GG database since the last time the CT was used.

Indicators When a Lookup Table Isn't Updated

When the Taxonomy Lookup table needs updating, you may notice numbers displaying in a dataview's **Taxonomy** field or a search window's **Taxon** field instead of the actual taxonomic name.

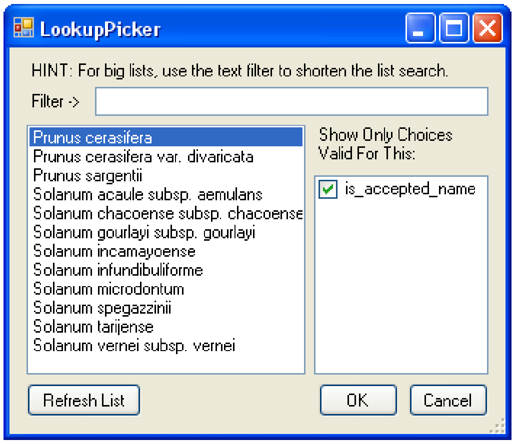




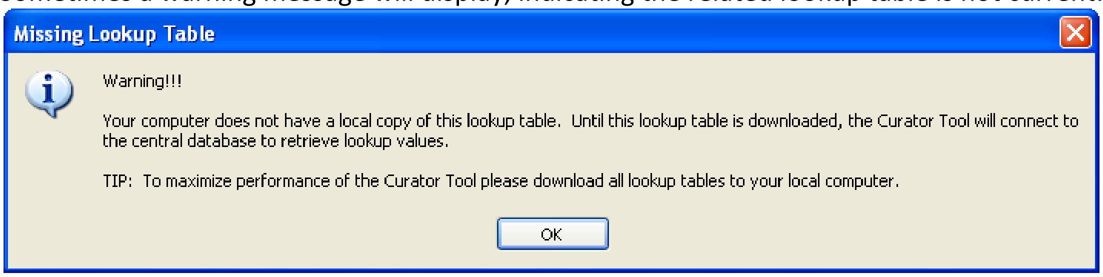
Accession ID	Accession Prefix	Accession Number	Accession Suffix	Taxon	Accession Name	
384717	PI	502588		26865	AR-48	1
384718	PI	502589		37382	AR-220	5
431014	PI	548888		43269	14121	7
431015	PI	548889		26840	14022	7
431016	PI	548890		26840	14167	6

Another indicator when a Lookup Table isn't updated occurs when the list of items isn't complete. For example, when in the **Taxon** field and using the Lookup Picker, you may realize there are missing taxons. In that case, you should load the Taxonomy Lookup table. (These numbers are the values stored in the records' key field in that particular lookup table.)

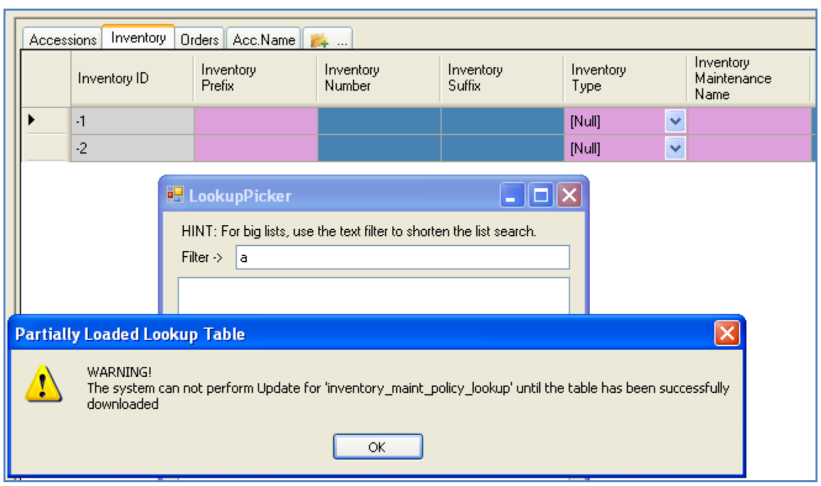
Click the **Refresh List** button to ensure that the list is current.



Sometimes a warning message will display, indicating the related lookup table is not current:



or…

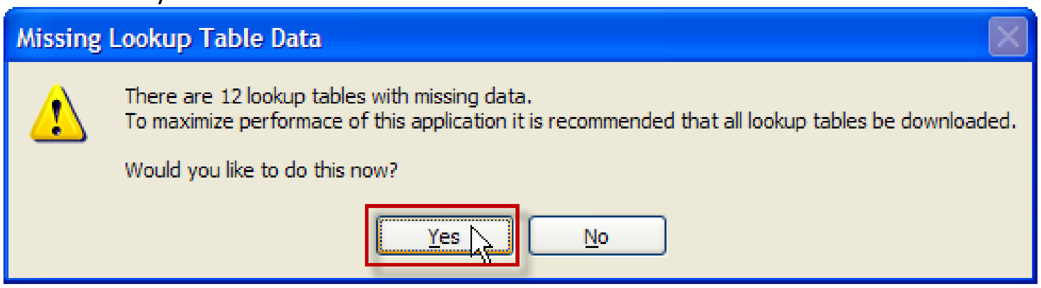


Updating the Lookup Tables

Every time the CT is started, the lookup tables are refreshed. Additionally, you can manually update the Lookup tables at any time while the Curator Tool is running.

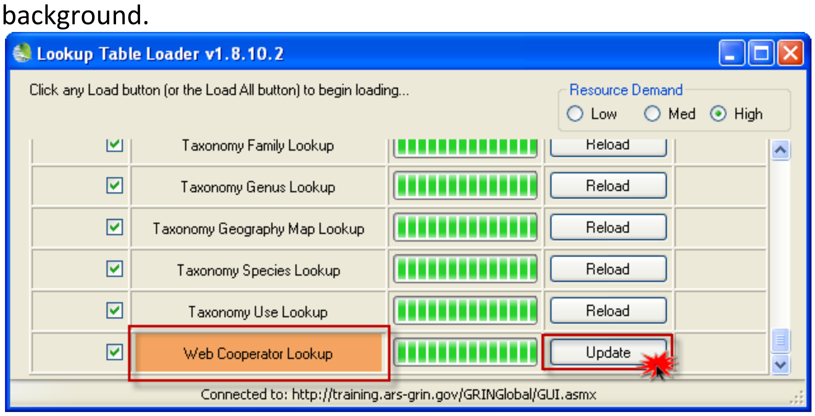
Updating When Data has been added You Start Up the Curator Tool

When you start the Curator Tool, if the lookup tables are not updated, you will be prompted to download any of the tables that are not current. Select **Yes**.



This message is displayed when new data has been added to a database table that has not had data previously.

Clicking the **Yes** button does not update the lookup tables; selecting "**Yes**" only displays the **Lookup Table Loader** window. Any lookup tables needing to be updated are highlighted in orange – typically their adjacent button will be labeled **Update**. Click on all of the **Update** buttons to update – *just viewing the window does not initiate the updating process*. You can minimize the window and do other work on your PC; the updating will proceed in the background.



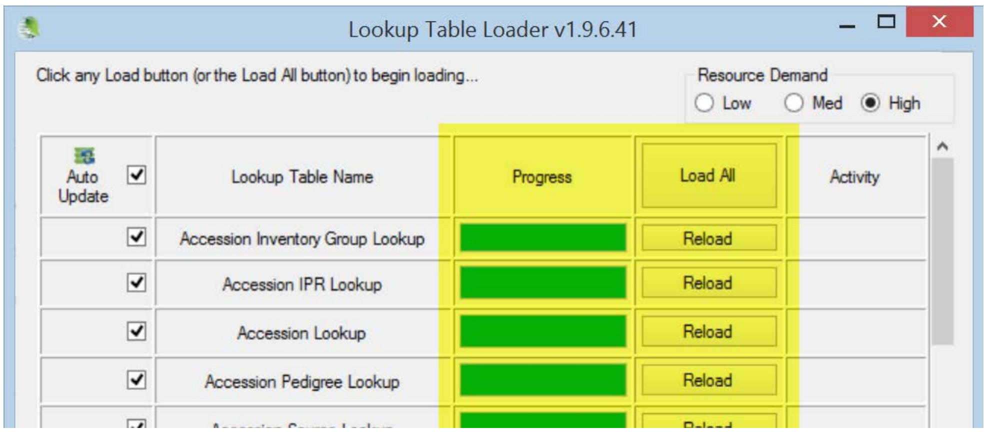
Load All and Load Buttons

During NPGS testing, periodically the NPGSweb database is replaced with a completely new database. A fresh copy of GRIN data is brought into GG and the former GG test data is replaced. In this situation, click the **Load All** button. You will need to do this twice. The first time the **Load All** button will update, that is, load only new records into the Lookup tables. Wait until the progress activity is visibly complete before clicking the **Load All** button a second time. The second time will cause each lookup table to be dropped and re-added (effectively loading the lookup table from "scratch" (from the beginning) – this may require one hour or so, depending on the size of your data).

(In production, the scenario of replacing one database with another will not occur – only a new CT installation will require a **Load All** to be invoked.)

When you review the **Lookup Table Loader** window, ideally you will see "**Reload**" on the buttons adjacent to the table names. If a button is labeled "**Update**," click the button to update the corresponding lookup table.

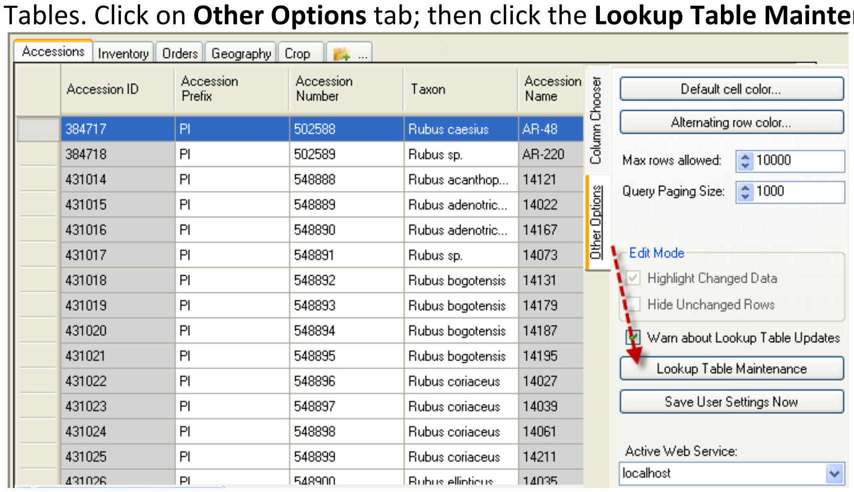
To ensure that your lookup tables are current, periodically review the **Lookup Table Loader** window and examine the **Progress** bars -- are they solid? Also review the buttons – are they all labeled **Reload**?



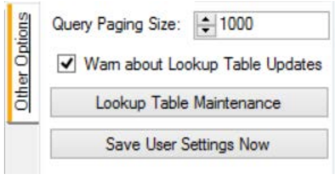
Some lookup tables may be empty. This is the case if the corresponding table in the database does not have any records yet. For example, in a new database, the **Genetic Marker** table will be empty.

Updating Lookup Tables After Startup

Use the **Other Options** tab any time you want to initiate the loading/updating of any of the Lookup Tables. Click on **Other Options** tab; then click the **Lookup Table Maintenance** button:

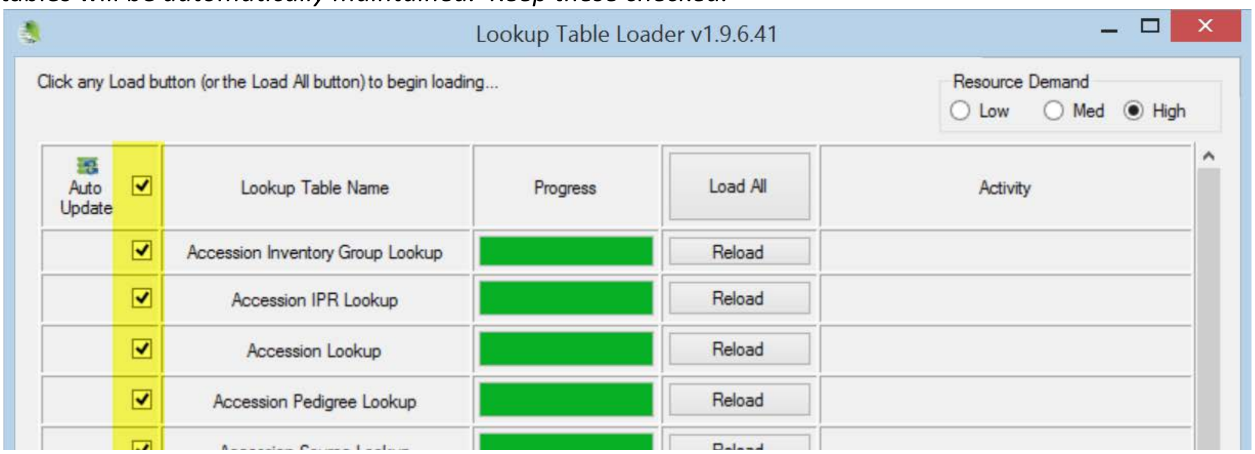


The **Other Options** tab has a **Warn about Lookup Table Updates** checkbox that should remain selected (checked) to enable this lookup table warning.



Auto-Update Checkboxes

The lookup tables are listed alphabetically. Any tables not current are highlighted (in orange). All checkboxes on the left (by default) are selected (checked) – the checkmark indicates that these lookup tables will be *automatically maintained. Keep these checked.*



If you turn off your PC while tables are still being loaded, the next time you start the Curator Tool the loading will continue loading where it had previously stopped.

Developer Notes Regarding the Lookup Table Buttons

The button will display **Load** if

1) The local Lookup table has never been successfully loaded – meaning that the local Lookup database does not have a last known status of **COMPLETED** or **UPDATED** (the status of the each Lookup table is updated to **COMPLETED** when a **LOAD** or **RELOAD** is successfully completed and is marked as **UPDATED** when any update of that table completes successfully).

The button will display **Reload** if:

1) The local Lookup database has a last known status of **COMPLETED** or **UPDATED** (the status of each Lookup table is updated to **COMPLETED** when a **LOAD** or **RELOAD** is successfully **COMPLETED** and is marked as **UPDATED** when any update of that table completes successfully).

2) The Lookup table has successfully completed an **UPDATE** during the current CT session (something that happens automatically during CT start up but can take a while for some larger LOOKUP tables – such as **Inventory**).

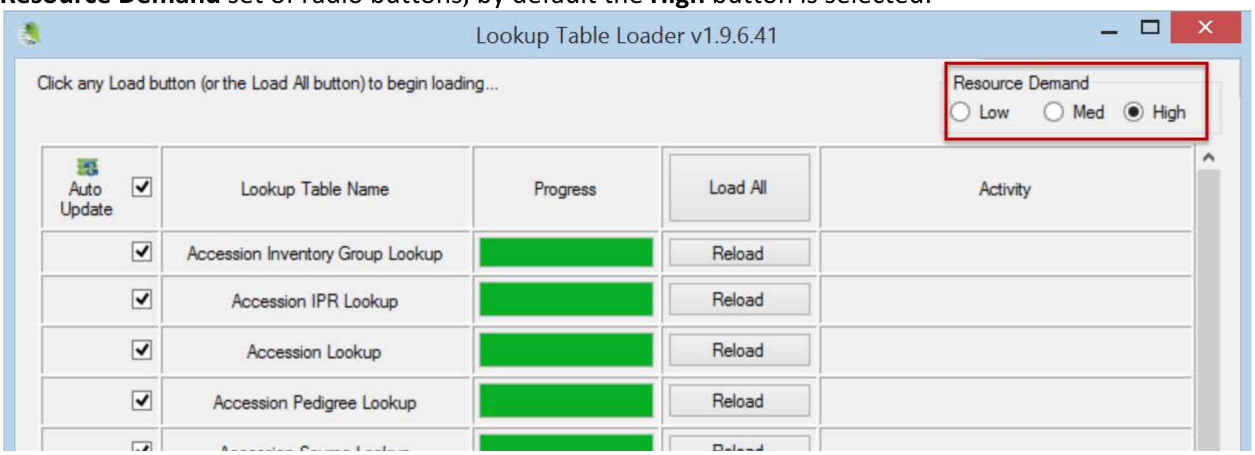
The button will display **Update** if:

1) The local LOOKUP database has a last known status of **COMPLETED** or **UPDATED** (the status of each LOOKUP table is updated to **COMPLETED** when a **LOAD** or **RELOAD** is successfully COMPLETED and is marked as **UPDATED** when any update of that table completes successfully).

2) The lookup table has NOT finished completing an **UPDATE** during the current CT session.

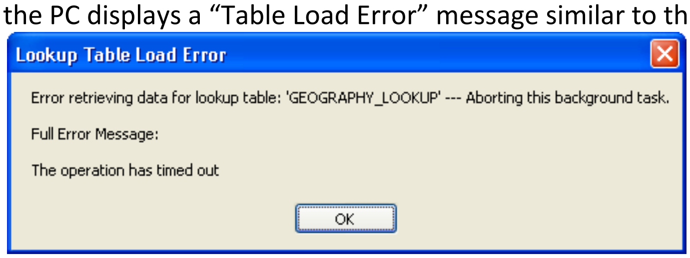
Resource Demand Alternatives

(For most fairly current computers, this topic is a "non-issue.") The **Lookup Table Loader** window has a **Resource Demand** set of radio buttons, by default the **High** button is selected:



Before clicking on the **Load All** or any **Load** button, first indicate how much of your computer's resources should be allocated to the background downloading process, relative to everything else that you will be running on your PC. Most computers can handle the default "**High**" for maximum performance. (Later, if you find that the process aborts, you can lower the setting.)

You can't change the resource demand option after you proceed with the loading. So how do you determine which level to select? You might try the "High" option first; worst case is that at some point the PC displays a "Table Load Error" message similar to the following:



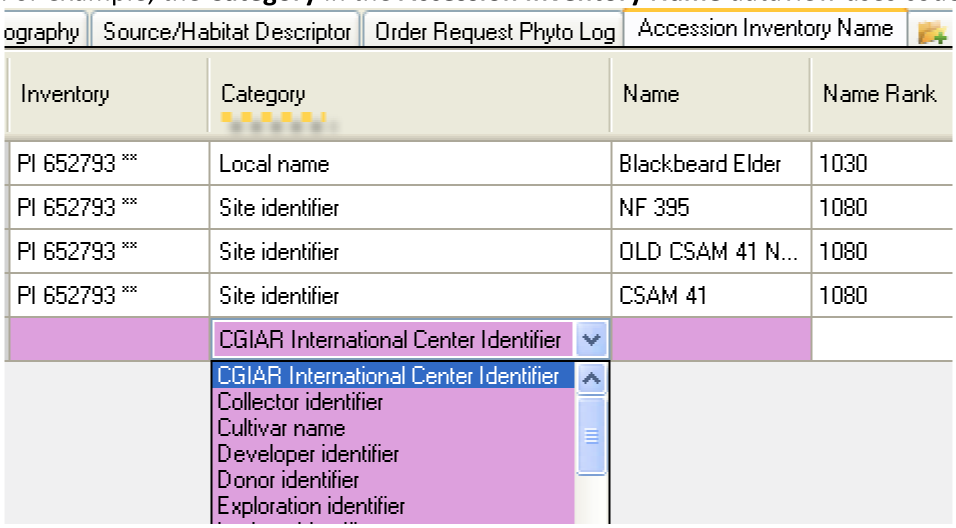
When that happens, proceed by loading the Lookup Table Loader again, but try the next lower **Resource Demand** level.

Code Groups

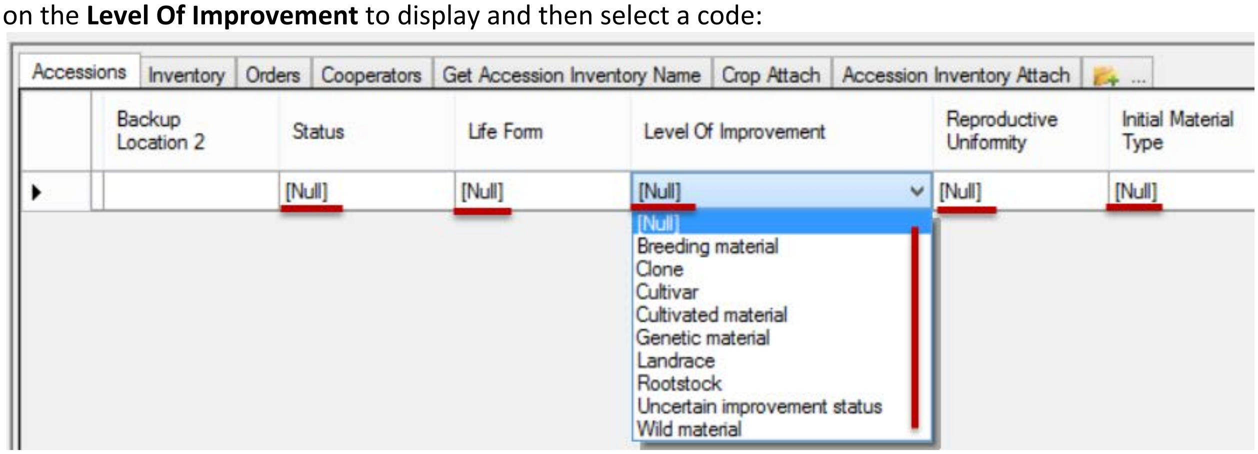
Background Information

Many of the dataviews in the Curator Tool use dropdowns to assist in selecting a valid entry – the fields do not allow any random text data to be entered, but instead require a value from a pre-populated set of values. Various codes and data values are stored in the Code Group tables by the GG administrator.

For example, the **Category** in the **Accession Inventory Name** dataview uses codes:



Five fields in the Accession dataview that use Codes are shown below. In the example, the user clicked on the **Level Of Improvement** to display and then select a code:



Note

Only the GG administrator can add or edit the codes, ensuring consistency and integrity. As a CT user, if you need a code to adequately describe a record, contact your GG administrator or follow your organization's procedure for establishing codes.

Importing Your Data *from* an Existing Database into GRIN-Global

Drag & Drop

The term "drag and drop" is used to describe bringing data from a spreadsheet into GRIN-Global. The following text describes in detail the process for doing this. An important guideline to remember is: there are 2 types of drag & drop situations:

1) adding new records

2) updating existing records

When *adding new* records, *you must not include* an ID field when dragging records from the spreadsheet (since these are going to be new records, they couldn't possibly have ID fields yet - the ID field is generated by the computer when the record is saved).

When *updating existing* records, you *must include* the ID fields of the records you are updating. The software is matching the spreadsheet data with the existing records in the GG database.

Using a Spreadsheet to Import Data into GRIN-Global

The following directions detail how to upload data originally stored elsewhere, such as in a spreadsheet, into the GRIN-Global Curator Tool. (Some people refer to this as "bulk loading" or "mass loading.") During this process, you will match column names in the Curator Tool with the corresponding column names from your source spreadsheet data.

Why would you copy data from a spreadsheet into the GRIN-Global Curator Tool? There are multiple reasons when you would do this. When initially converting to GRIN-Global, many genebanks have existing data stored in spreadsheets or databases and will want to import their data into GRIN-Global. The genebank will then use GRIN-Global as its information system going forward and will no longer continue keeping data in a spreadsheet.

On an ongoing basis, some GRIN-Global users may opt to keep their data in spreadsheets before it is convenient to upload their data into the Curator Tool. (The same is true for importing data from a database, such as Access or FoxPro.)

Two Importing Methods

The Curator Tool was designed to be compatible with spreadsheets. It is a straightforward process to copy and move data from a spreadsheet to the Curator Tool. There are two alternative methods for doing this.

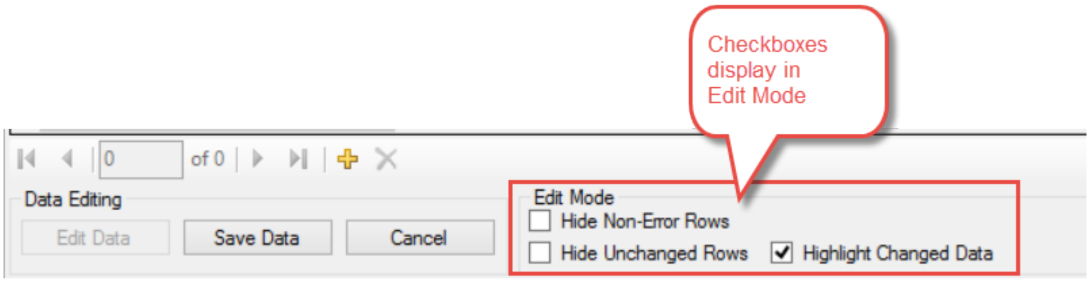
In the first approach, you will copy the data from a spreadsheet and drop it into the Curator Tool. During this process, the *column headings in the spreadsheet are used* to match up the spreadsheet data with the respective columns in the Curator Tool.

In the second approach, the "Block-Style" approach, a *block of data is copied* from the Curator Tool into a spreadsheet. In this method, you will *not be including the column headings;* in this case it becomes important where you physically place (drop) your data. The step-by-step details are described later, on page 57.)

Copying Data from a Spreadsheet (Including the Column Headings)

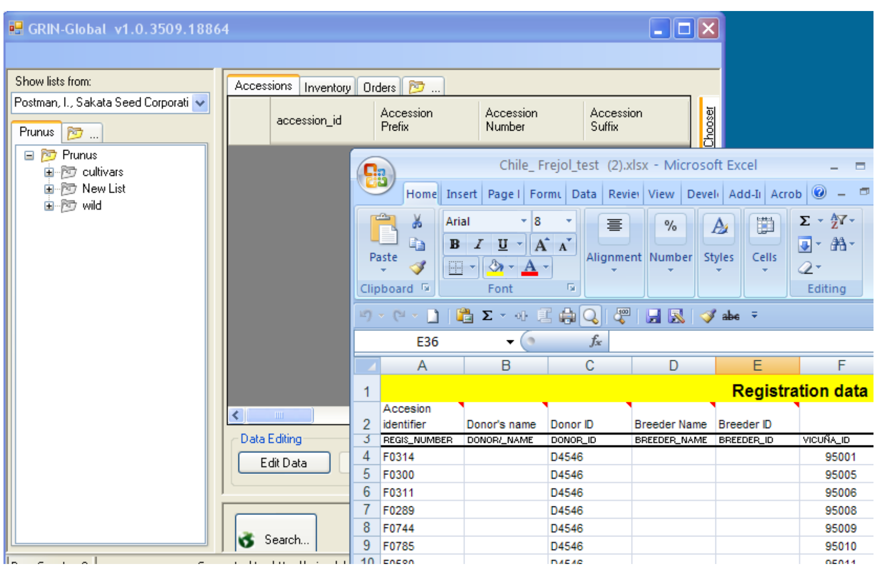
Tip

To make it easier to visually verify any changes to Curator Tool data, ***it is highly recommended*** to select the **Highlight Changed Data** and the **Hide Unchanged Rows** options. Changed cells will be displayed in color (see page 40).



Copy the Data *from* a Spreadsheet *to* the Curator Tool

Open the GRIN-Global Curator Tool and your spreadsheet application (e.g. Microsoft's Excel, OpenSource.org's Calc, or Google Docs). They both must be open, but ideally not both in full screen. By having both windows at least partially visible, you will be able to drag data from the spreadsheet into GRIN-Global easier than if the screens were full screen. (You will be able to copy data even if the windows are full screen, but you will use the Windows Taskbar to facilitate switching between the two programs.



1. In the Curator Tool, locate and click on the folder (list) that will be updated.
2. Also in the Curator Tool, click the **Edit Data** button (if you are not already in Edit mode).
3. In the spreadsheet, highlight the data that will be copied; it is essential to include a column header row in which the spelling of the column names *matches exactly* with the Curator Tool column names. (See Importing Column Names if you wish to avoid typing the column names.)

- only the columns with data being updated must be included
- the spreadsheet columns do not need to be in the same order as the Curator Tool columns
- the spreadsheet column names *must be spelled identically* to the Curator Tool column names

4. In the spreadsheet, using the cursor, grab the box outlining the selected cells, drag the box and drop it anywhere in the GRIN-Global Data Grid.

When dragging from one application to the other, if the target application is not visible on the desktop, drag the mouse to the target application's icon on the Windows Taskbar. The target application will then display; drop the box outline.

Click to review the video.

5. Any changes made in the spreadsheet should now be visible in GRIN-Global.
6. If satisfied with the data, click **Save Data**.

Each table has a primary key – for instance in the Accession table it is the **Accession ID** field. It is important to review the primary key field in the spreadsheet before dragging the data into the Curator Tool. Dragging spreadsheet records with:

- matching key fields *will update* existing records in the Curator Tool Data Grid
- non-matching (or empty) key fields *will add new* records in the Curator Tool Data Grid

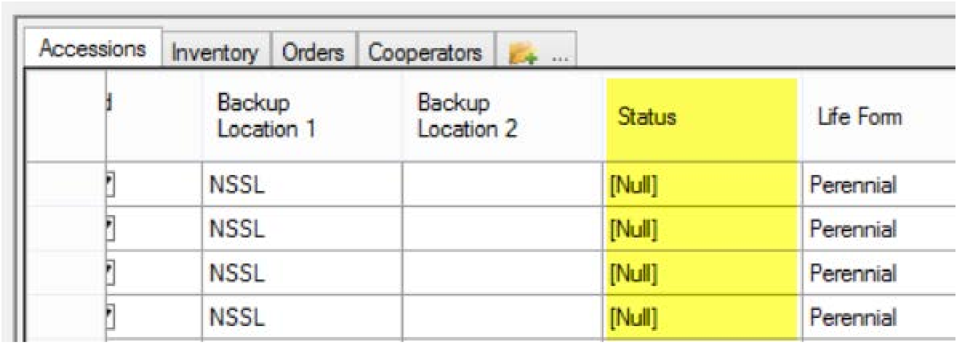
After dragging data into the CT, and when saving, the data is validated. Whenever fields using codes are involved, if the spreadsheet data does not match any of the field's valid codes, an "**!error!**" message will display in the cell. If you later edit that cell, the cell will be appear to be empty. Contact your GG administrator if you think a code is missing or need to be added.

Read-Only Mode a(after a drag and drop where the codes used for the Status field did not match the valid codes)

Accessions | Inventory | Orders | Cooperators | ...

	Accession ID	Accession Prefix	Accession Number	Accession Suffix	Taxon	Status	Life Form
	1919853	MAR	170239	REI	Arrhenatherum el...	!Error!	Perennial
	1919854	MAR	180806	REI	Arrhenatherum el...	!Error!	Perennial
	1919855	MAR	186791	REI	Arrhenatherum el...	!Error!	Perennial

Same data, but in Edit mode:



Copying Column Names from the Curator Tool into a Spreadsheet

Tip

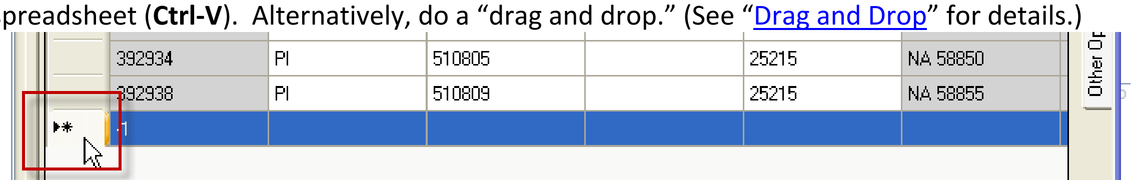
To ensure that the spreadsheet column names match identically to the Curator Tool column names, drag a row (blank or filled) from the Curator Tool datagrid into a spreadsheet. This technique is also a quick way to start building data in a spreadsheet that will eventually be dropped into the Curator Tool.

(To display the actual database field names, instead of the column headings, *depress and hold down* the **CTRL** key *before* dragging the data into the spreadsheet. “Typical” users will not need to do this, but Curator Tool administrators may find this handy.)

1. In the Curator Tool, start a new list or select an existing list.

2. In the data grid in the right panel, you need to select a row, either empty (a new record), or already filled with data. You can simply drag a filled row from the CT without even being in Edit mode.

   Either select a new blank row by clicking on the row’s header cell; copy (**Ctrl-C**); paste in a spreadsheet (**Ctrl-V**). Alternatively, do a “drag and drop.” (See “Drag and Drop” for details.)



click in the row's header cell; cut and paste into the spreadsheet

Copying, Block-Style

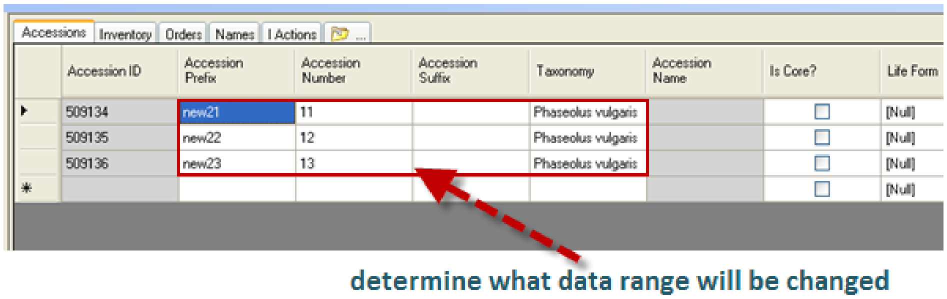
Use the Block-style copying approach to copy blocks of data from a spreadsheet into the Curator Tool. (This method also works in the reverse direction for copying data from the Curator Tool to a spreadsheet.)

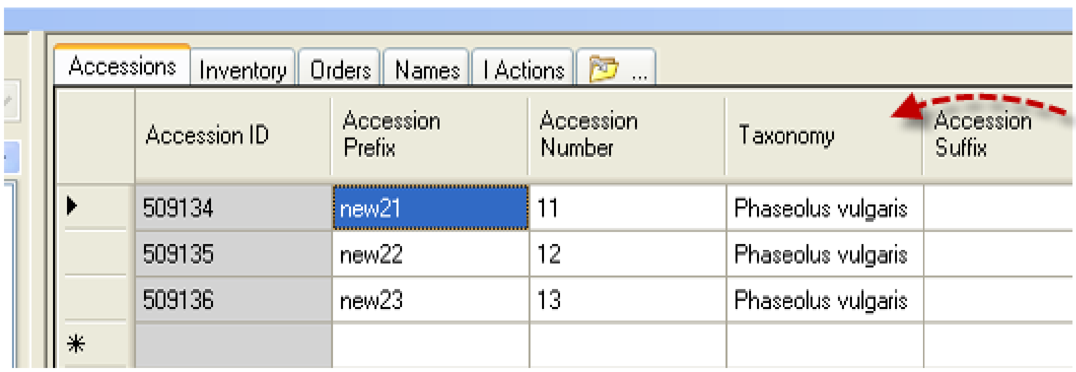
Click to review the video.

Note

When using this method, since you will not be including the column names, *it is critical where you line up the cells* when you copy and paste. Open both the Curator Tool and your spreadsheet application, but not in full screen.

1. Determine what data will eventually be replaced in the Curator Tool or what data is to be copied into a spreadsheet. Arrange your spreadsheet so that its columns *are in the same order* as the Curator Tool's. (You can rearrange the columns in either the Curator Tool or the spreadsheet.)

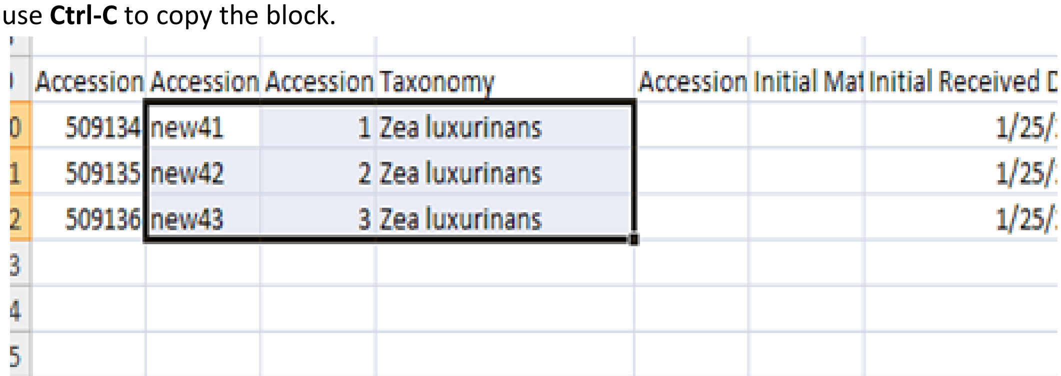




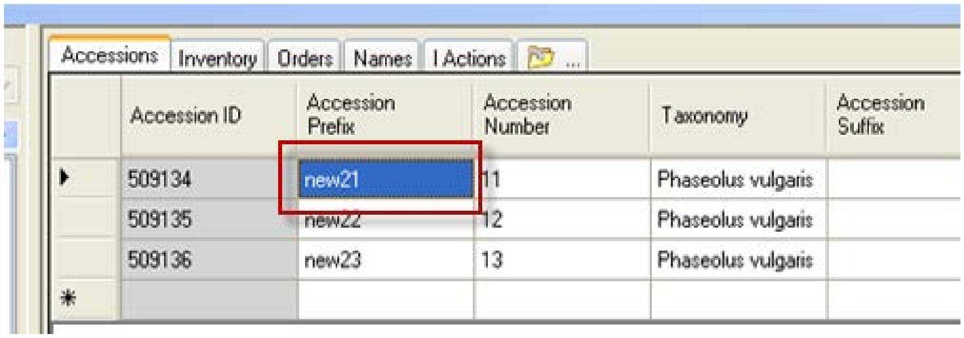
In this example, the Taxonomy column in the Curator Tool is shifted to the left. Remember that to reposition a column, *drag* the column heading left or right as needed.

2. In the Curator Tool, click the Edit Data button to get into Edit mode.

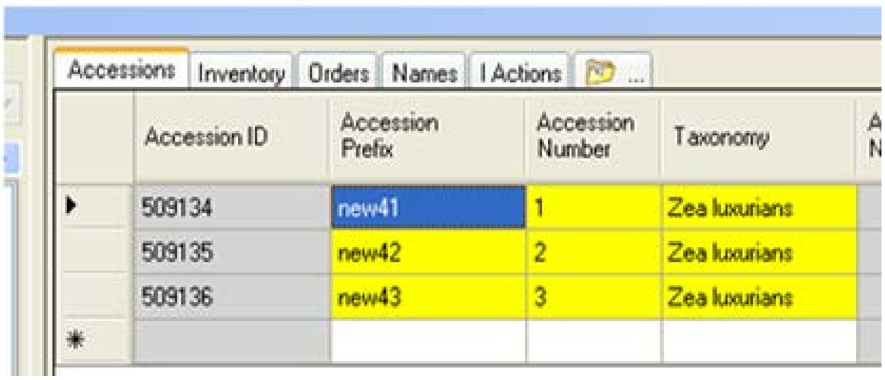
3. In Excel, highlight the spreadsheet data that will be copied; use **Ctrl-C** to copy the block.



4. In the Curator Tool, position the cursor in the *top, left cell* of the range of data that will be updated; use **Ctrl-V** to paste the data.



Result of the Block-Copy:



The top left cell is blue because it currently is the active cell; the yellow indicates that a cell's content has changed.

Note Besides using the cut and paste method, the drag and drop method also works. The key is to properly align the block of spreadsheet data with the top, left "target" cell in the Curator Tool.

Copying Curator Tool Data *into* a Spreadsheet

Copying Curator Tool Data into a Spreadsheet

1. Open both the Curator Tool and the spreadsheet application (e.g. Excel). They both should be open, but not full screen.

2. If necessary, filter the files that will be copied (see Filtering Records).

3. Select the records from the Curator Tool that will be copied into the spreadsheet. See Drag and Selecting Multiple Rows instructions for general directions.

Tip When dragging from one application to the other, if the target application is not visible on the desktop, drag the mouse to the target application's button on the Taskbar. The target application will then display; drop the box outline.

[Click to review the video.]

Note

Another method for importing data into GRIN-Global requires the Admin Tool, which generally is restricted to database administrators. However, you should be aware of this capability, because the Admin Tool has Import Wizards that were designed specifically for importing data. If you are in a networked environment, your administrator may be able to assist you with this initial loading of data. If your GRIN-Global database resides on your PC, then you can use the Admin Tool Import Wizard to load datasets into GRIN-Global.

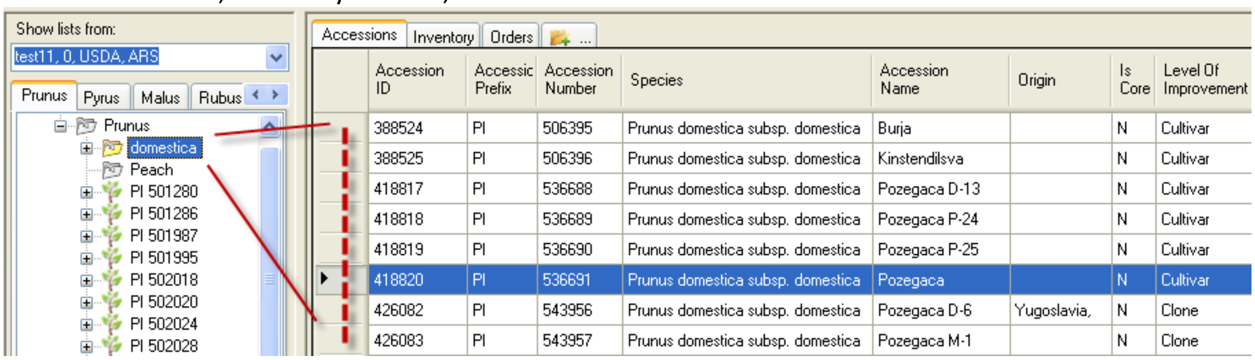
Copying Blocks of Data

Press the **ALT** key (in either Edit or Read-only mode.) Use standard Windows Copy and Paste technique to copy highlighted data from the CT into a spreadsheet. In this type of copy, the column headings are not copied.

Using Lists to Organize Data

This section explains in detail the steps for establishing and maintaining lists for managing data. For an overview on the Curator Tool List feature, refer to page 27.

One of GRIN-Global's fundamental features is its ability to organize virtual lists of database records that are of particular interest to you. These lists can point to records which you need to track or manage, such as accessions, inventory records, or orders.



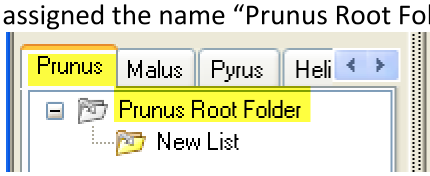
You populate lists by pointing to records in the database. You can set up "dummy" folders which are initially empty, but eventually will include specific records for your unique needs. When you no longer need a folder, you can delete it. You are merely deleting your folder, not the actual database records to which the folder's list had pointed.

In the introduction to this User Guide, we briefly described using the Curator Tool to manage accessions and orders. (See Using Lists to Organize Your Accessions or Using Lists to Organize Your Orders.)

Tabs

Tip

By default, when the List Panel tabs are created, they will have a "root folder" with practically the same name as the tab. In the following example, the **Prunus** tab has its highest-level folder assigned the name "Prunus Root Folder."

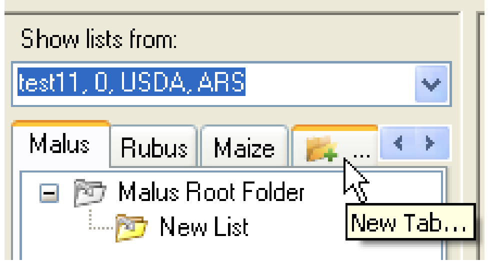


By "highest-level," think of each tab having a main folder which in turn can hold subfolders. (If you are familiar with Windows Explorer, folders having subfolders is a similar concept.) There is no limit to the number of times a folder can be subdivided.

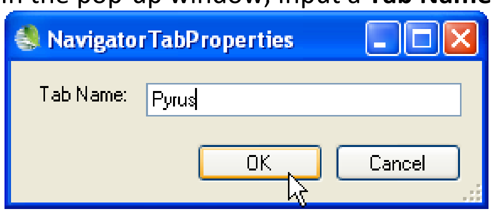
In addition to creating a "root folder," the Curator Tool also creates a subfolder with the default name "New List." It is recommended that the user rename the **New List** folder to a more meaningful name, one that reflects the database records the list will be pointing to.

To Create a New Tab

1. In the List Panel, click on the **New Tab** icon with the ellipsis ("…").



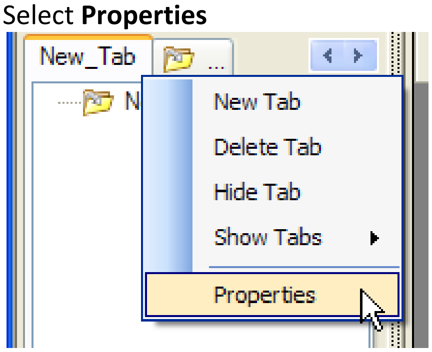
2. In the pop-up window, input a **Tab Name**; click **OK**.



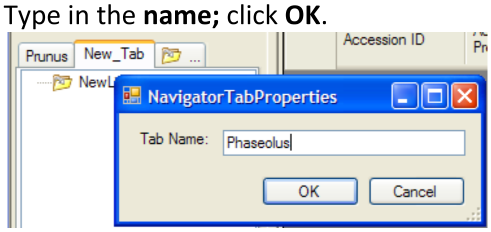
Result:

To Rename a Tab

1. **Right-click** on the tab name.
2. Select **Properties**



3. Type in the **name;** click **OK**.

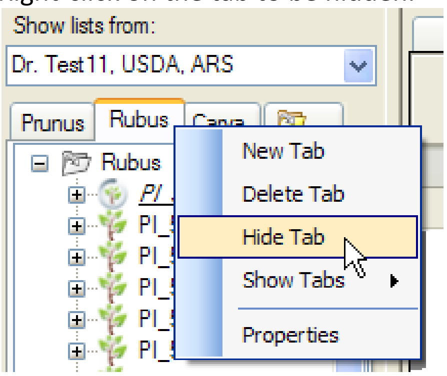


To Hide and Display Tabs

Tabs in the List Panel can be hidden or displayed as desired. This is particularly helpful when you have created many tabs.

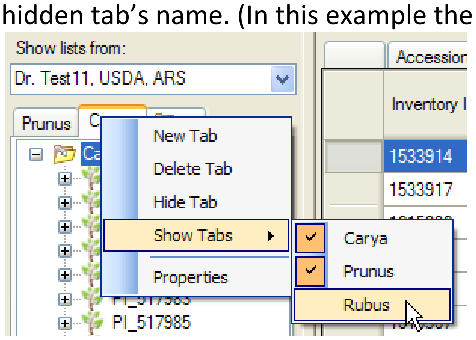
To Hide a Tab

Right-click on the tab to be hidden.



To Display a Hidden Tab

Right-click on any tab that is visible; select **Show Tabs** from the menu and then click on the hidden tab's name. (In this example the Rubus tab is hidden and will be displayed again.)



Note: At least one tab must be displayed – you cannot hide all tabs simultaneously. Also, you can rearrange tabs by dragging them left or right.

Lists

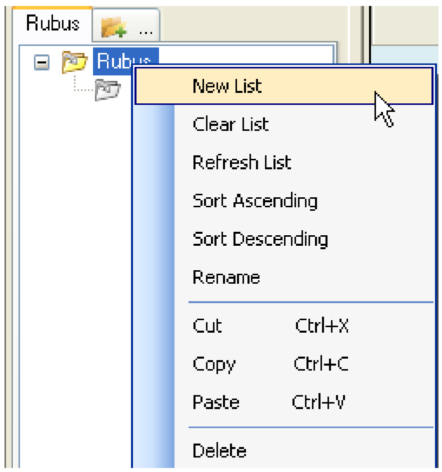
Dynamic lists (folders) were introduce in version 1.8.3. See the section on dynamic folders for details. The following directions primarily pertain to static lists.

Tip

List *items* must be individually moved or copied. Hence, consider creating smaller lists and sub-lists to organize your items. By doing so, the items will be better organized, but also can be readily rearranged at a later time. (You can move a list containing many items.)

To Create a New List

1. Right-click on the parent list (the list that will be one level higher than your new list) and select **New List.**



A new, empty list with the name "New List" will be created below the existing list. (Adding items to your list is discussed later.)

Note

If the parent list already contains other items or lists, look *below* the existing items for the new list. Initially this can be confusing if the list is long; you may need to scroll down to see the newly created list.

To Delete or Clear a List

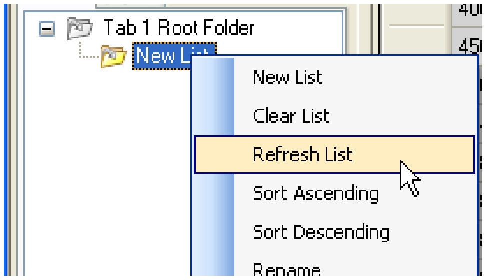
You can delete lists that are no longer needed or empty lists that you intend to use again. In either case, you are not deleting the actual database records, but rather the record pointers that were stored by your folders. "Delete" removes the folder and items; "Clear List" only empties the list items in the folder.

To Delete a List

Right-click on the list name; select **Delete**.

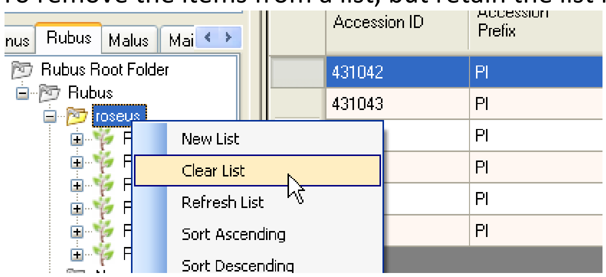
Note

Also, use the **Refresh List** option on the context menu after you have made any changes to the list:



To Clear a List

To remove the items from a list, but retain the list name, right-click on the list name; select **Clear List**.



Note: These “Delete” and “Clear List” actions do not delete the database records; they only impact the lists.

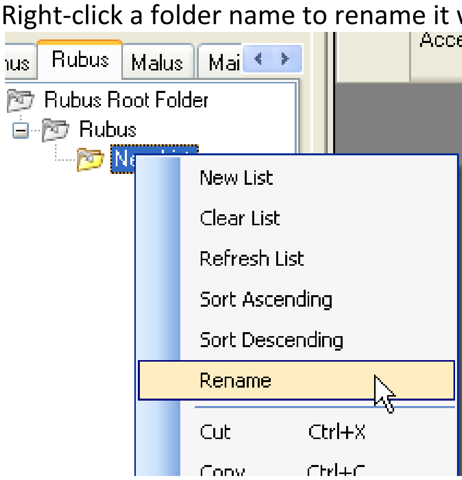
To Delete *Items* from a List

To remove *one* item from a list, select the item; right-click; select **Delete**.

Note: Currently you cannot select (or delete) multiple items within a list.
Also, remember that deleting an item from a list does not delete the item’s corresponding record in the database; this action is only deleting the list item.

Name a List

Right-click a folder name to rename it with a meaningful name; select **Rename** from the menu.



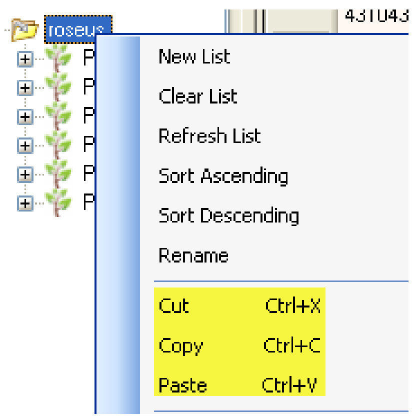
To Move a List

The method for moving a list is similar to moving a folder in Microsoft Explorer and other programs. Depending on your preference, you may opt to move a list using any of the following methods:

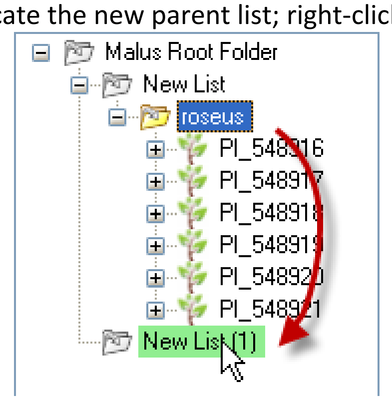
- right-click menu
- keyboard shortcuts (Ctrl-X, Ctrl-C, Ctrl-V)
- "drag and drop" (with the mouse)

Note that in addition to moving from one folder to another, you can also move or copy folders or even individual list items from one tab to another.

Highlight the list being moved; right-click on that folder and select **Cut** or **Copy**.



Locate the new parent list; right-click on that folder name and select **Paste**.



To move a list using the keyboard shortcuts (Ctrl-X, Ctrl-C, Ctrl-V)

Highlight the list name; use **Ctrl-X** (to move) or **Ctrl-C** (to copy). Locate the new parent list; use **Ctrl-V**.

To move a list using the drag and drop method

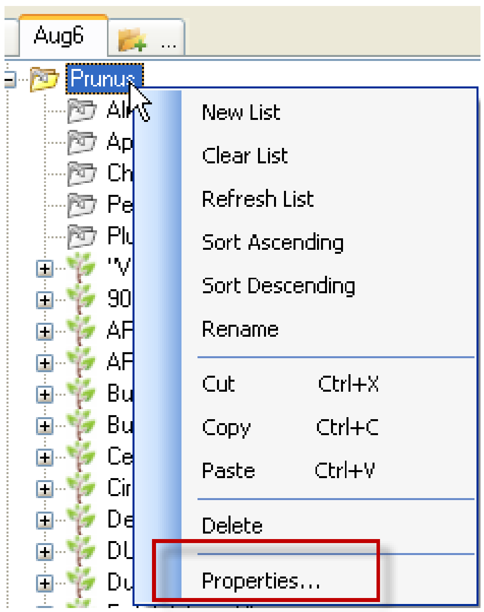
Highlight the list name; drag to the new "parent" folder.

To Add Additional *Items* to a List

Additional accession / inventory / order requests, and other records can be added to an existing list at any time using the same methods described in the **Creating New Records** section, p. 99.

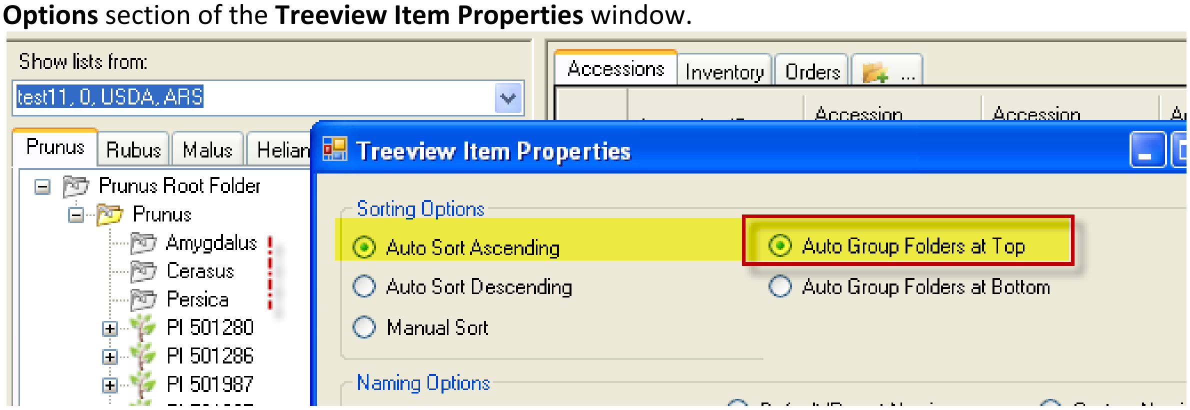
Sorting & Custom Naming List Items

You can customize the manner in which the lists are sorted as well as specify how the items are labeled within the lists. These features are available via the **Properties** command on the List menu (right-click on a folder in the List Panel.)



Sorting List Items

You can designate whether a list containing both items and sub-lists has its folders displayed at the top of the list, above the list's items, or at the bottom, below the items. The following illustrates the **Sorting Options** section of the **Treeview Item Properties** window.



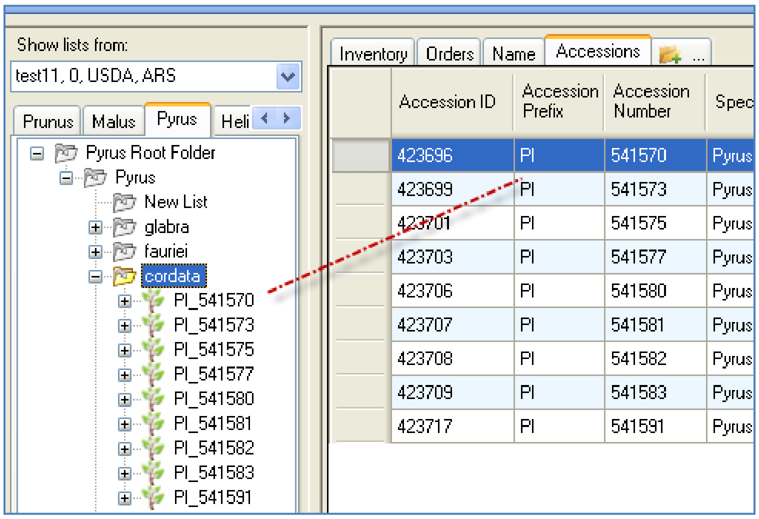
List Items' Custom Naming Feature

You can change how List items are named.

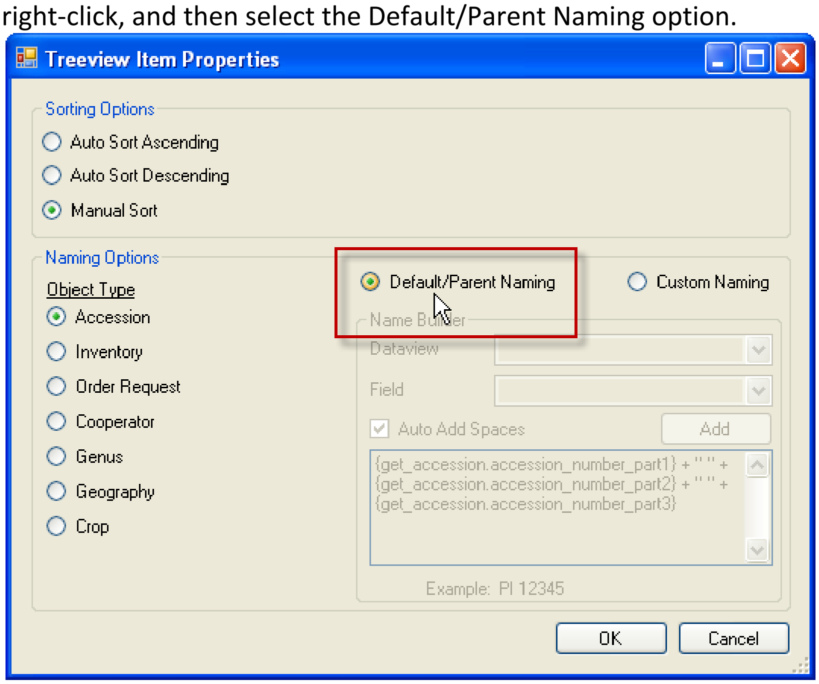
Default Item Names

By default, the names for accession list items combine the accession prefix, number, and suffix fields from the corresponding accession database record. Similarly, each object type (Accession, Inventory, Order Request, etc.) has a default naming convention.

(In the following example, the accessions have blank suffix fields, so the items' names include just the Prefix and Number.)



To revert back to their defaults when the list items do not have their default names, highlight the folder, right-click, and then select the Default/Parent Naming option.



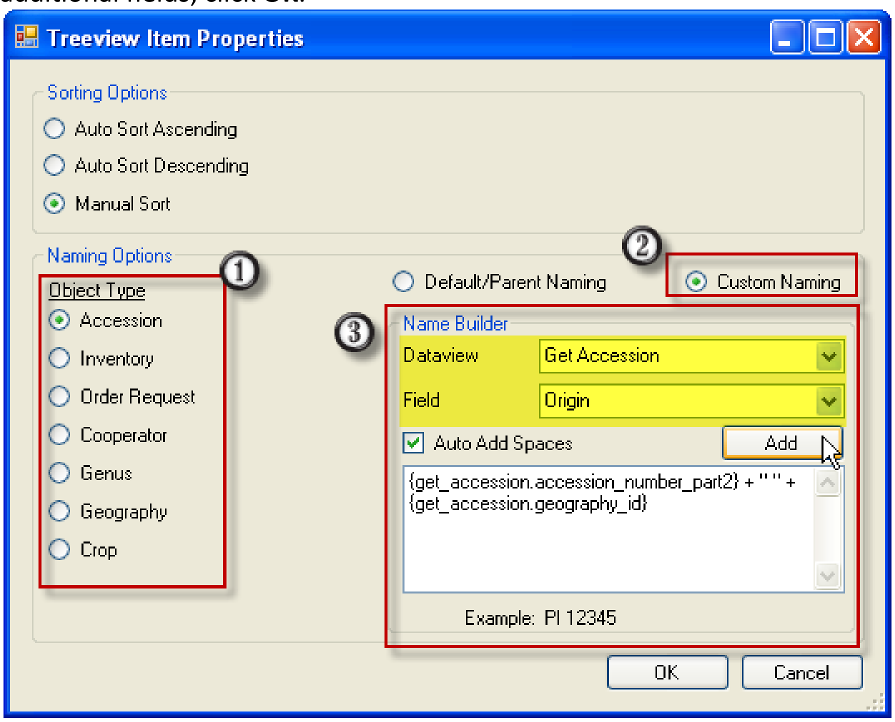
Custom Item Names

Right-click on a *folder* to create custom item names. In the **Treeview Item Properties** window:

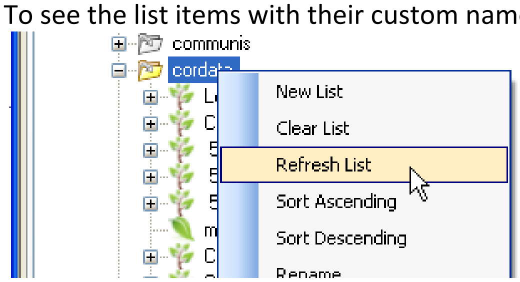
1. Select the desired **Object Type**. This ultimately determines what field names you can use for the name.

2. Click the **Custom Naming** button.

3. Build the custom name by selecting from the list of available fields in the **Name Builder** frame. Select a **Dataview** and a **Field** from that Dataview. Click the **Add** button as needed to add additional fields; click **OK**.



4. To see the list items with their custom names, you may need to refresh the list:



(Certain names will automatically update; if your names do not, invoke the **Refresh List** command.)

Note

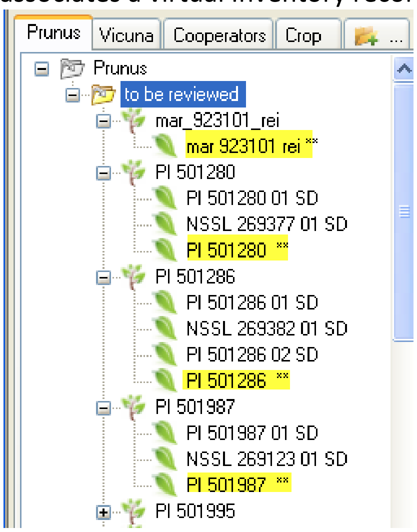
The trailing item for the custom name cannot be text – it should always be a fieldname (this is a known bug).

Inventory Lists

You can make lists of inventory items just as you do with accessions. Most likely you will have many different reasons for building inventory lists. For example, you could create an inventory list to track your current year's "grow out" and harvest. If you handle thousands of accessions, having this list to aggregate just the current year's inventory would be very helpful – you can generate labels from the list for your seeds, you can review the year's results, etc.

Virtual (or System-Generated) Inventory Items

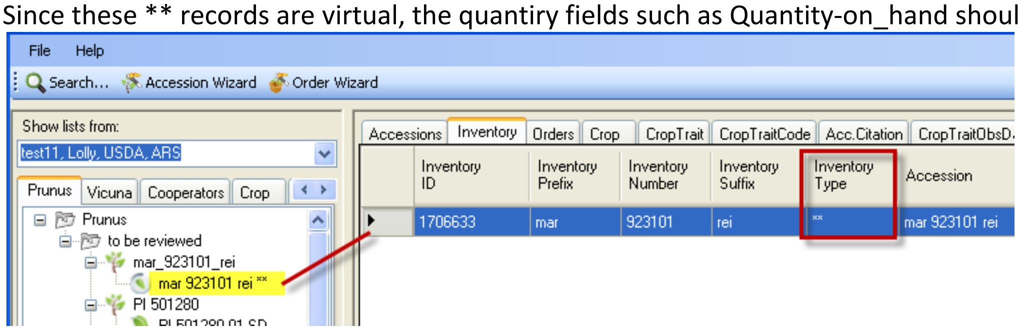
Whenever you review Accessions in the list panel, you will notice an inventory item with a double asterisk (**) next to its name. For every Accession record in the database, GRIN-Global automatically associates a virtual Inventory record.



The ** indicates that the inventory item was generated by the system. Because GG needs every Accession record to have at least one Inventory record attached to it, this virtual inventory record ensures that this condition is always met. It is not referring to physical inventory – these virtual Items are not pointing to inventory records of physical germplasm.

In the above screen, the Prunus folder has a subfolder labeled "to be reviewed." In this folder, the first accession item, **mar_923101_rei**, has only one inventory item associated with it, and that inventory item is a virtual inventory item. The other accession items shown in the list have multiple physical inventory items as well as one virtual inventory item.

In the **Inventory** dataview, the **Inventory Type** for virtual inventory records is also indicated with a ** Since these ** records are virtual, the quantiry fields such as Quantity-on_hand should be empty.



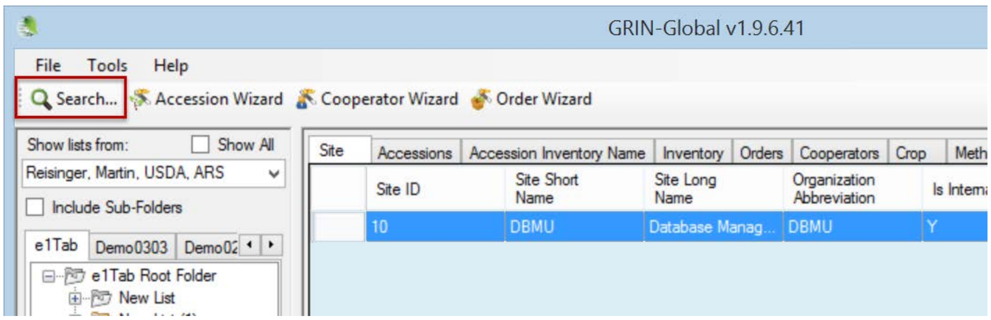
Searching for Records

Search Tool Introduction

Use the Search Tool to search for records from the main GRIN-Global database.

Note The Search Tool is typically launched from the Search Tool button on the Curator Tool, but it also can be started from the Windows Start menu (Windows 7), or the Windows Start screen (Windows 8.1). Although the Search Tool is completely separate from the Curator Tool, the two programs are greatly intertwined.

From the Curator Tool:

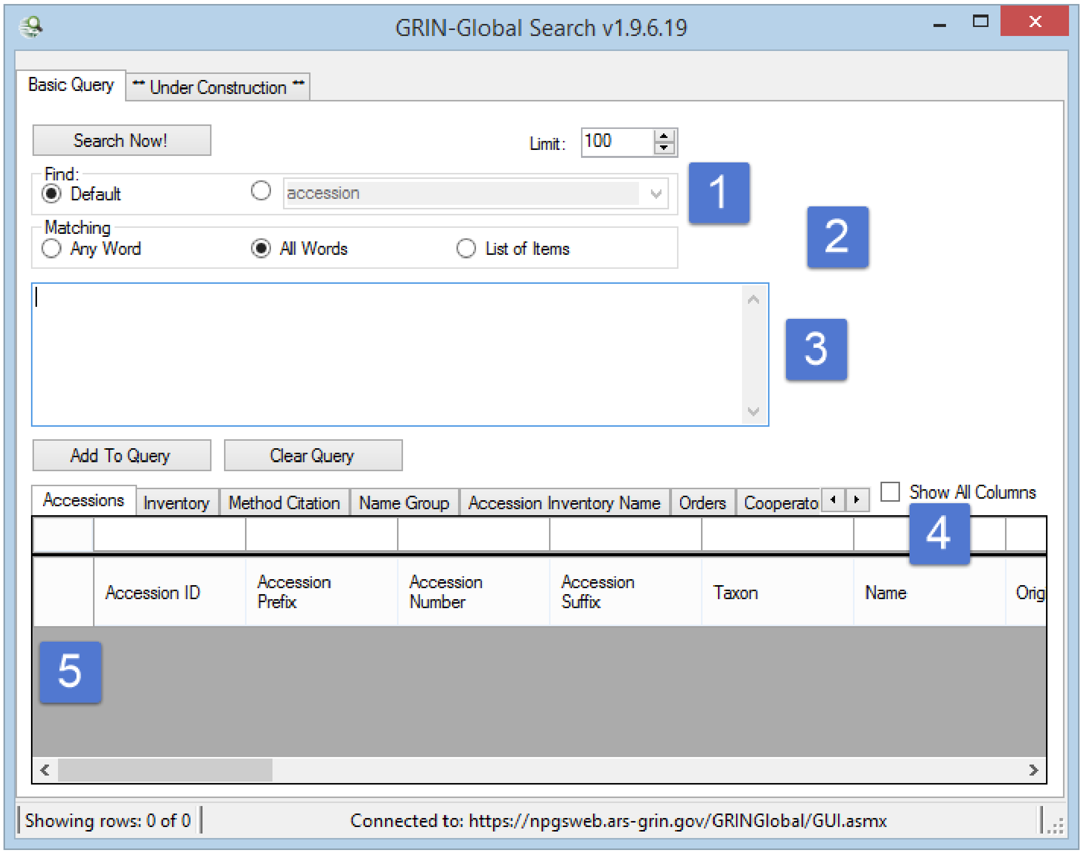


Windows 8.1:

You can search for records meeting specific criteria and then use the search results in various ways. For instance, you can:

- build static lists in the Curator Tool for ongoing tracking of these specific records. Refer to step-by-step details for managing lists. See the *Using Lists to Organize Data* section.
- build dynamic folders to manage a group of records that may change over time, with records being deleted or added – the Dynamic Folder can manage these records dynamically and remain up-to-date. See the *Dynamic Folders* section.
- drag the search results directly to a spreadsheet for further review

Search Tool Window



Number	Note
1	Find Panel: the **Default** radio button will usually be selected. In some cases, you will need to select a dataview name from the dropdown button (explained later).
2	Matching: Options for indicating the general type of search. For more details, click: OR, AND, and List of Items
3	The **Text** box: the search criteria are ultimately placed here for review. (You can enter "text" search criteria directly in this box, but "text box searches" are not recommended. See Text Box Searches for details.
4	QBE ("Query By Example") Cells: Enter sample search criteria in these cells. This is the recommended way for using the Search Tool. See QBE Searches for details.
5	Results grid: After the **Search Now!** button is clicked, the records satisfying the criteria are displayed here.

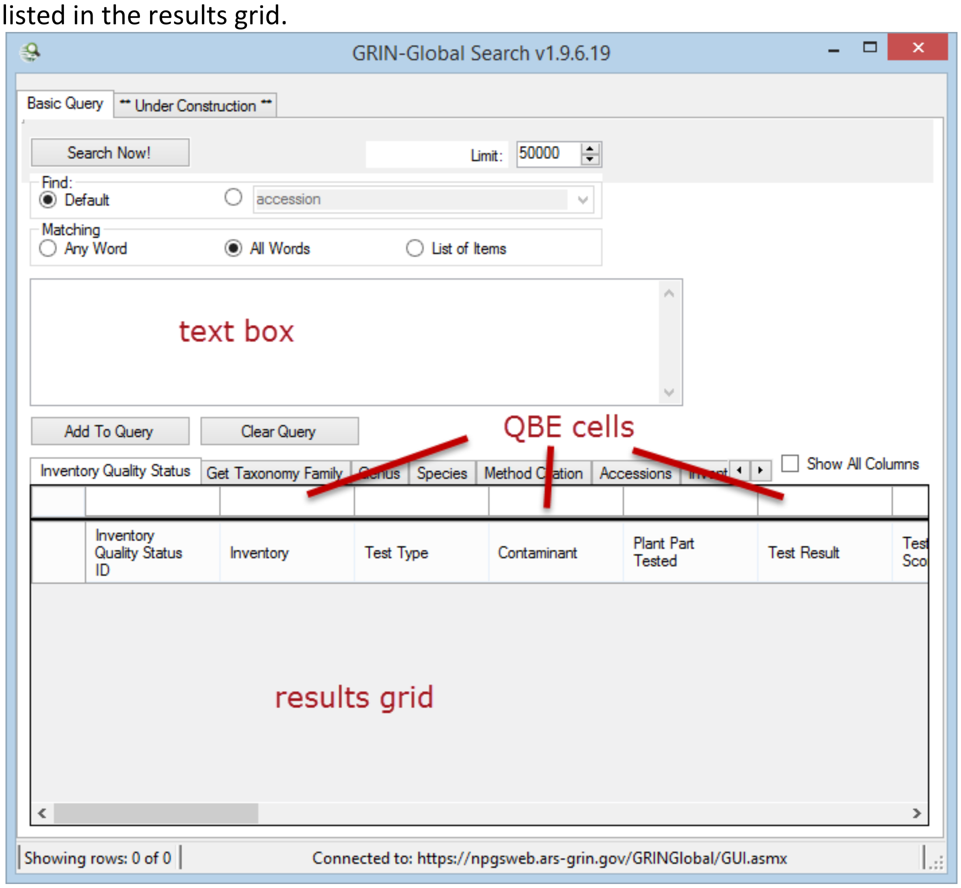
Two Distinct Search Methods

The Search Tool uses two distinct search methods:

- The user inputs basic criteria "freeform" in the text box. This is ***not*** the recommended approach for searches, but in some cases it is convenient. See Text Box Searches for details.

  The main issue with freeform searches is never really knowing why some records are returned by the search. There may be some odd results because you hit on multiple fields. For example, in the USDA GG system, if you run a text search for "Israel Capsicum," the Search Tool returns some Capsicum annum records from Israel and Turkey (donated from Israel). But it also displays a pair of Capsicum chacoense records from Paraguay. When you look at the accession detail for the last two records, you will see that one of the donors is "Israel Vargas." That probably wasn't what you expected when you did a search for "Israel." To be sure that sort of thing doesn't happen, use QBE to search a specific field.

- The recommended approach is the **"query-by-example"** search method. The user inputs sample data into the QBE cells directly above the search window's results area. When the user clicks the **Add To Query** button, a statement is generated in the text box. The found records will be listed in the results grid.



Tip

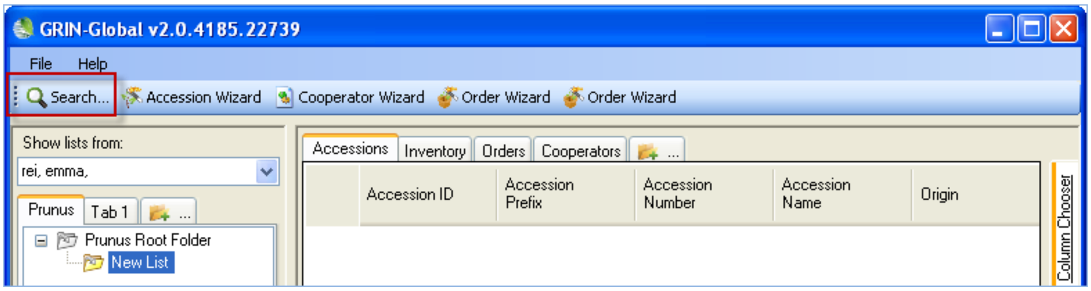
Use QBE as much as possible. After the QBE criteria is entered, you can click either the **Add to Query** or the **Search Now!** buttons. We recommend clicking **Add to Query**, because you can then review the search criteria (or edit the criteria if necessary).

In the background, the GRIN-Global search engine software differentiates QBE searches from the free form text searches by looking for the pattern **@table.field** -- if the search string doesn't match that pattern, it isn't a formatted QBE criteria – in that case, the search string is treated as a text search. (Users often ask if this @search parameter is "SQL" – it isn't (not exactly).)

Search Tool: Query By Example ("QBE Searches")

Starting a QBE Search

1. Click the **Search** button (from within the Curator Tool).

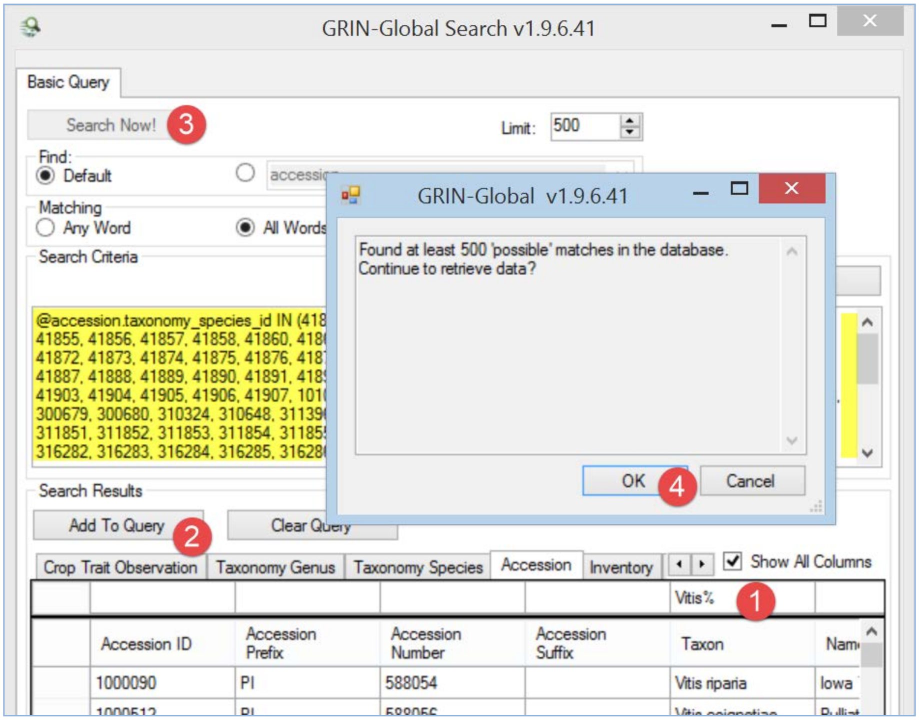


2. A separate Search window displays.

Tip

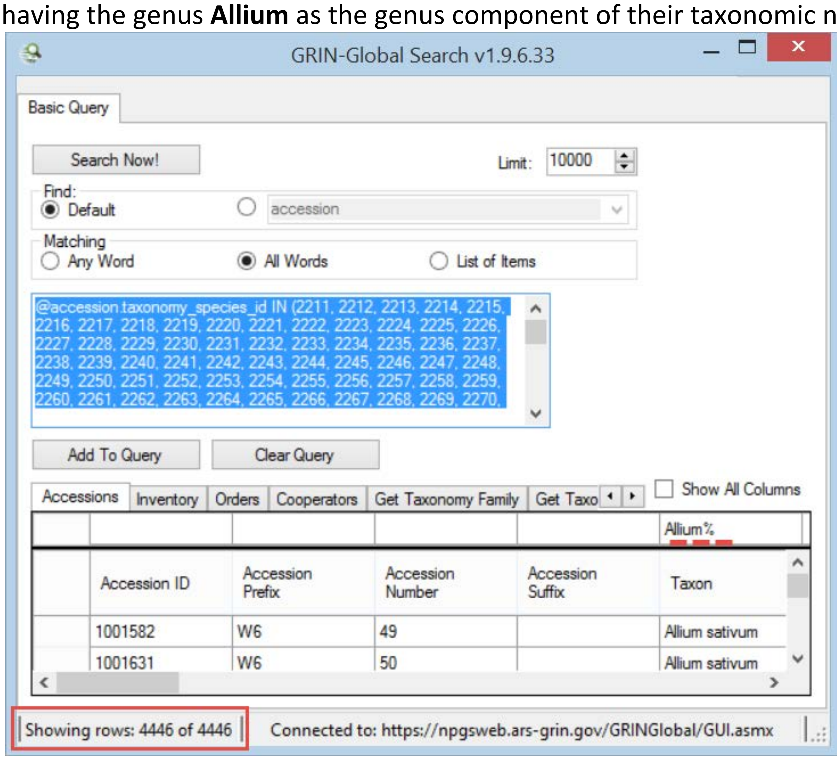
Before invoking the search steps below, increase or decrease the **Limit** as needed.

(1) Input search criteria in the "query-by-example" (QBE) cells; (2) click the **Add To Query** button; (3) click the **Search Now!** button; (4) click OK.



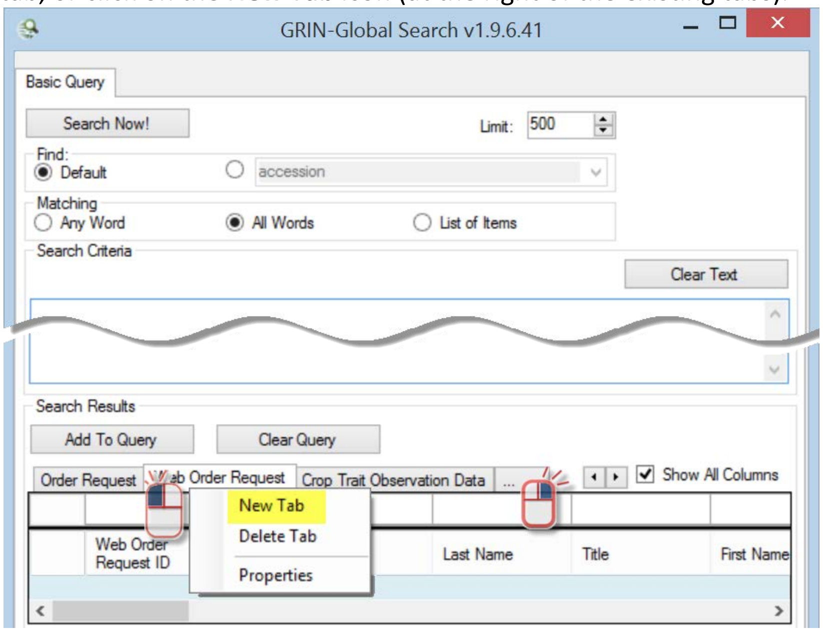
If the database contains records that match your criteria, the text box will be filled with the relevant code generated by your search criteria. (Shown above in yellow highlighting.)

In the following example, the user had entered **Allium%** in the Taxon QBE cell. The percent symbol (%) and the asterisk (*) are wild card characters indicating any character. 4446 records were returned, all having the genus **Allium** as the genus component of their taxonomic name:



Adding Tabs in the Search Tool

Each tab in the Search Tool is a dataview tab. To display additional tabs, either right-click on an existing tab, or click on the **New Tab** icon (at the right of the existing tabs).



Deleting Tabs in the Search Tool

To delete dataview tabs, right-click on the tab and select the Delete Tab option.

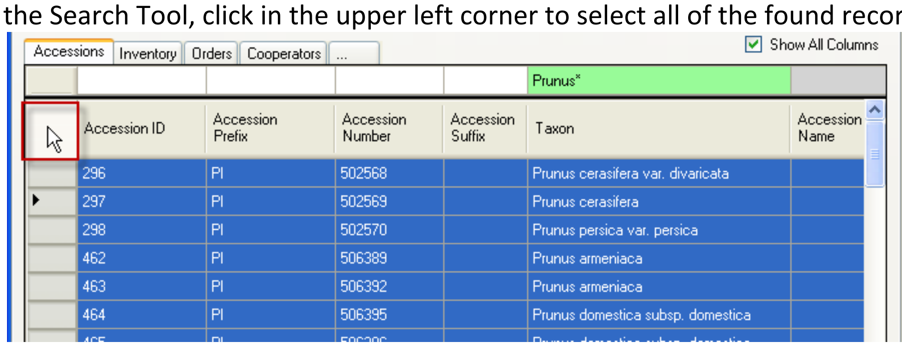
Editing or Saving the Results of a Search

You can read the search results, but you cannot edit the data directly in the Search Tool's grid. To edit the database records, or to review the same data later, you need to drag the data from the Search Tool grid to somewhere else – either to the Curator Tool, or to a spreadsheet.

In the Curator Tool, you typically build *lists* to point to these records for future reference. See the *Using Lists to Organize Data* section for details. Alternatively, you can drag the generated code to the CT to create a Dynamic Folder. See the *Dynamic Folders* section.

Tip

The data found by a search may also be copied into other applications, such as a spreadsheet. In the Search Tool, click in the upper left corner to select all of the found records:



You can select multiple records, using the mouse and **Ctrl** and/or the **Shift** keys, just as you can select multiple rows in a spreadsheet.

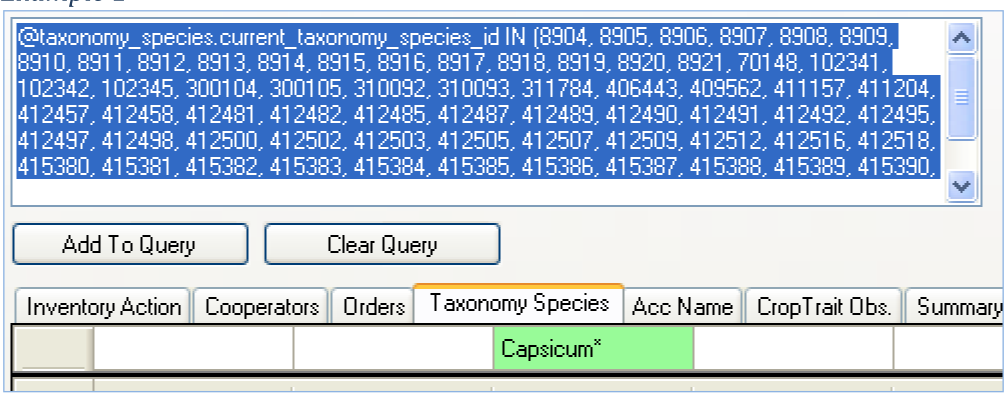
Search Criteria (QBE)

QBE Search Code

When executing a QBE search, before displaying the found records, the search produces a “coded” text version of your QBE search in the text box. This code can give you an idea of what the QBE search is doing–it will specify the actual database field names, and depending on the fields selected, will sometimes list the primary keys of the records that fit the search criteria.

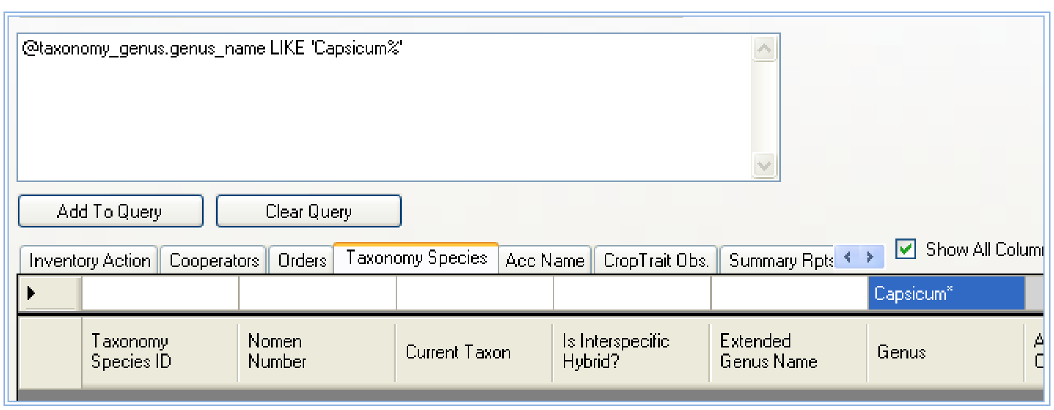
The following two search examples are similar. The user in both cases inputted a Genus name with a wildcard (**Capsicum***). Why is their resulting code so different?

Example 1



Example 2

@taxonomy_genus.genus_name LIKE 'Capsicum%'



In the first example, the search is looking at key values. The search first uses a related lookup table, in this case taxonomy.species.lookup, and does a comparison for **Capsicum%.** It then returns all of the corresponding keys that match: “ ...IN (8904, 8905...)” (This all happens even before the user hits the **OK** button to proceed.)

In the second case, where genus.name is being looked at in the taxonomy.genus table, genus_name is a text field, hence the “LIKE” operator.

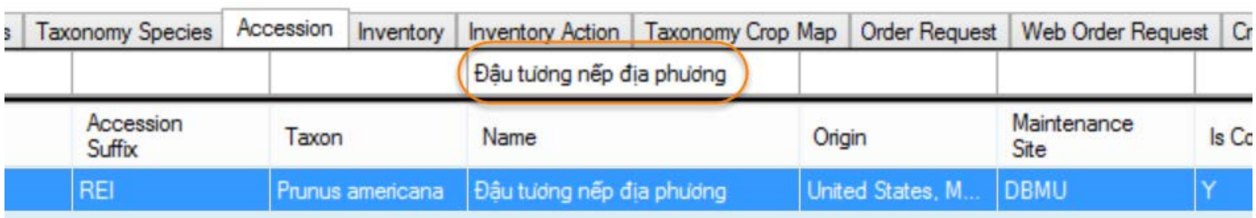
Case Sensitivity

Generally, all characters entered in a query are used. The case sensitivity of your search will depend on how the GRIN-Global database is set up:

- If the database is installed as case-sensitive (this is the default for the Oracle and PostgreSQL database engines), the queries will be case-sensitive.
- If the database is installed with settings to make the database case-***in***sensitive (this is the default for Microsoft SQL Server and MySQL database engines), then the queries will be case-insensitive too. (For example, the U.S. National Plant Germplasm System uses MS SQL Server.)

Special Characters

Special characters and letters with diacritical marks and accents (such as á) can be entered in the Search text box.



You can copy special characters from the Windows clipboard. Another method is to enter the character using the Windows “Alt key – numeric codes” method. Refer to the following webpage for the common codes:
http://tlt.its.psu.edu/suggestions/international/accents/codealt.html

This website also contains directions for loading and using international keyboards which provide the special characters directly on the keyboard, using specific key combinations.

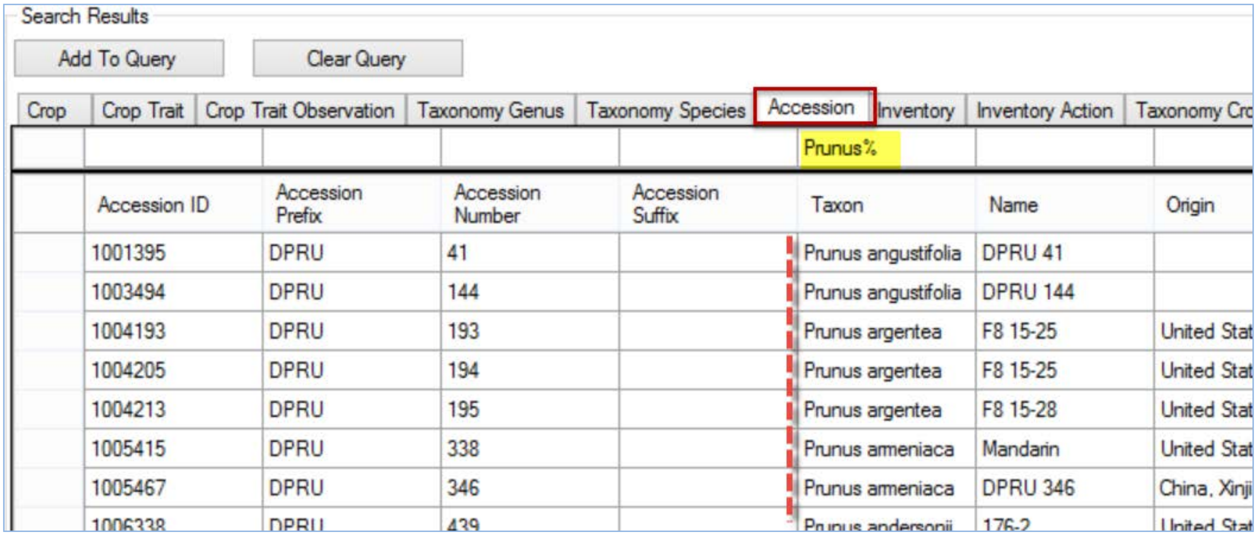
Wildcards

The QBE cells accept wild card characters. (See wildcard table.)

General guidelines:

- do not use quotes in QBE cells
- use the % or * to broaden a search; preferably the %. Date fields require the %. They can be used to substitute for any character and any number of characters.
- The underscore character (_) is a single-character wild card. If you need to specifically search for an underscore character, enclose the underscore within brackets [_]
  Example: @inventory_action.action.name_code LIKE ‘INS[_]%’

Example: **Prunus%** is appropriate when searching by **Prunus** in the QBE Taxon cell since the Taxon includes the genus and species:



Wildcards, Criteria Operators, and Search Field Types

The following table illustrates the supported wildcards and operators in QBE searches:

Wildcard / Operator	**Examples / Notes**
% (percent symbol) * (asterisk – not)	Use to broaden searches, especially when the exact spelling is unknown. The field must be a text field. Either wildcard (% or *) allows a match of any string of any length (including zero length) In 1.9.6.41 it is recommended to only use the % rather than the *. (Date searches work with %, but not with * - this is a known (reported) bug.) Examples: **Rubus%** **Prunus%var** will locate any Prunus with “var” included; **%var%** will locate any accessions with the text “var” as part of its taxon **‘2015%’**

_
(underscore)
	The wild card underscore character **_**
	Represents any *single* character. Multiple underscores may be used if needed. The field must be a text field.
	
	Solanum_x% will find:
	    Solanum x doddsii and
	    Solanum x sucrense
	
	If you need to search for the underscore character rather than have it act as wildcard, enclose it in brackets, such as:
	@inventory_action.action_name_code LIKE 'INS[_]%'
	(in this example, the 4th character must be an underscore character)

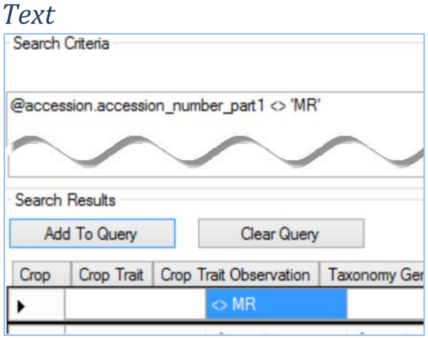
<> (not equal to)	Can be used to indicate “not equal to.” The field can be either a text or numeric field. – when the field is a *text* field, the criterion must be enclosed by quotes – single quotes: ‘PI’ or double quotes: “PI” – when the field is a *numeric* field, the criterion *is not* enclosed in quotes For details, refer to Searching with <>
IS NULL / IS NOT NULL	NULL values represent missing unknown data. By default, a table column can hold NULL values.

Wildcard / Operator	Examples / Notes
	Note: NULL and 0 are not equivalent. For details, refer to Searching for NULL or NOT NULL
IN / NOT IN	Used when the criterion field is using a lookup table. (Lookups generate an **IN (…)** clause.) The numbers in the parentheses are the Lookup Key values in the database. For details, refer to Searching with IN and NOT IN
LIKE	The LIKE operator is used to search for a specified pattern. Example: **LIKE 'CAPSICUM%'** In this case the QBE is saying find any text that begins with "Capsicum." The trailing percent symbol indicates that any records with any text after "capsicum" should be included if found.
~~"BETWEEN"~~	BETWEEN is *not* a valid operator. When a range of values is needed, construct your criteria using a range. For example: @order_request.ordered_date > '2015-01-31' AND @order_request.ordered_date < '2015-03-01' (finds the orders for February, 2015)
Date Fields	Searching for dates can be tricky because the date field includes the time of day as well. Refer to Date Fields for details.

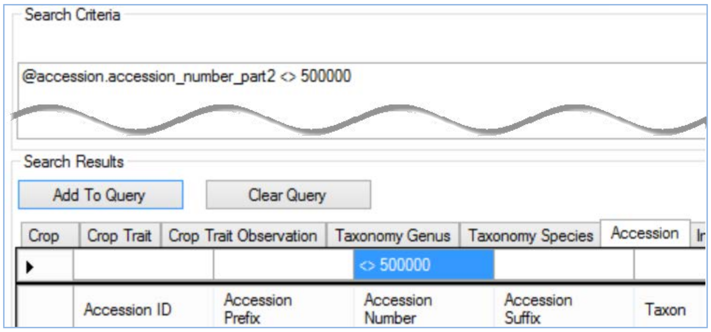
Search with <>

The <> symbol means "not equal to." When the field is text, the text criterion must be in quotes. When a number, do not use quotes.

Text



Numeric Field with <>



Searching for NULL or NOT NULL

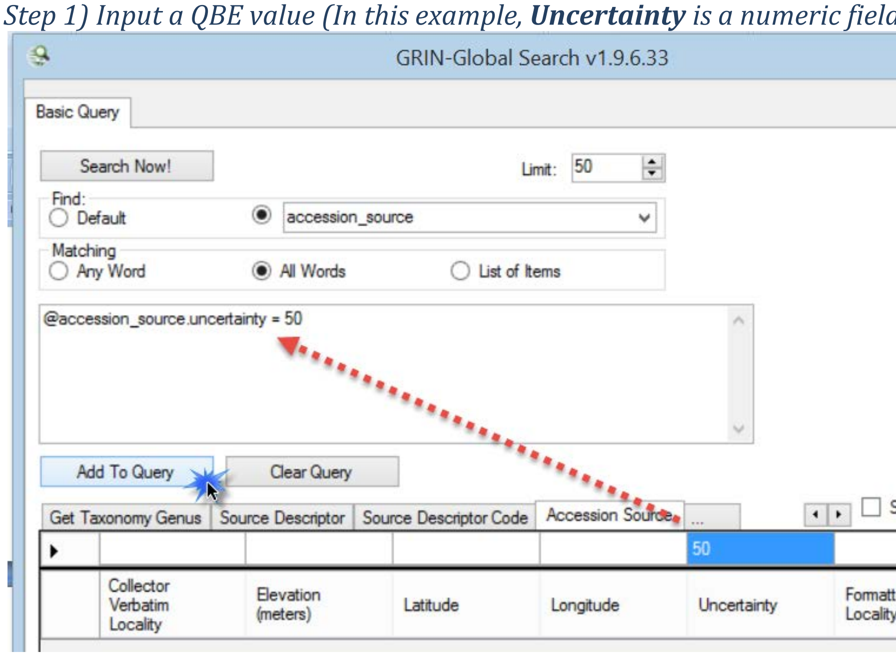
By default, a table column can hold null values. If a column in a table is optional, a new record can be inserted or an existing record can be updated without supplying a value to the column. The field is considered to have a NULL VALUE. NULL and 0 are not equivalent.

You can test for "IS NULL" or "IS NOT NULL" (case doesn't matter). When searching for IS NULL or IS NOT NULL, do not use comparison operators, such as =, <, or <>.

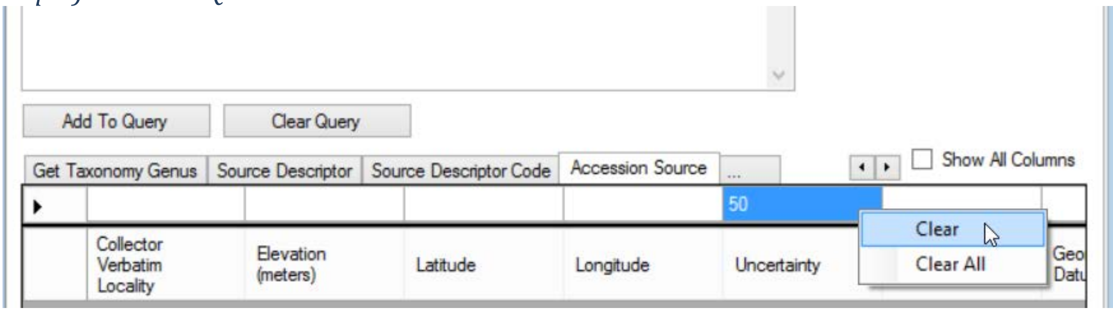
When setting up a QBE Search, you can use a value to generate the table.fieldname code, and then edit with IS NULL or IS NOT NULL.

For example:

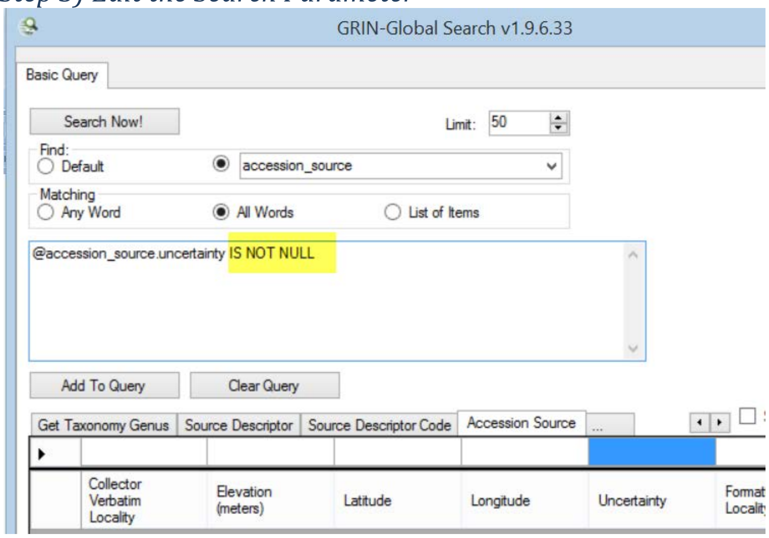
Step 1) Input a QBE value (In this example, ***Uncertainty*** *is a numeric field)*



Step 2) Clear the QBE value



Step 3) Edit the Search Parameter

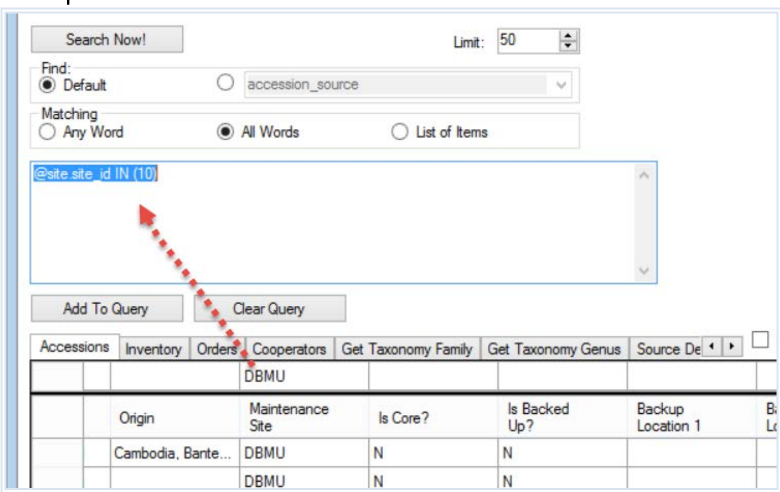


Step 4) Run the Query (click the ***Search Now!*** *button)*

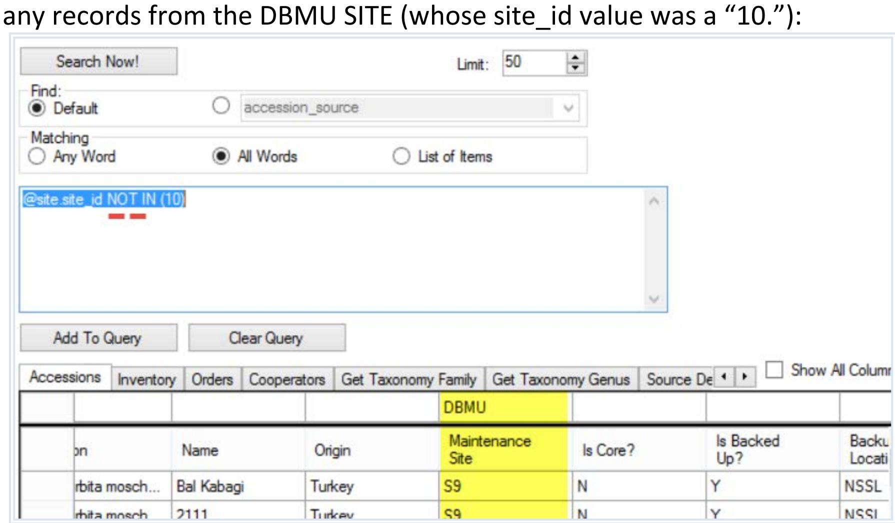
Searching with IN and NOT IN

Fields using lookups will generate **IN (…)** in the text box. The numbers in the parentheses are the Lookup Key values in the database.

Example:



If the condition is to exclude certain records, use **NOT IN**. In the example below, the user did not want any records from the DBMU SITE (whose site_id value was a "10."):



Date Fields

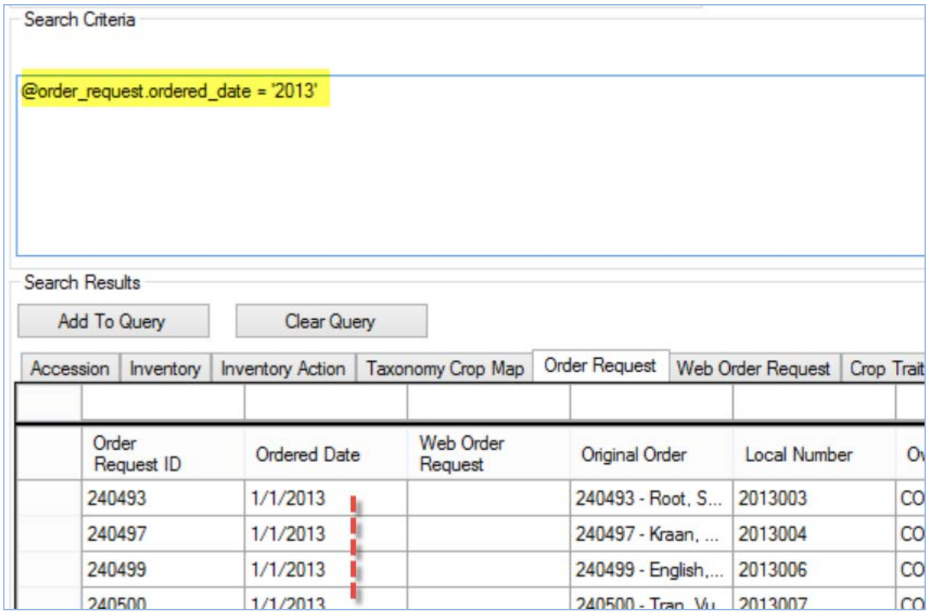
Date fields physically store the date *and the time of day*. The search also uses *Greenwich Mean Time*. When searching, your search string in the QBE box needs to mimic the internally-stored version, which is based on the database engine on which GRIN-Global is running. (GG can run on any one of four database engines – each organization decides which to use.

For example, in the U.S., the NPGS is using Microsoft SQL Server.

Microsoft SQL Server

Internally a date is stored in the **yyyy-mm-dd time...** format, although in the U.S. English version the user sees the date displayed in the mm/dd/yyyy format.
Searching for dates can be tricky because the date field includes the time of day as well.

In the following example, the results may not be what you would have expected:



When reviewing the results, you will see that all of the found records had the date January 1, 2013. Just specifying the year was not sufficient.

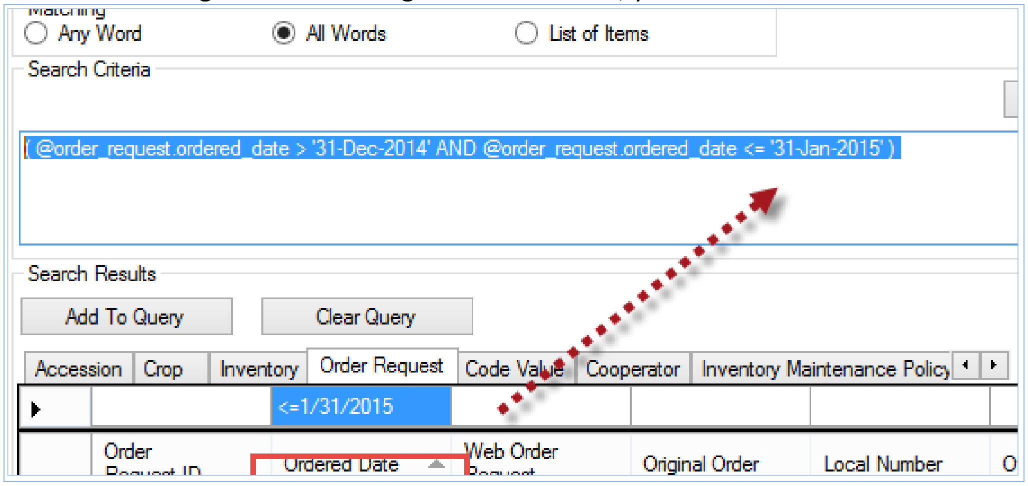
Date Ranges

For date range, there is no BETWEEN option, but you can specify a beginning and ending date. The search works when you use the complete year, day, month, and year, such as:
(@order_request.ordered_date >= '14-Jan-2011' AND @order_request.ordered_date <= '17-Jan-2011')

Specifying **<=2014** includes all of 2013.
Example:
(@order_request.ordered_date > '2012-12-31' AND @order_request.ordered_date <= '2014')

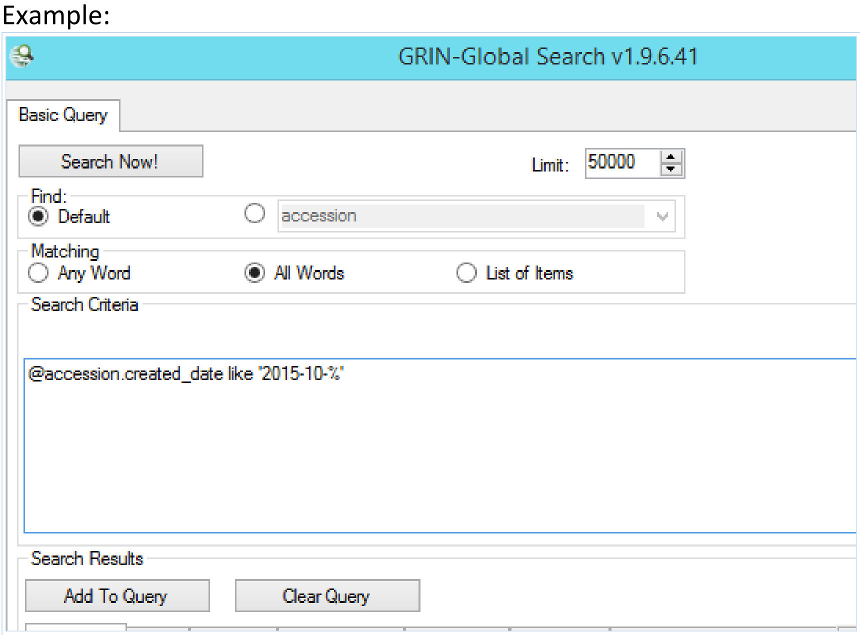
2nd Example:
(@order_request.ordered_date > '31-Dec-2014' AND @order_request.ordered_date <= '31-Jan-2015')
returns January 2015 records.

Note: when using the QBE cell to generate the code, you can use the slash date format:



The Wildcard (%) is permitted
If a wildcard is used anywhere, also be sure to use a trailing % wildcard on the end of the string to pick up the time component. NOTE: using wildcard for just day or year, the month must be uppercase or the query will fail.   Most other useful formats: **MM/DD/YYYY** or **MM/DD/YY** or **YYYY-MM-DD** are supported, but they do not accept wildcards. Use the **%** - not the *

.
Example:



Returns the records for October 2015 (the 10th month)

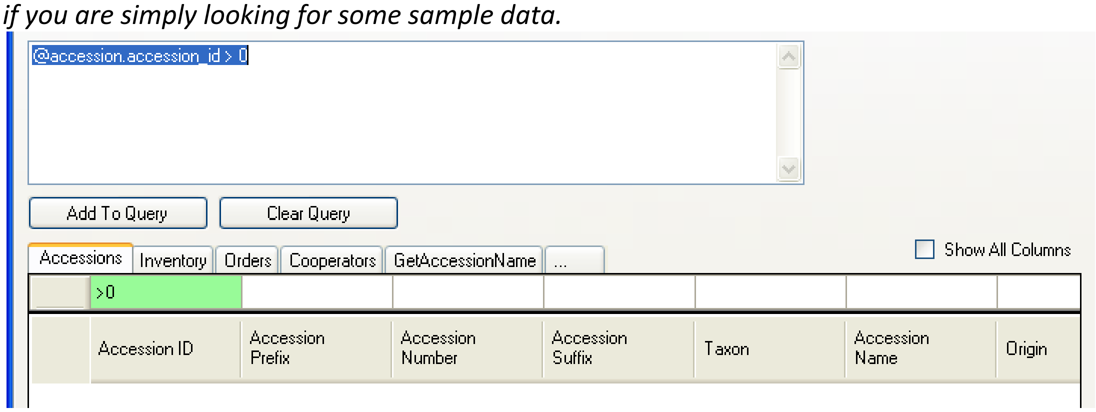
Best query is in the format: **YYYY-MM-DD** (Trailing wildcard is required or the query will fail.)
No other date formats are supported. So the following are valid searches:
@accession.created_date like '2015%'
@accession.created_date like '2015-09-%'
@accession.created_date like '2015-09-05%'
@accession.created_date like '2015-%-05%'

For consistency, time is converted to Greenwich Mean Time (GMT). For example, records added on the East Coast at 10 pm may be found showing the next day’s date.

Search All

There is a handy method in the QBE for doing a “Search All.” In the QBE, the left column is the table’s primary key field. Since these key fields are numeric and have a value greater than 0, if you enter **>0,** the search will find all of the records.

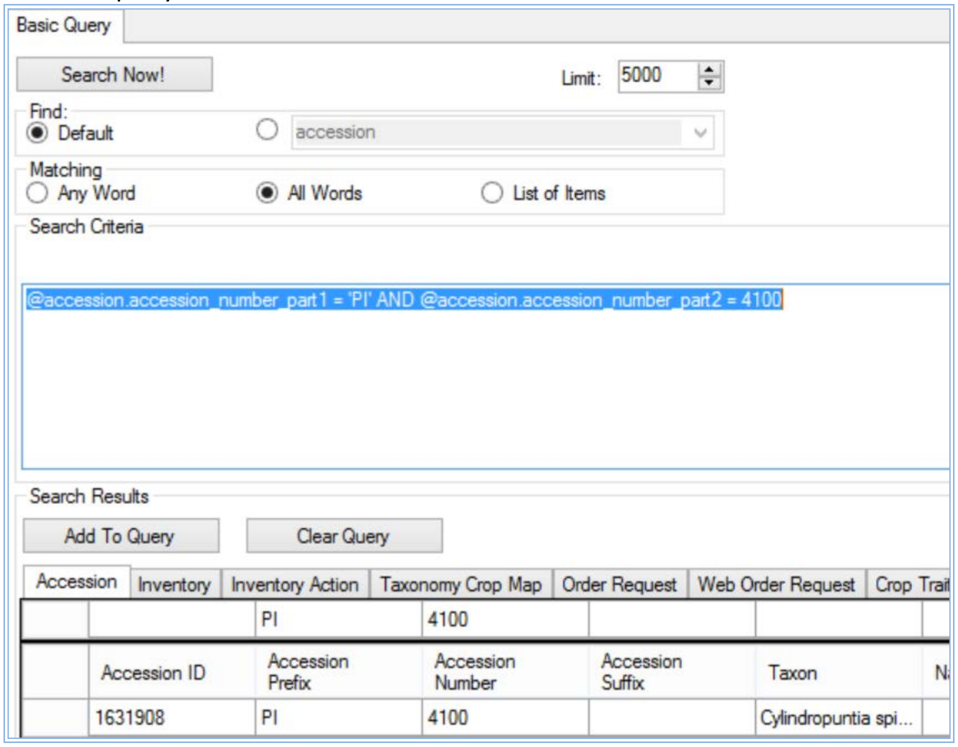
When using this technique on large tables such as inventory which may have millions of records, be sure to set the Limit field (the maximum number of returned records) to a reasonable number if you are simply looking for some sample data.



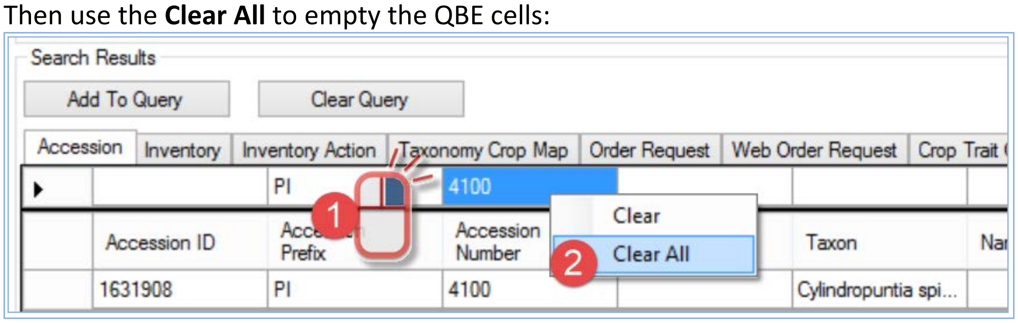
Manually Modifying the Search Text

The coded search text can be manually modified. For example:

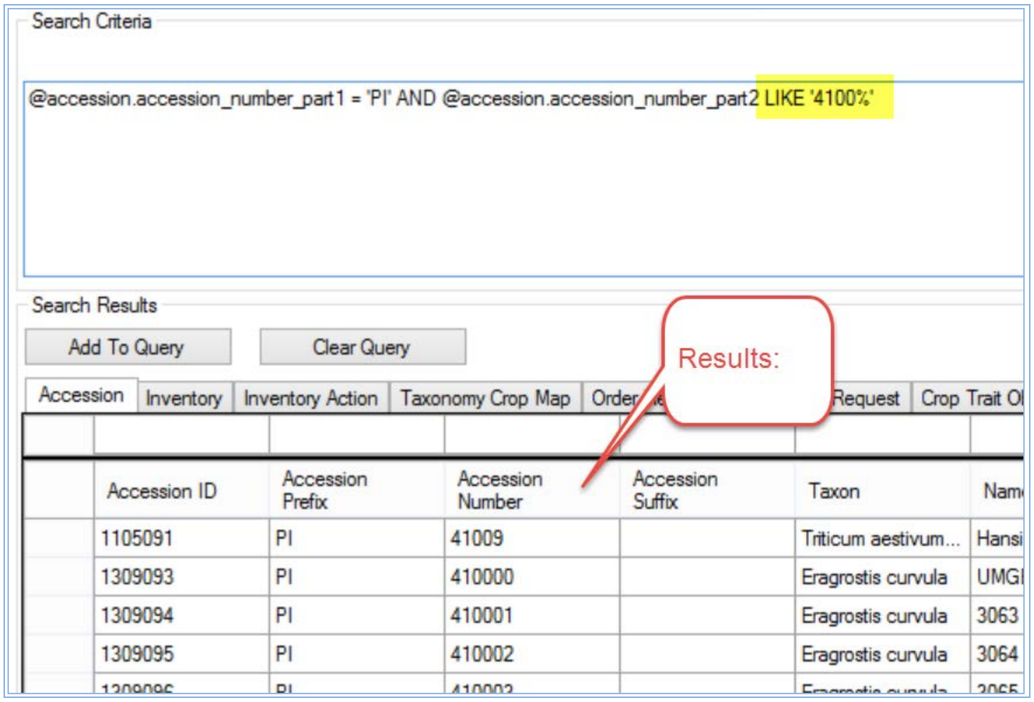
Run this query first:



Then use the **Clear All** to empty the QBE cells:

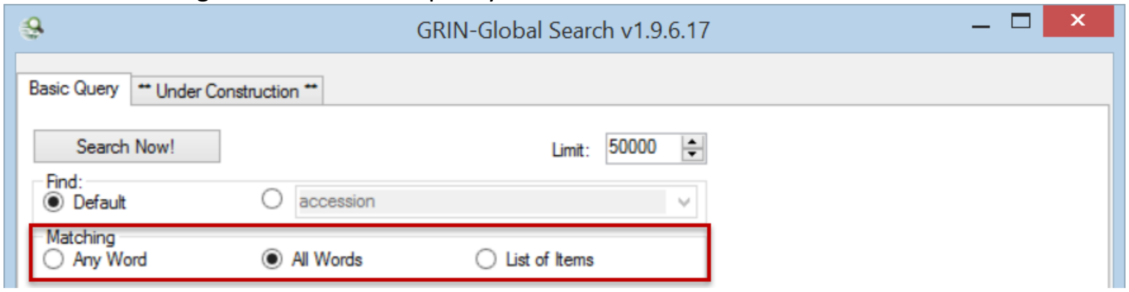


… and manually edit the text as shown below. (The Accession Number field is numeric, but by using the word **LIKE**, the data and the wildcard in quotes (**'4100%'**), records were found:


Search Criteria
@accession.accession_number_part1 = 'PI' AND @accession.accession_number_part2 LIKE '4100%'
Search Results
Add To Query
Clear Query
Results:
Accession
Inventory
Inventory Action
Taxonomy Crop Map
Request
Accession ID
Accession Prefix
Accession Number
Accession Suffix
Taxon
1105091
PI
41009
Triticum aestivum...
1309093
PI
410000
Eragrostis curvula
1309094
PI
410001
Eragrostis curvula
3063
1309095
PI
410002
Eragrostis curvula
3064

Any Word vs. All Words ("OR" and "AND" in the QBE Search Method)

Use the Matching radio buttons to specify how the text in the search criteria text box should be treated:



When inputting search criteria in two or more cells, the search condition that is created depends on whether you have selected the radio button **All Words** or **Any Word**:

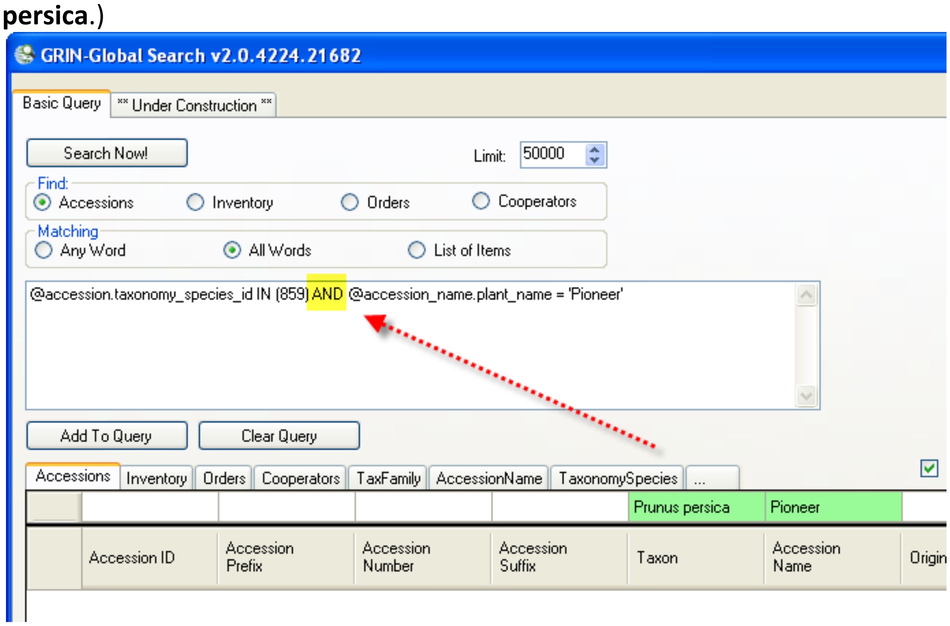
- ***Any Word*** – less restrictive, records are returned whenever any word in the search box is matched; the criteria in multiple QBE cells work together as an "OR" …when any one of the search criteria are met, records will be found

- ***All Words*** – more restrictive, *all* of the words used in the search text must match (see the first example below); this creates an "AND" condition

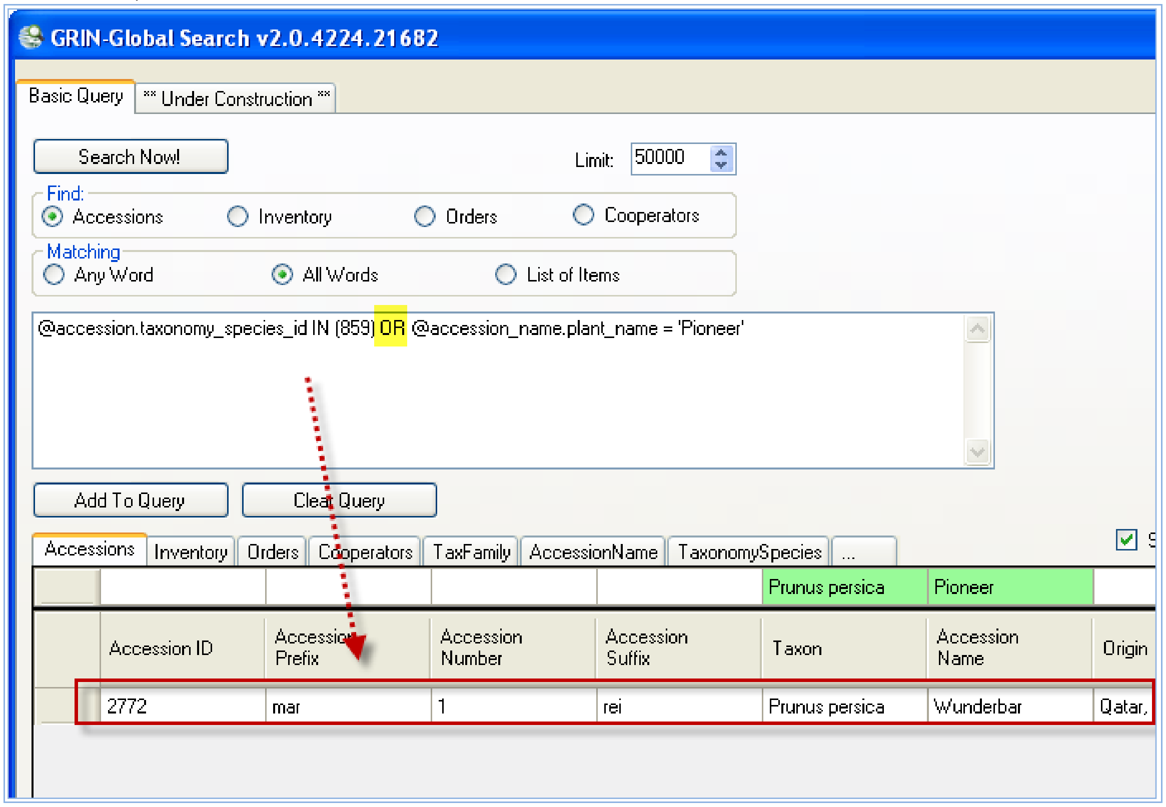
Example:

In a test database, using the search string **Rubus glaucus*,** with "*All Words*" -- only four records were found. With "*Any Word*," selected, 48 records were found – 4 of the 48 are the **Rubus glacus**. So the other 44 records found had either **Rubus** or **glaucus** in their name. (42 happened to be **Rubus,** including the four **Rubus glaucus**, and six were **Elymus glaucus**.)

No records were found in the following query. The succeeding query illustrates what happens when "AND" is edited to an "OR." (The key value 859 in this lookup is the key value for the species **Prunus persica**.)



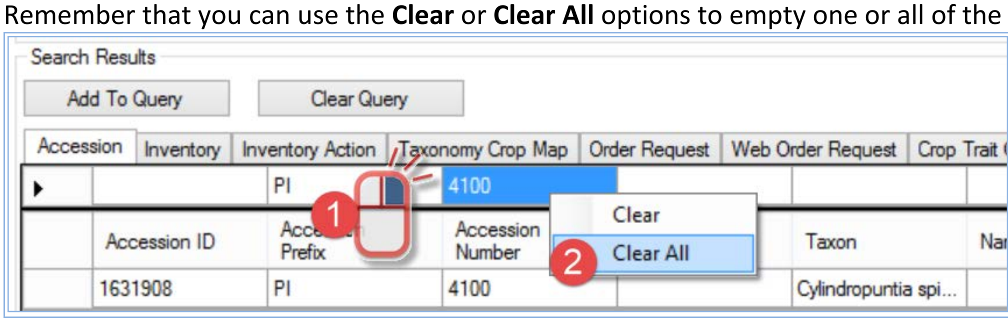
In this case, one record was found:



Adding Criteria

Add criteria to your search with the **Add To Query** button. When doing so, pay attention to the construction of your search statement in the text box. "AND" is generated when the All Words radio button is selected and you have selected items from different QBE cells. But when you add items one at time from the same QBE cell, the ST correctly inserts an "OR." If you think about this, it is logical to do so, since if you were to supply first Prunus* in the Taxon cell and then Rubus* - it would only be sensible that this is an "OR situation.

Remember that you can use the **Clear** or **Clear All** options to empty one or all of the QBE cells:

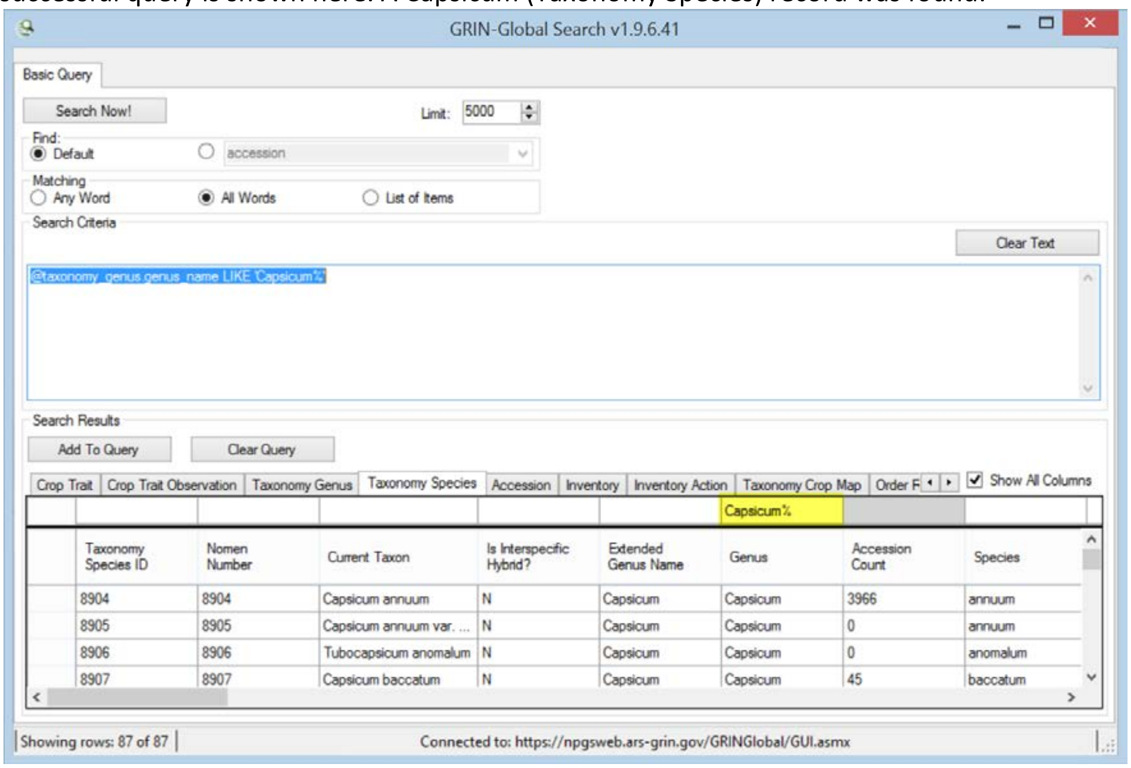


Criteria Code Explained

Read the following section if you are interested in the technical details of a QBE search. We include this section in the User Guide primarily because some users will be creating dynamic folders in the Curator Tool, and having a basic understanding of QBE code is helpful.

In creating your QBE searches, you will notice code being generated in the text box as we have seen in the search examples above.

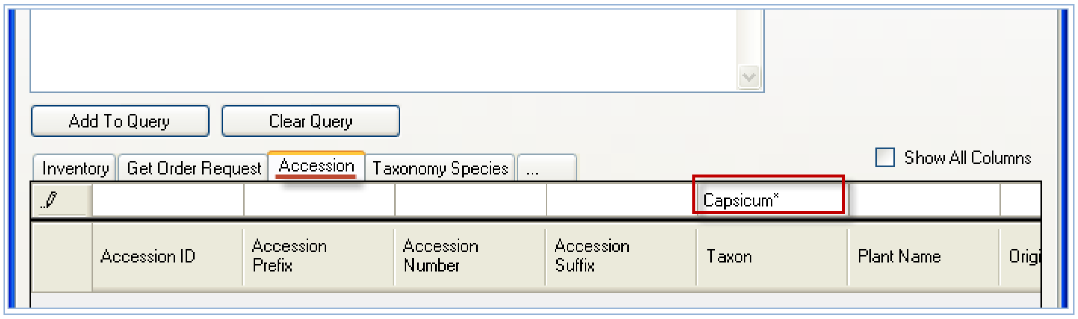
Let's look at two QBE examples that on the surface seem to be similar searches. In this first example, the user will open the Taxonomy Species dataview and look for records whose Genus is **Capsicum**. As recommended, the user will include a wildcard (%) in the QBE text to broaden the search. After the user clicks the **Search Now** button, the Search Tool generates the code (illustrated below). The result of the successful query is shown here. A Capsicum (Taxonomy Species) record was found:



@ taxonomy_genus.genus_name LIKE 'CAPSICUM%' Let's break out this code into three components:

Code	Indicates...
@taxonomy_genus	the table; the taxonomy_genus in the database will be searched
genus.name	the field name in the table
LIKE 'CAPSICUM%'	The LIKE operator is used to search for a specified pattern; in this case the QBE is saying find any text that begins with "capsicum." The trailing asterisk indicates that any records with any text after "capsicum" should be included if found.

In this next example, the user has the Accession dataview open. Again , the user is looking for Capsicum:

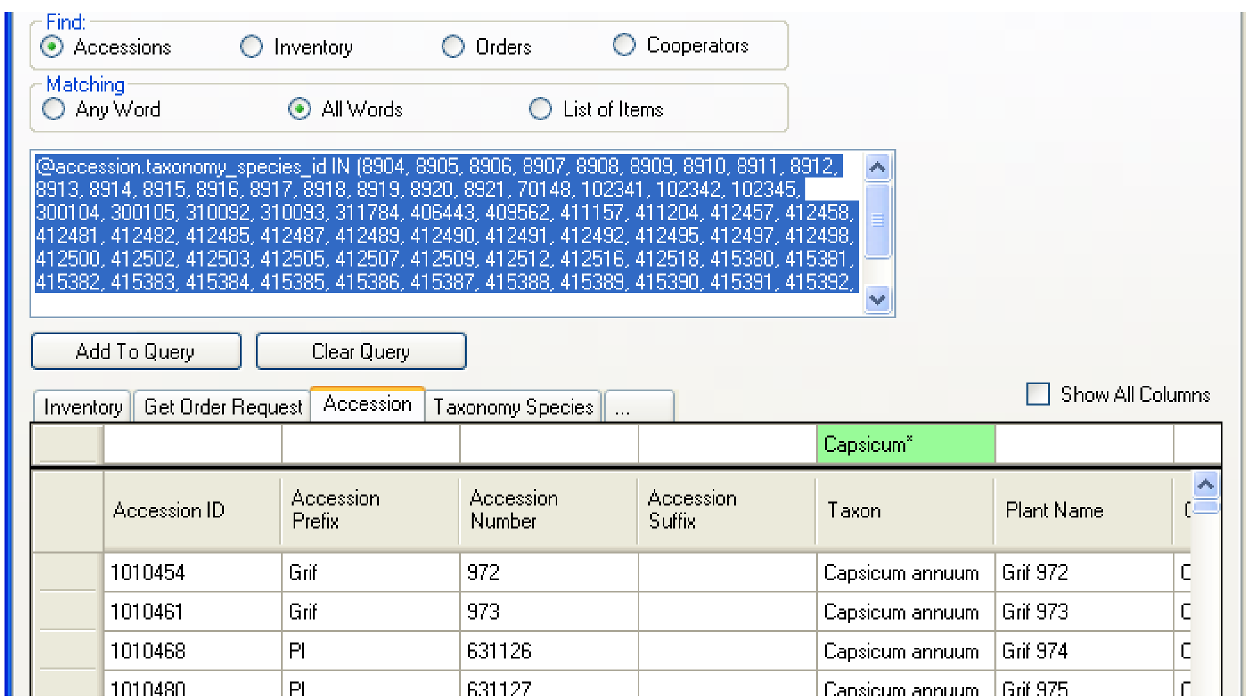


The resulting code generate by the QBE is shown on the following page. The code is quite different and does not resemble the code we just saw in the previous example.

@accession.taxonomy_species_id IN (8904, 8905, 8906, 8907, 8908, ...

Code	Description
@accession	the table; the accession table in the database will be searched
taxonomy_species_id	the field name in the table
IN (8904, 8905, 8906, 8907, 8908, ...	Since the taxonomy_species_id field is a key field, the search will use the related lookup table, taxonomy.species.lookup, to do a comparison and return all of the corresponding keys that match (8904, 8905, 8906, ...)

The illustration below is showing that records were found, as should be expected since the QBE had generated code with key values in the large text box:

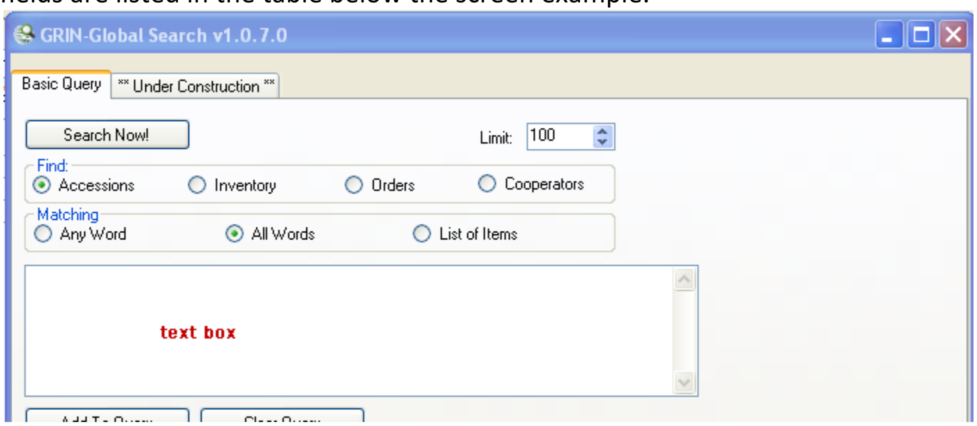


So you may be asking the question "Why *is* the code so different?" In both examples the user had typed the string "Capsicum*" –but the resulting code was not similar. In the first example, the Genus field is a text field – so the search was for any text similar to (**LIKE**) "Capsicum." In the second example, in the accession dataview, the search is using a field in a lookup table to find the numeric matches that correspond to Capsicum (IN 8904, 8905, 8906, 8907, 8908, ...)

Fortunately, as a Curator Tool user, you will not need to be too concerned about the actual code generated when you do a QBE search, but this overview should provide enough background for you to understand at a basic level the construct of these search statements.

Text Box Searches

In text box searches, the Search Engine only searches certain database fields. (This is one reason why a text box search is not the preferred type of search. That said, you can do text searches. The searchable fields are listed in the table below the screen example.



These are the fields used for text box searches:

Table Name	Field Name
accession	accession_number_part1, accession_number_part2, accession_number_part3, note
accession_ipr	ipr_number, ipr_crop_name, ipr_full_name, note
accession_inv_name	plant_name
accession_pedigree	description
cooperator	last_name, first_name
crop	name
geography	adm1, adm 2, adm3, adm4, country_code
inventory	inventory_number_part1, inventory_number_part2, inventory_number_part3,
taxonomy_common_name	name, simplified_name

Table Name	Field Name
taxonomy_family	family_name, alternate_name
taxonomy_genus	genus_name
taxonomy_species	nomen_number, species_name, name, alternate_name
code_value_lang	title

The text search behaves *similar* to Google searches ("similar," but not "exactly"). For information on Google searches, see: http://www.google.com/support/websearch/bin/answer.py?answer=134479

Case Sensitivity

Generally, all characters entered in a textbox query are used.

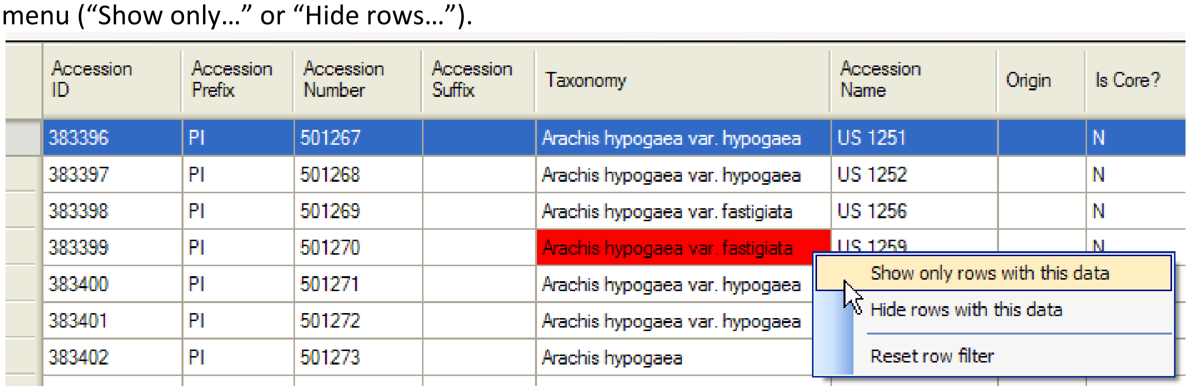
The case sensitivity of your search depends on how the GRIN-Global database is set up:

- If the database is installed as ***case-sensitive*** (this is the default for the Oracle and PostgreSQL database engines), the queries will be case-sensitive.

- If the database is installed with settings to make the database ***case-insensitive*** (this is the default for SQL Server and MySQL database engines), then the queries will be case-insensitive too. For example, the U.S. NPGS GRIN-Global system will be using SQL Server, so the searches will be case-insensitive.

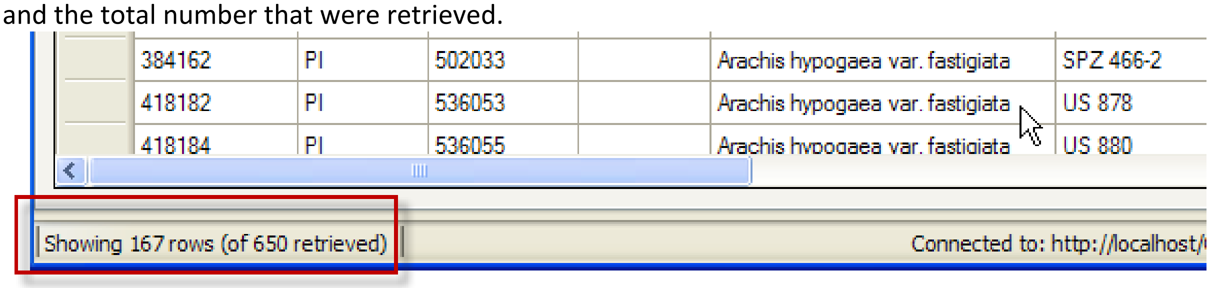
Filtering the Search Results

You can filter the search grid in order to display a subset of the records. Use any cell's contents as the basis for your filtering criteria. **Right-click** in the data cell; select the desired filtering choice from the menu ("Show only…" or "Hide rows…").



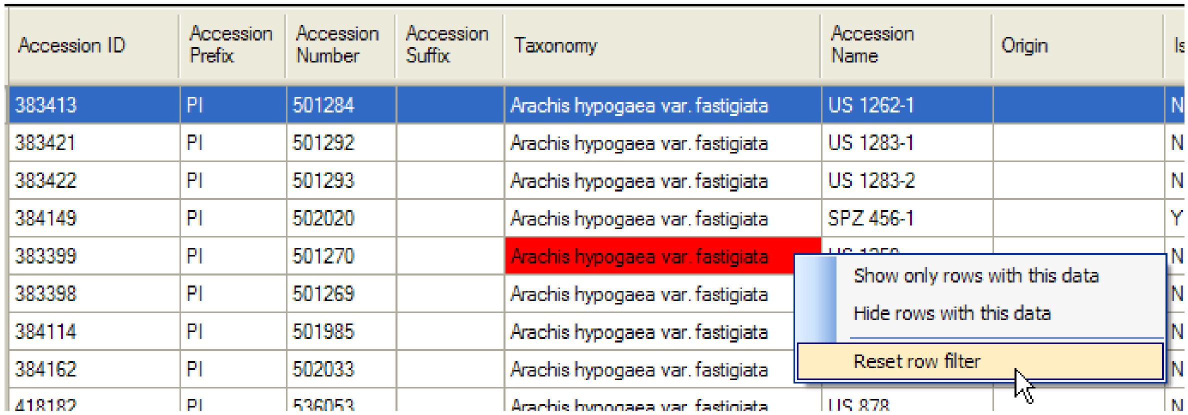
Record Counter

Notice that the record counter in the lower left corner indicates the number of records being displayed and the total number that were retrieved.



Displaying all Rows in the Grid (Turn off Filtering)

Right-click in *any* cell in the grid. Select **Reset row filter**.



Searching a List of Items

This option is used typically when a list, such as a list of accessions, is copied from a spreadsheet into the search text box.

When using this “List of Items” search, the Search Engine is restricted to finding matches in these columns:

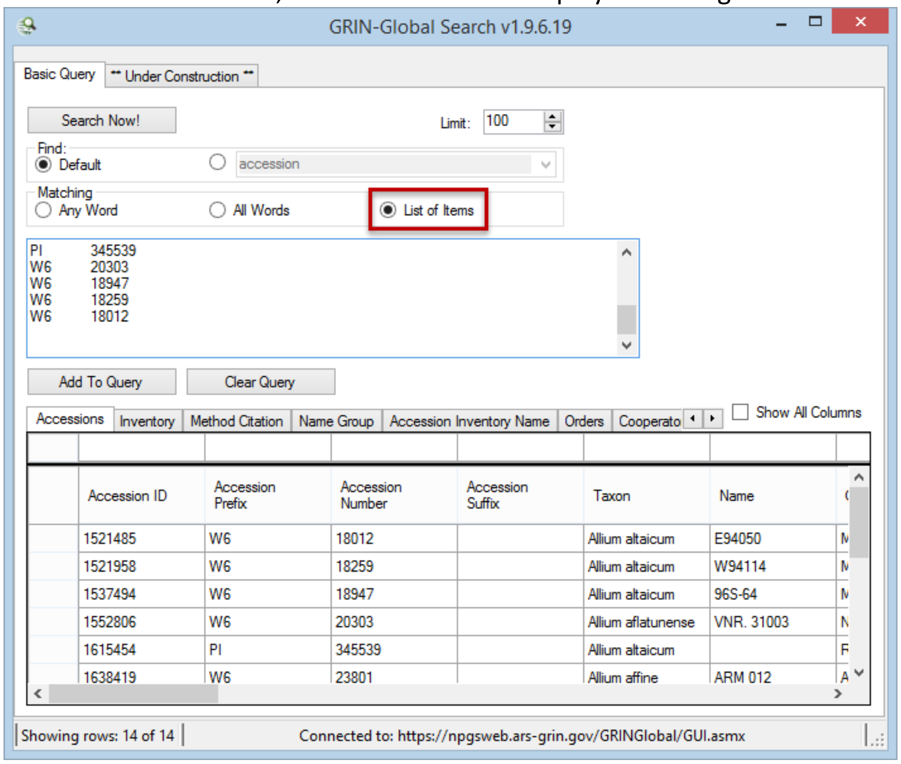
accession_number_part1
accession_number_part2
accession_number_part3
inventory_number_part1
inventory_number_part2
inventory_number_part3
form_type_code
plant_name
order_request_id

Example:

List of Items: (example)

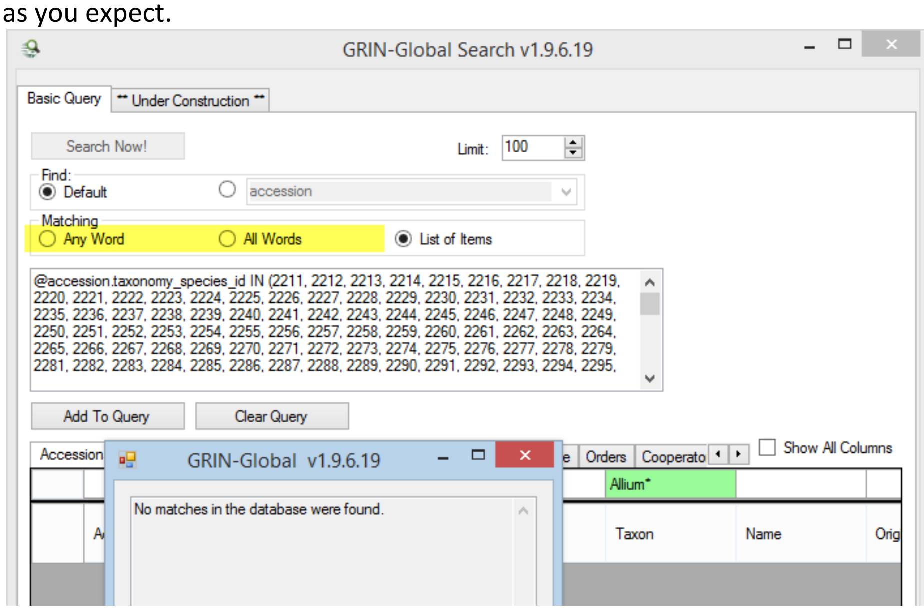
PI 500501
PI 612346
PI 612347

In the following example, accession identifiers were pasted into the text box and after the user clicked the Search Now button, she had 14 records displayed in the grid:



Note

Currently, when producing the list, the drag and drop method doesn't work – you must copy and paste the list of accessions or inventory into the text box. Also, remember to click on one of the other radio buttons after doing a "List of Items" search; otherwise, your search will not work as you expect.



Moving Records from the Search Grid to the Curator Tool Data Grid

After using the Search tool to locate and filter records in the database, you can copy those records into the Curator Tool. Why do this? CT users build lists to manage or track specific records. (Beginning with the Curator Tool version1.8.3, users have an alternative method for managing records, using the dynamic folders.)

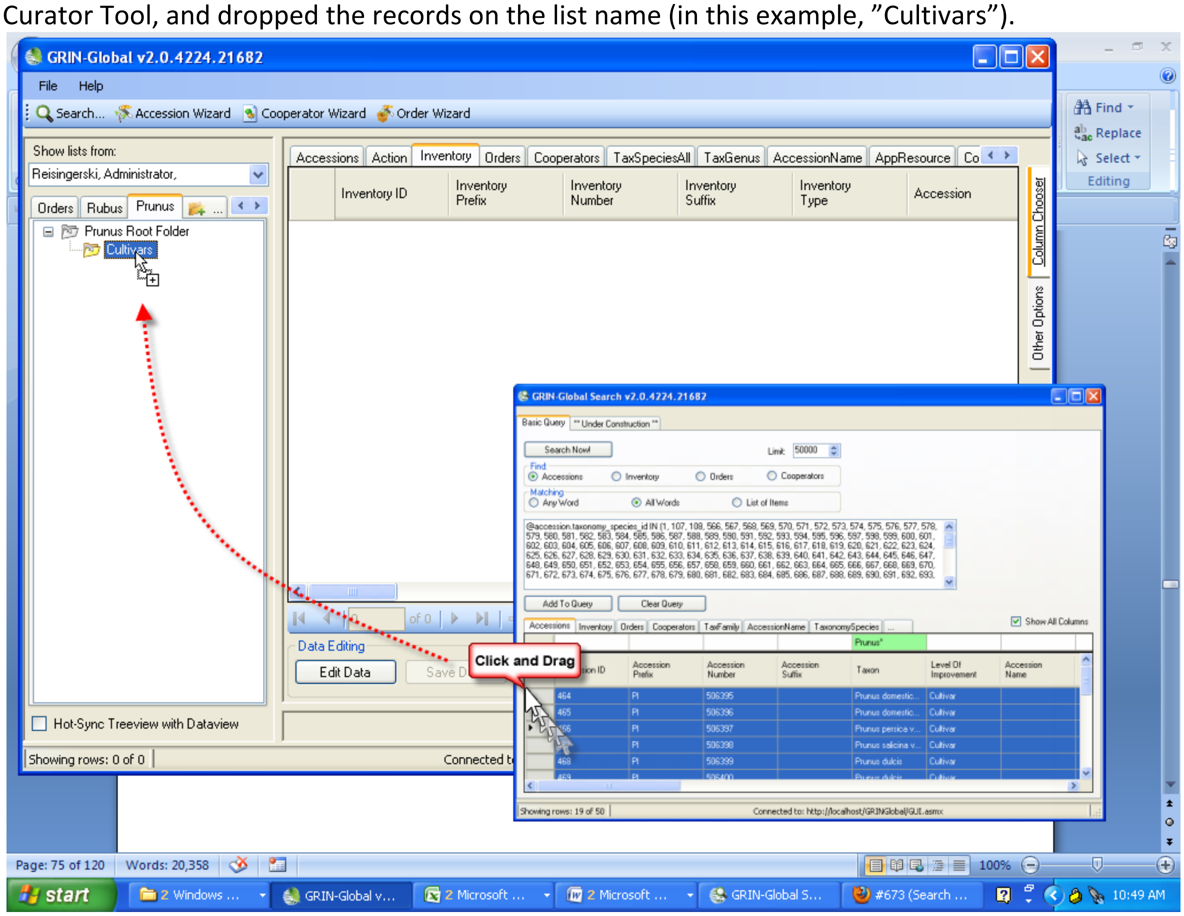
To Move Records from the Search Tool to the Curator Tool

1. In the Curator Tool, create a new list name or ensure that an existing list name is visible.
2. Confirm that you are not in Edit mode – the **Save Data** button is gray (disabled).
3. In the Search Tool, perform your search.
4. Select the records found that are to be copied. It could be all of the records found, or you could select a subset of the records by highlighting specific records in the Search Tool's grid. (See "Selecting Records in a Grid" for details.) To select all the records in the Search grid, use **Ctrl-A** (in English keyboards).

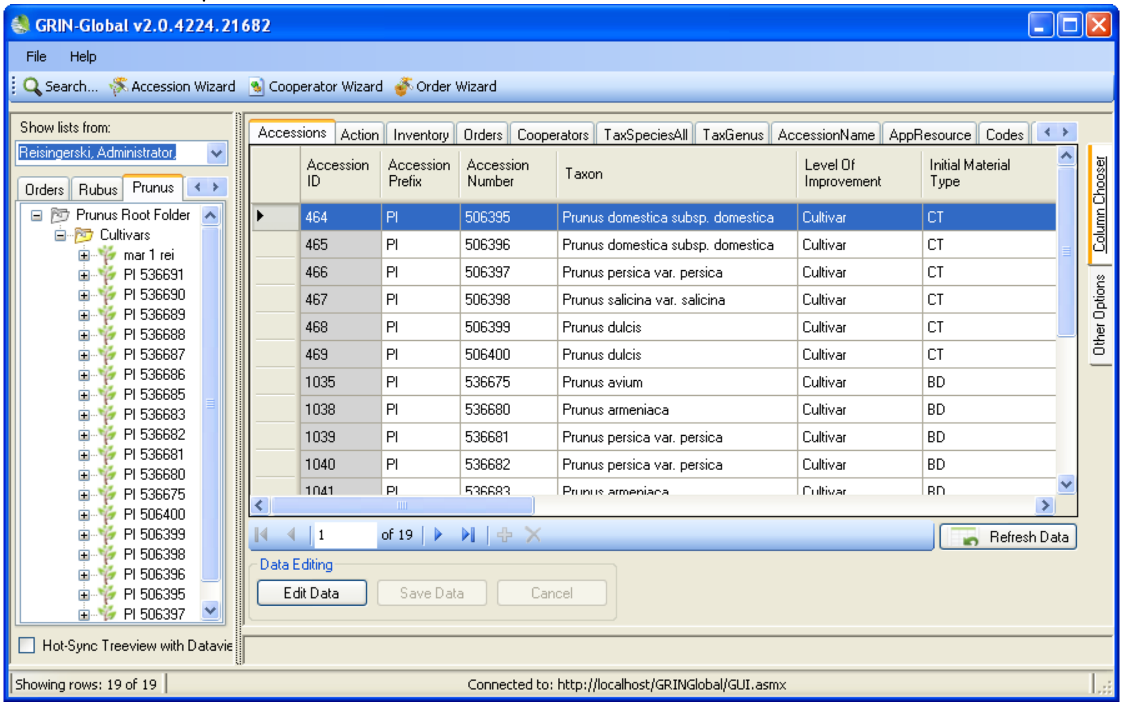
Note

Remember that lists can be built for different object types. Starting with Curator Tool version 1.8.3, you can now drag over any record type to a list.

5. In the next example, 50 records were found, but only 19 "Cultivars" will be selected. The user clicked in the selected area; held the mouse button and dragged the selected records into the Curator Tool, and dropped the records on the list name (in this example, "Cultivars").



The Cultivar list now points to 19 Prunus cultivar records.



Creating, Updating, and Deleting Records

You create new records, update data, and delete records when working in Edit mode. For example, to create new inventory records, you display the Inventory dataview and then click the **Edit** button to enter edit mode.

Besides the many Curator Tool dataviews, currently there are a few wizards that have been designed to facilitate the editing of Accessions, Orders, and Cooperator records. See Wizards for details. The wizards use forms. They also facilitate the inputting of data into parent and child tables – for example, in the accession wizard you can input a new accession and at the same time and add source and name data which are stored in separate tables.

Tip

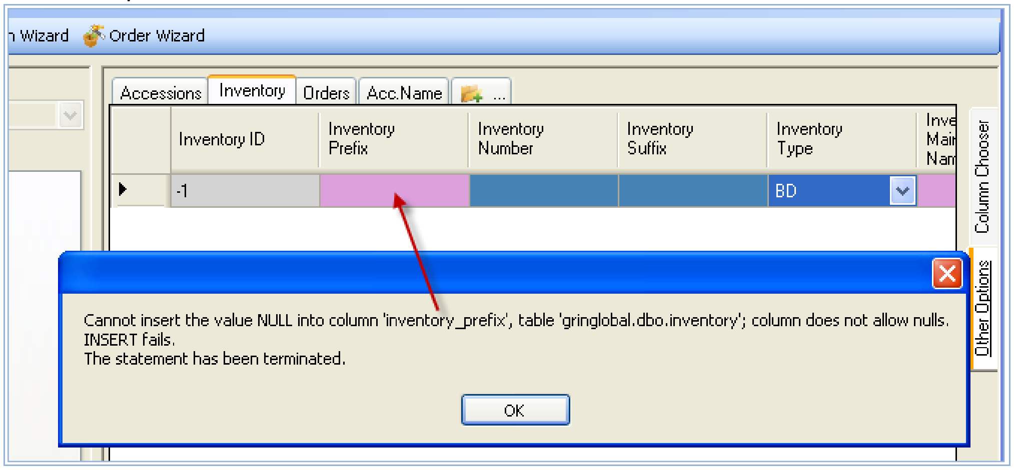
Before adding a record, we recommend first searching the database to determine if the record already exists.   However, if you attempt to add a record and the record is in the database, you will receive a warning that it does exist. You will be prevented from duplicating the record.

Overview

Required Fields

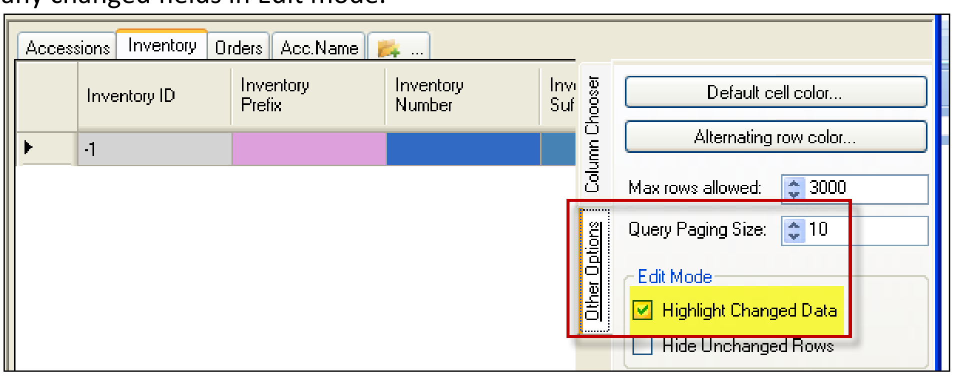
In order for data to be saved, the data must meet certain rules. Some fields may be required – that is, required fields must be filled, in order for the record to be saved. When inputting a new record, the color violet indicates a required field.

A message window will display if you attempt to save a new record that doesn't have all of the required fields completed.



Cell Colors

Other colors can be used to assist with data inputting. You can set up your Curator Tool options to use colors to indicate when a field's contents have been changed during your current editing session. On the **Other Options** tab, select the **Highlight Changed Data** so that you visually see any changed fields in Edit mode.



The following table summarizes the significance of the cell's color when In Edit mode (assuming you had selected the **Highlight Changed Data** option):

Cell Color	Meaning
gray	cell cannot be edited
violet	field is required; a record cannot be saved until all required fields are filled
orange	when doing an add, these cells have new data

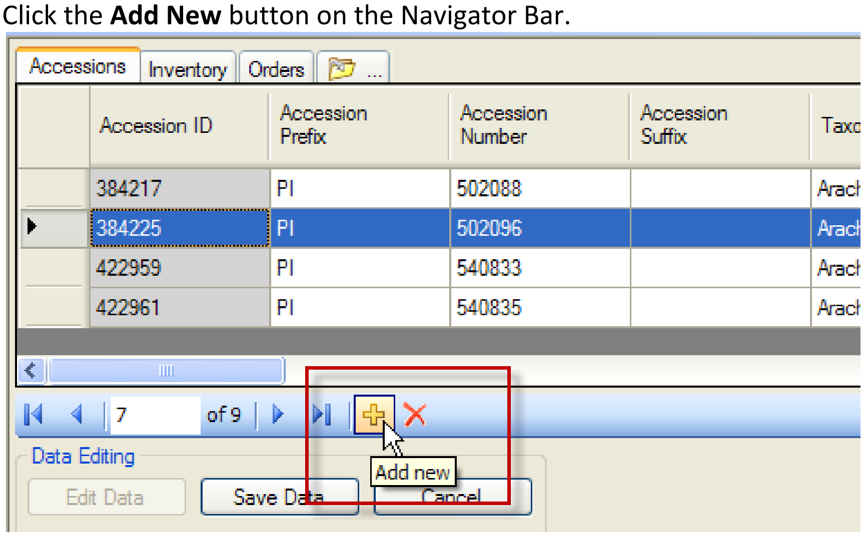
yellow	when a record is being edited, fields that have been changed display in yellow
white	data hasn't changed in the cell when a record is being edited
dark blue	dark blue cells display when a record is being added and data in the cell is the same as the cell's default value
light blue	light blue cells display when a record is being added and data in the cell differs from the cell's default value
blue	current cell

Creating New Records

The Curator Tool has wizards which facilitate creating new records as well as editing existing ones. The directions below are generic directions for manually creating and editing any record type.

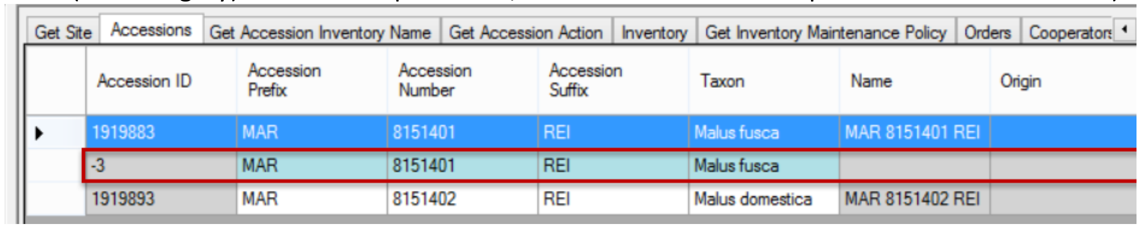
To Create a New Record

1. In the left (List) panel, either select an existing list or create a new list.
2. In the right **Datagrid** panel, click on the appropriate dataview tab
3. Click the **Edit** button to switch to Edit Mode.
4. Click the **Add New** button on the Navigator Bar.



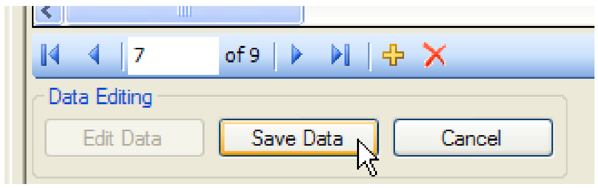
or…
click on the row indicator and press **Ctrl-N** to insert a new row in the dataset, *after the selected row.* Data is automatically copied from the selected row into the new row, except for restricted

fields (fields in gray). In the example below, the Name data is not copied into the new record.)



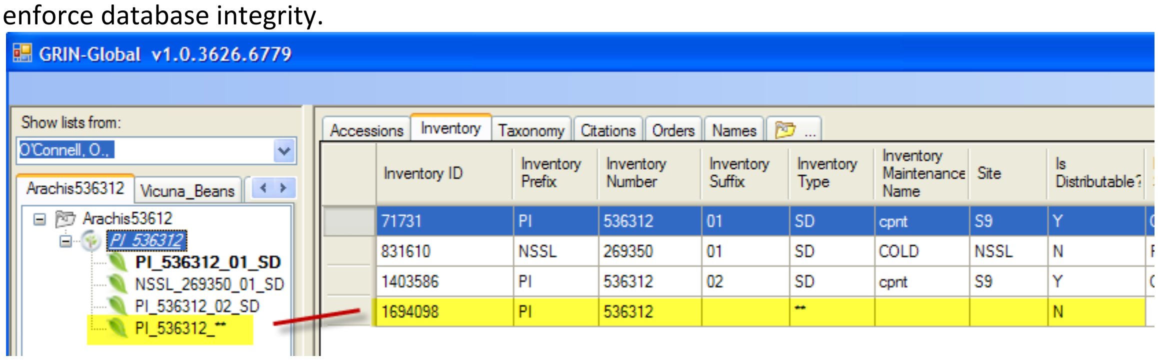
The colors indicate whether the cell blocks data input (gray), requires data (violet), or accepts data (blue). Light blue cells indicate the data was copied from the cell above; dark blue cells await your input.

5. Input data in the cells. (Some cells are restricted. That is, when you input data in a restricted field, the Curator Tool does not allow you to just *type* an entry. See Restricted Fields for details.)
6. Click **Save Data**.



Note

Whenever an accession record is created, a system default Inventory record (with type **) is created as well. This implicit inventory record is required due to schema requirements to enforce database integrity.

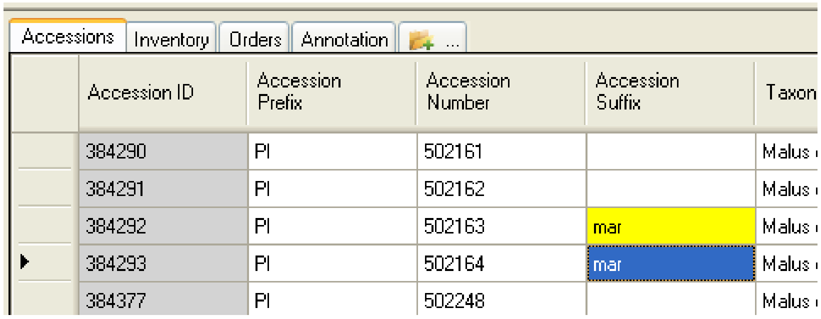


Keyboard Shortcuts in Edit Mode

Remember that there are many keyboards available and each have their own Windows keyboard combinations. However, the keyboard shortcut combinations written for GRIN-Global will work on all keyboards. (See Keyboard Shortcuts.)

Copying from the Cell Above

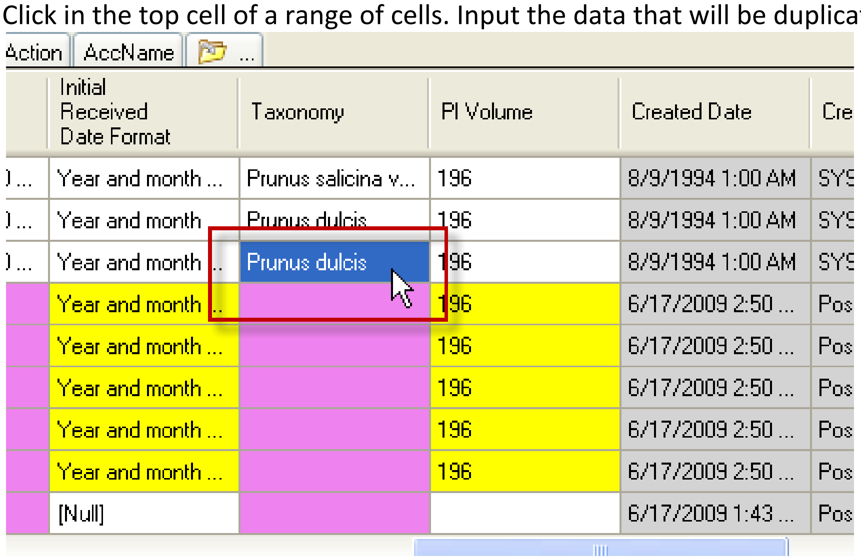
When inputting data in Edit mode, the **Ctrl-‘** combination copies the contents of the cell that is *directly above* the current cell.



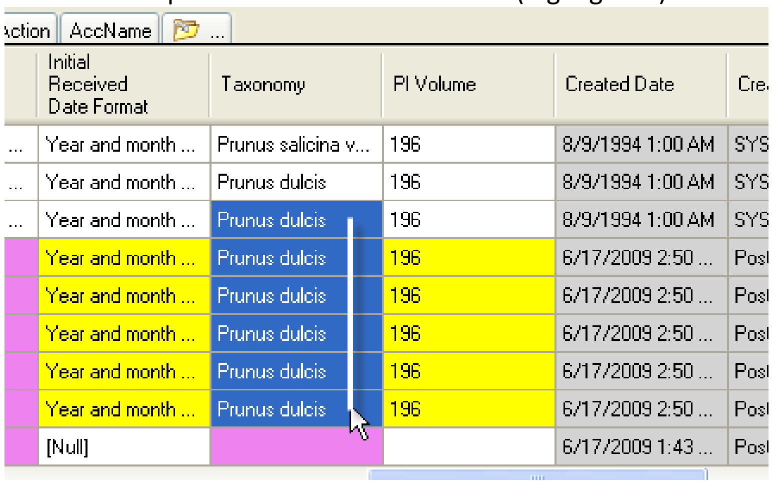
Duplicate Data (Ctrl-D)

The **Ctrl-D** combination duplicates data from the top cell to the cells *directly below* it within a column.

1. Click in the top cell of a range of cells. Input the data that will be duplicated.



2. Select *the cell with the data* and *the cells directly below* which will be populated; press **Ctrl-D.** The data is duplicated in all of the selected (highlighted) cells.



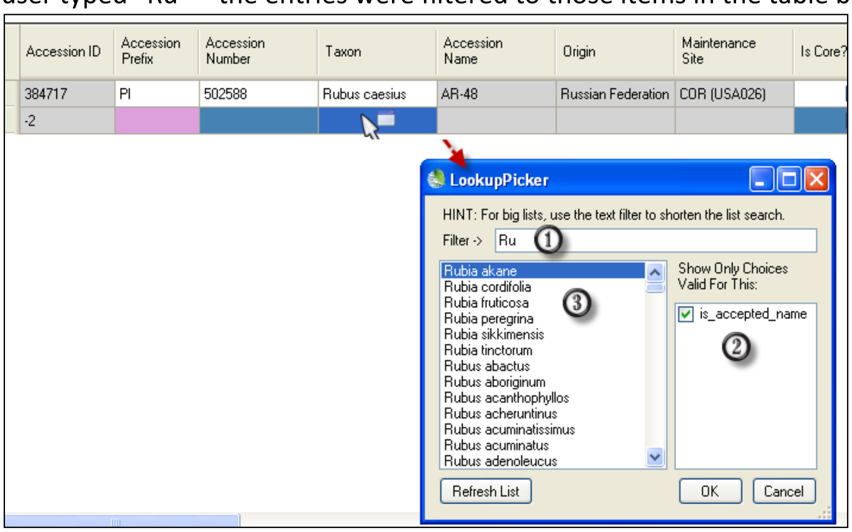
Restricted Fields (Lookup Picker)

Almost all dataviews have some fields that are “restricted.” In any restricted field, you cannot input the data, you must select the data from a list of possible items. A “LookupPicker” window pops up.

Note

When in read-only mode, a restricted field will look similar to any other text field. However, in edit mode, when you move the cursor over the field, the cursor changes to a different style, similar to the following:  When you input the first character, the LookupPicker window will display. (Clicking in the cell also opens the LookupPicker window.)

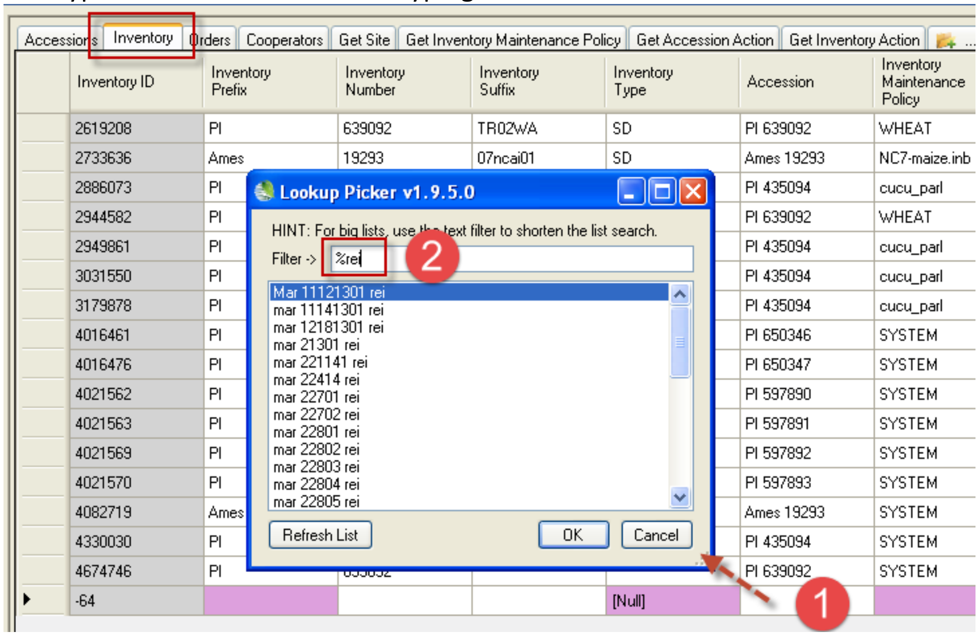
The following example illustrates using the **LookupPicker** for the Taxonomy field. In this example, the user typed “Ru” – the entries were filtered to those items in the table beginning with “Ru.”



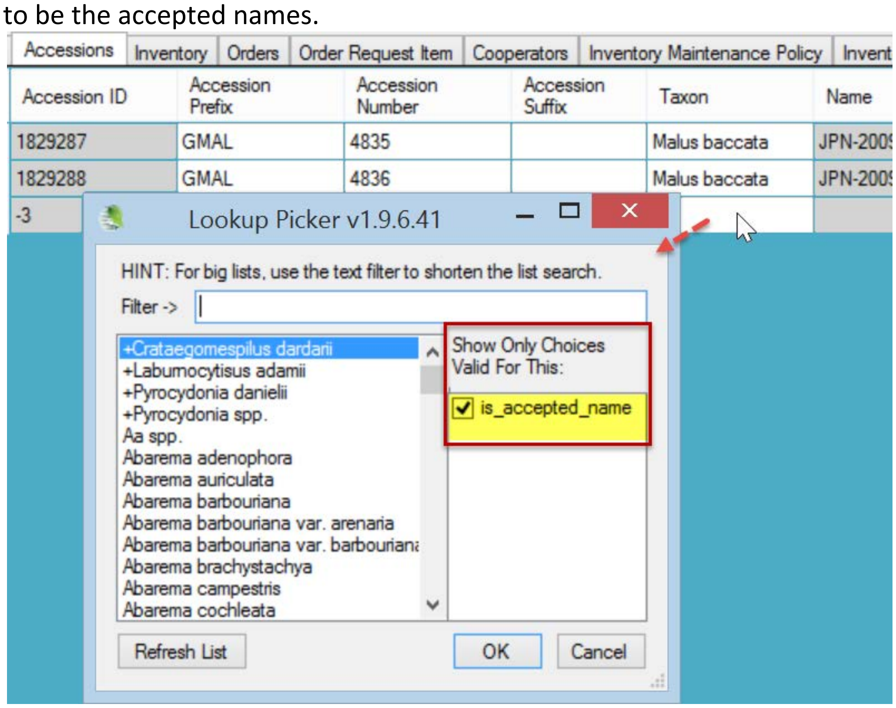
Using the Lookup Picker

1. Click in a cell where data is required; start typing. As you type more letters in the **Filter→**box (#1 in the screen image), the filtering becomes more specific. Use the mouse to click on the desired entry in the list box #3; click **OK** to select that item.

You can also use wildcards when inputting in the filter box. In the following example, the user was looking for accessions having “rei” somewhere within the prefix-number-suffix fields, so the user typed a “%” wildcard before typing the “rei”

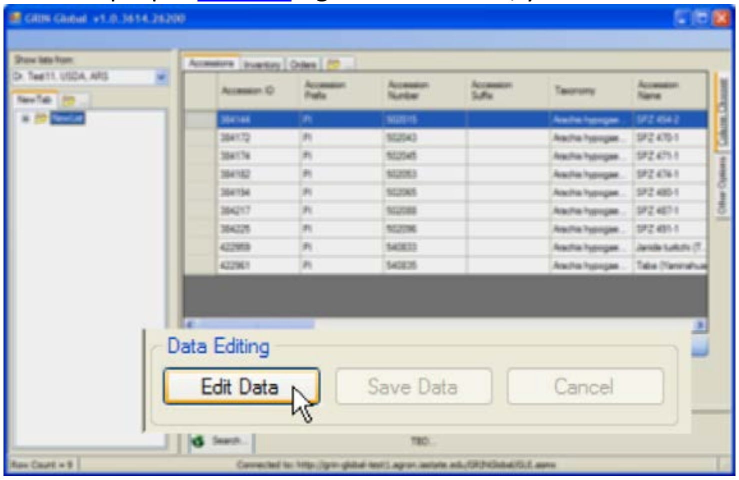


2. Lookups can have different options for restricting (filtering) what choices are valid. These items are listed in the box on the right side of the window. In the example below, one is displayed: **is_accepted_name**. You can constrict or expand the search by selecting or deselecting the check boxes. Keeping this box selected in this example will limit the Taxons to those considered to be the accepted names.

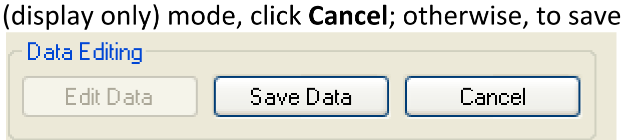


Updating (Editing) Data

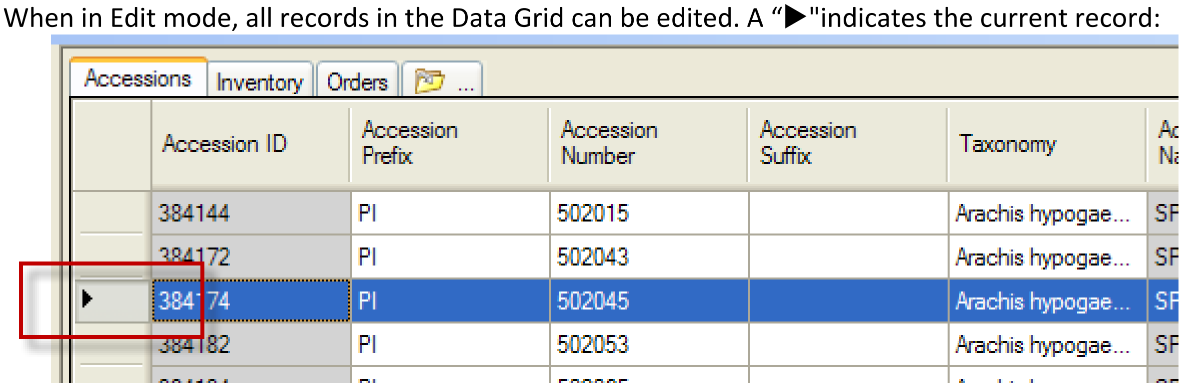
GRIN-Global uses ownership and permissions to regulate who can add, update, or delete records. If you have the proper security rights to edit data, you can edit the data. To do so, click the **Edit** button.



While in Edit mode, you can make changes to the data. In Edit mode the **Edit Data** button is inactive (grayed out). If at some point you need to disregard the changes and revert to the original Browse (display only) mode, click **Cancel**; otherwise, to save the changed data, click the **Save Data** button.

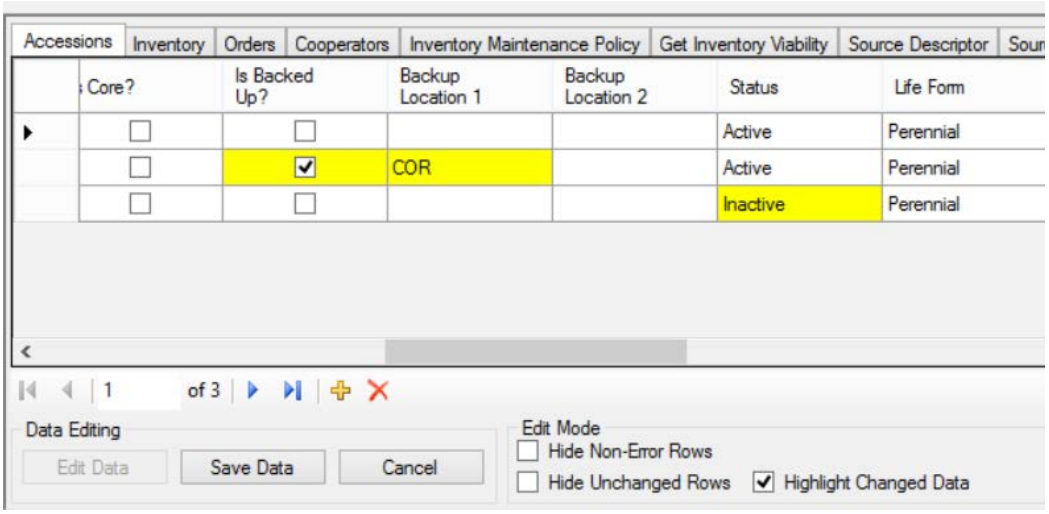


When in Edit mode, all records in the Data Grid can be edited. A "▶"indicates the current record:



Highlight Changed Data Option

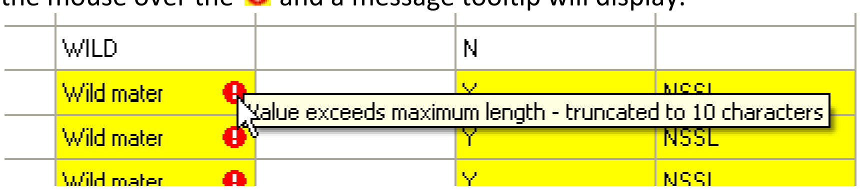
In Edit mode, click to select the **Highlight Changed Data** option. Another handy option is the **Hide Unchanged Rows** option.



If you are in Edit mode and select the **Hide Unchanged Rows** option, and haven't made changes to any records, all of the existing records will be hidden. This behavior is logical when you think about it, but it could be a bit alarming if you don't see any records when you expected many!

Warning Indicators

The following screen example illustrates a warning indicator. When these indicators are present, move the mouse over the ❗ and a message tooltip will display.



Deleting Records

In Edit mode, you can select one or multiple records to delete.

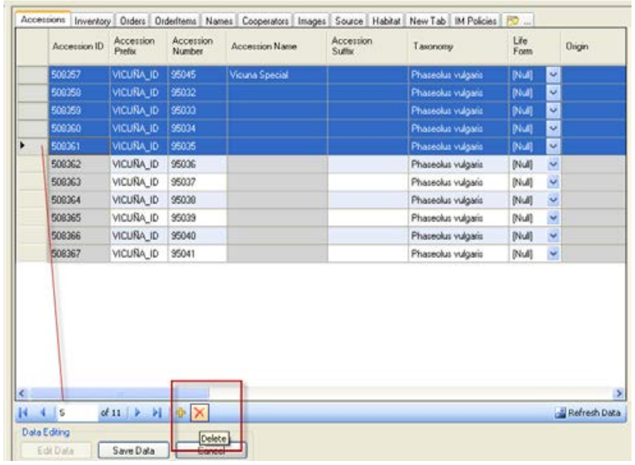
An important concept to remember is that the GRIN-Global database is a relational database, which means that related data can be stored across multiple tables. *Records that are "parents" of children records cannot be deleted until the child records are first deleted.* For example, if an Accession record has related Accession Inventory Name records, the Name records must be deleted first.

Another important consideration is whether you have authority to delete a record. When a record is, the record owner can indicate which users will have permission to modify or delete the record. (See permissions.)

You select what records to be deleted in the dataview. If the records are not listed in the dataview, you will need to search for the record(s) from the database and copy the records into the dataview.

Note The red-x delete only deletes the last record (the current record) in a highlighted group of records.

To delete multiple records, use the keyboard's **Delete** key.



Remember that deleting a list in the List Panel is not the same thing as deleting the actual database records; the list simply provides pointers to records in the database. If you delete a list or items on a list, you are only removing the pointers to the database records.

Note When attempting to delete an Accession record that has child Name records, an error message similar to the following will display: 'Delete failed. The DELETE statement conflicted with the REFERENCE constraint "fk_an_a. The conflict occurred in database "gringlobal", table "dbo.accession.name", column "column accession_id." The statement has been terminated.'

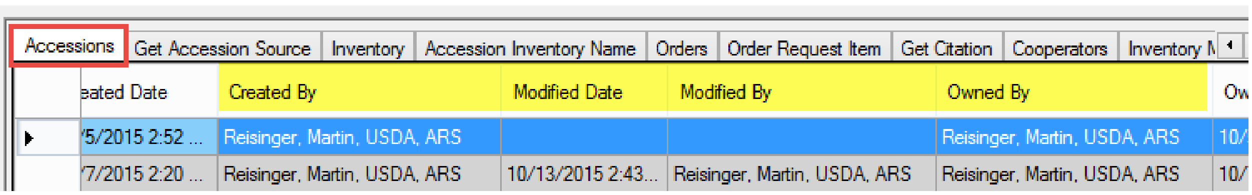
Security (Ownership & Permissions)

Organizations typically have very unique security needs; GRIN-Global is flexible enough to accommodate these needs. When speaking of security, there are two concepts that intersect: ownership, and permissions.

Owner Concept

Every record in GG has an owner – and only one owner. *Generally*, when you create a record in the Curator Tool, you own the record and will be able to read, update, and delete the record which you have created. But that is not always the case. In some cases, the record ownership may be determined by programming logic (or a "trigger") – and then the creator of the record may not necessarily be the owner.

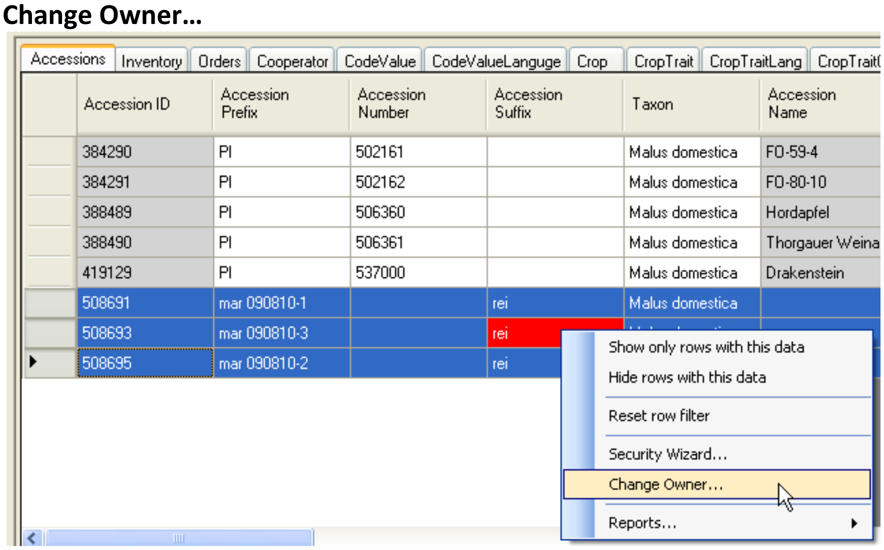
In the following example, the **Created By**, the **Modified By**, and the **Owned By** fields all have the same user:



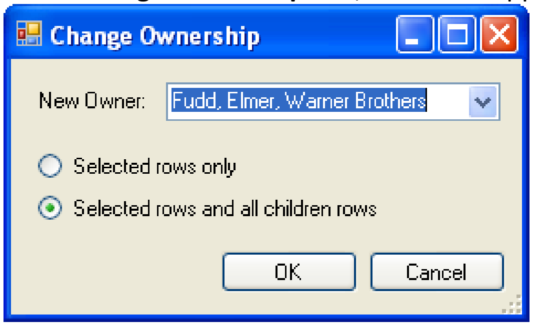
To Transfer Ownership to a Different User

In the Curator Tool, record owners can transfer ownership rights of the records, and optionally the records' children records, to another user.

In a dataview, select the rows (records) that you intend to transfer ownership; right-click and select **Change Owner…**



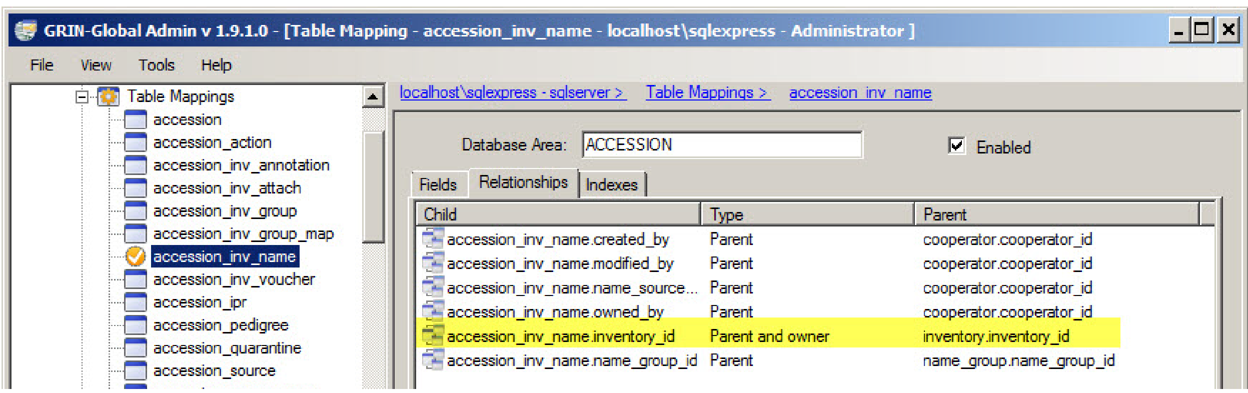
In the **Change Ownership** box, select the appropriate button and click **OK**:



In this example, the ownership of the highlighted records and any children records are impacted by this change in ownership.

Parent and Owner Relationships Between Dataviews

In the Admin Tool, relationships are mapped between dataviews. For instance, there is a relationship from accession to accession_inventory_name with the Relationship Type defined as "Parent and owner."



When relationships are mapped between dataviews, the children tables inherit the security settings of the parent. This means if someone creates a record in accession_inventory_name, the owner is the same as the owner of the parent record, in this case the accession record. When no relationship of "Parent and owner" has been defined, then the creator is the owner. When doing ownership calculation, relationships *are* taken into consideration.

Permissions

You can use the security wizard to establish permission levels to protect specific record types from accidental (or intentional) deletion. For example, you can establish security permissions so that employees will be able to update specific accession_quarantine records but not delete them.

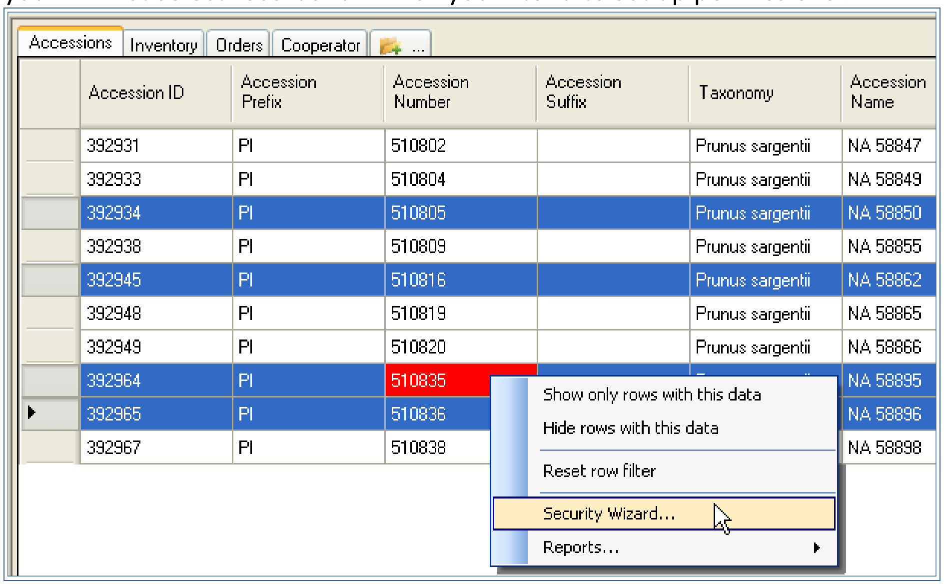
A permission restricts or grants access to a resource in GRIN-Global ; for a Curator Tool user, a resource is typically a row (a record) displayed within a dataview.

Even if you create a record, it is possible that you might not have permission to update or delete it. You could have the situation where a student technician will be uploading (creating) observation information or creating action records on an accession or inventory, but the student should not be altering the accession or inventory data. Hence he can create new observation or action data, but not update or delete accessions or inventory records. A permission policy can be established to ensure that this happens.

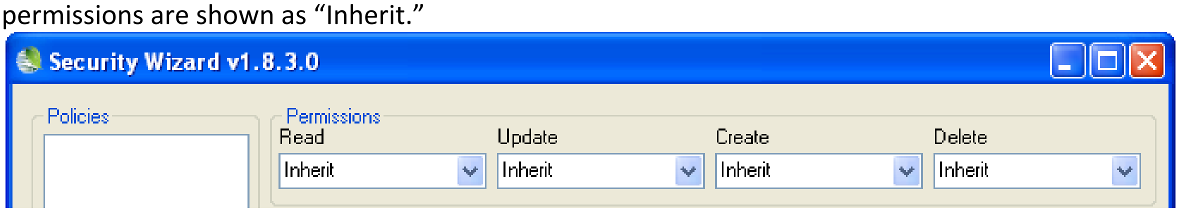
Note: Currently the inheritance only cascades one level. This implies that it may be necessary for you to establish certain permissions at the accession level, and then again at the inventory level.

Assigning Permissions to Other Users

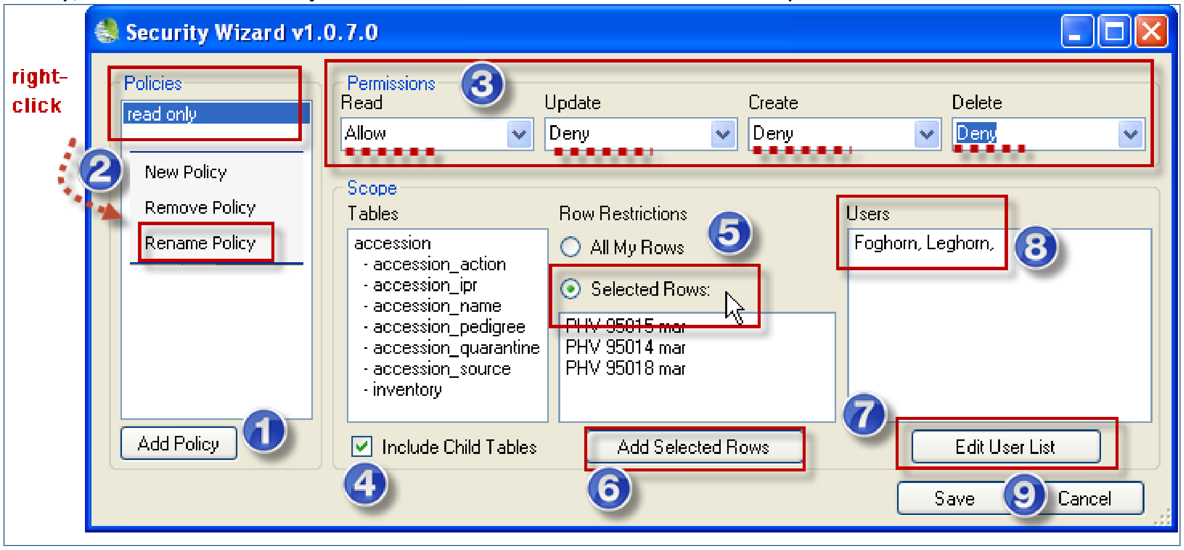
If you own a record, when you right-click, you can select the **Security Wizard…** menu option. Typically you will first select records for which you intend to set up permissions :



The Security wizard displays a screen in which you can grant permissions to specific users. initially the permissions are shown as “Inherit.”



When working in the **Security Wizard**, it is helpful to work from left to right. Create a name for this Policy; click the **Add Policy** button. Edit the Permissions in the dropdowns.



Tip In the **Row Restrictions** option (labeled #5), select **All My Rows** to guarantee that records created in the future will also be governed by this policy.

The permission definitions are defined in the tables below. To simplify all of this, remember that most special permission situations involve allowing or denying users to do certain things – reading, deleting, or updating records. I may want certain users to be able to update "my" inventory records, but never delete them.

Permission Defined

A permission restricts or grants access to a resource in GRIN-Global. A resource is defined as a specific table, dataview, or row. A permission defines four kinds of rights:

A permission of type:	Has the ability to:
Create	Insert *new* data
Read	Read existing data
Update	Update existing data
Delete	Delete existing data

Each right can have one of three values:

Value	Description
Allow	Allows access
Deny	Denies access
Inherit	Neither allows nor denies access; access is situational; it is inherited from a previous definition (typically the permission value of the parent table)

Image Handling (Attachments)

Images can be attached to accessions and inventories via the accession_inv_attach dataview. [Note: this accession_inv_attach dataview was first implemented in GG version 1.5. Prior to that, the directions in this section were written for the inventory_attach dataview.]

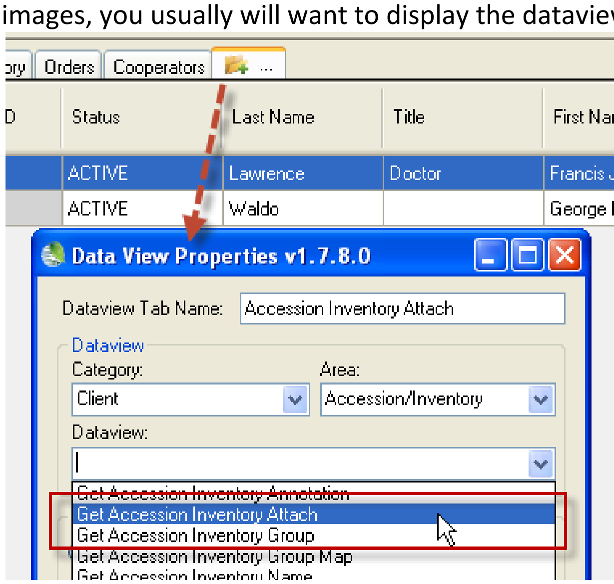
You can associate one image (or multiple images) with one or more Accession or Inventory records. (When associated with an Accession record, they are actually associated with the default (**) Inventory record. For more information default Inventory records, see p. 158.)

There are two similar methods for associating image files with the records. In either case, you start in Windows Explorer by dragging either a folder containing image files, or the image filenames, into the Curator Tool. The image files' format may be any of the following:

- .png
- .jpg
- .gif

The advantage of the second method (described below) is that you can associate one or more image files *with multiple* Accession or Inventory records whereas in the first method the image files will be associated with just one Accession or Inventory record.

The Image Dataview is **Get_Accession_Inv_Attach (Get_Inventory_Attach in 1.0)**. When working with images, you usually will want to display the dataview: click on the **New Tab** icon:



In version 1.7.8, there are several dataviews with "_attach" as their suffix, implying that they can accept attachments similar to accession_inventory_attach. At the present time they cannot. Some additional code is planned for the Curator Tool to enable this capability. Also, other file types will be handled, including PDFs.

Also -- Image attachments currently only work with accessions. This is a known bug that has been identified.

Dragging Images into the Curator Tool

First determine the PC or network folders from which you will be uploading the image files.

There aren't any restrictions on image size; however, if the image is small, (less than 400x400 pixels), the image display may appear distorted.

Method 1: Drag Images onto a List Accession or Inventory Item

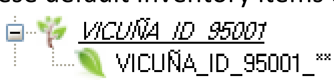
With this method, you will associate one or more image files *with just one* Inventory or Accession record.

1. Drag either a folder of images or individually selected image files from a Windows Explorer window into the Curator Tool's List Panel.

   In the List Panel, you then have two alternatives; drag the image files onto either an *Inventory* item or an *Accession* item.

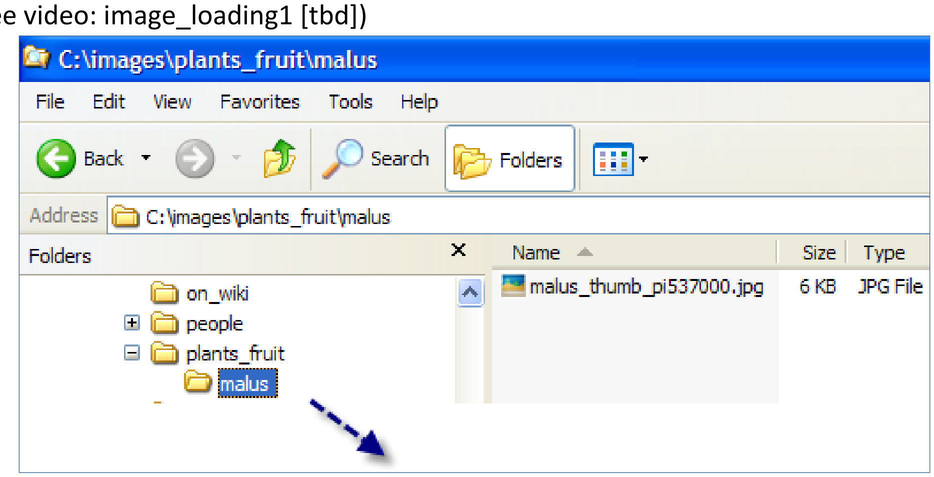
   If you drag the images onto a specific *Inventory* item, then the image is associated with that item. If you drag the images onto an *Accession* item, then the image is associated with the Accession's "default" inventory record.

   Every Accession, when it is created, is assigned a default inventory record. In the List Panel, these default Inventory items display with a double asterisk next to their names.

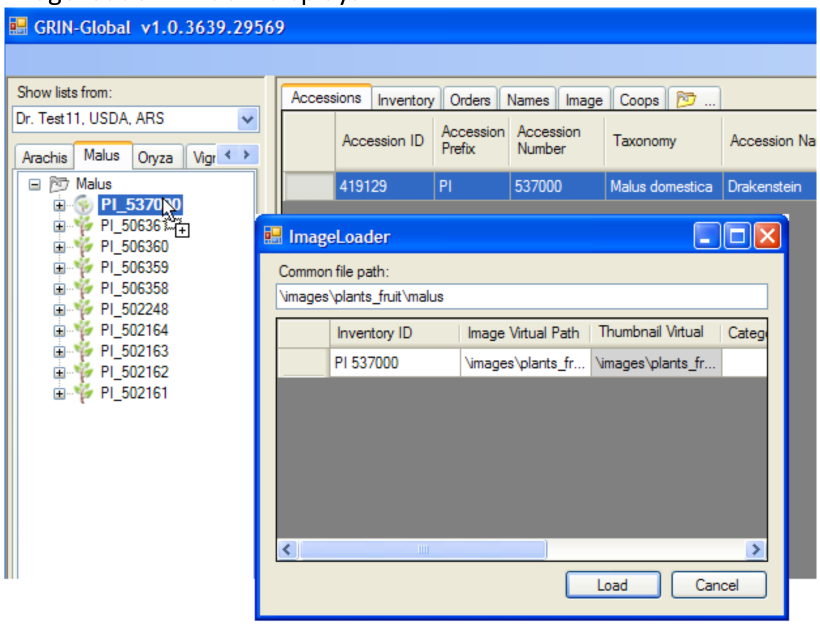


(See also Default Inventory Records .)

(see video: image_loading1 [tbd])



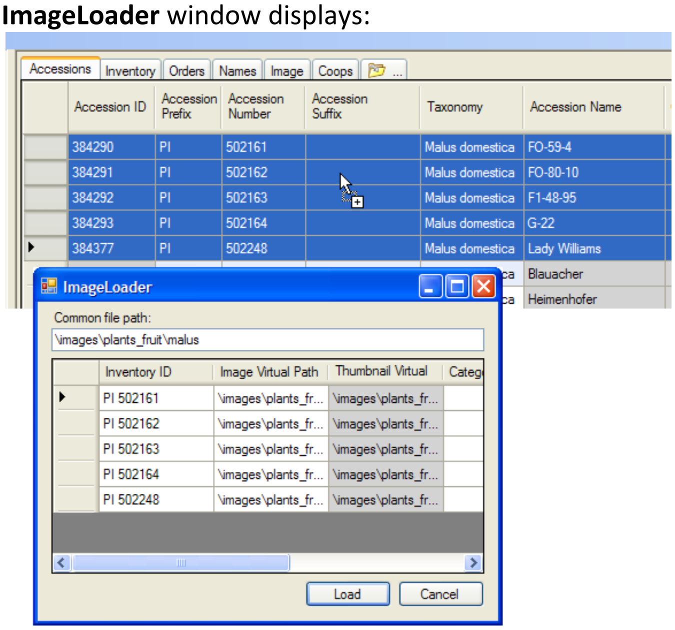
The ImageLoader window displays:



2. Click the **Load** button.

Method 2: Drag Images into Accession or Inventory Dataview Grid

1. Switch to Edit mode (click the **Edit** button) for either an Accession or Inventory dataview.
2. Drag the folder of images (or individually selected image files) Windows Explorer window onto one or more selected Accession or Inventory records (rows) in the Curator Tool's dataview. The **ImageLoader** window displays:



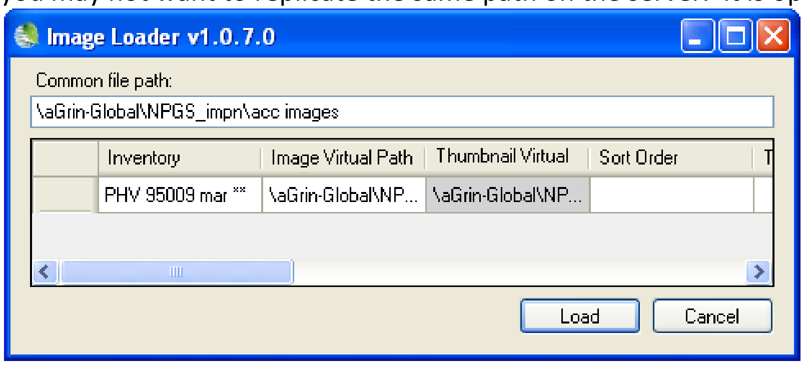
3. Click the **Load** button.

When a folder is dragged, its subfolders will also be included.

The local copy of the images can be stored on a local hard drive, a network drive using either a "mapped drive letter," or a UNC drive such as \\ncrpis-farm\nc7pc\2002\PI_613086_02ncai01_SD. ("UNC" - Windows Universal Naming Convention)

Indicating Where the Image Files Will be Stored

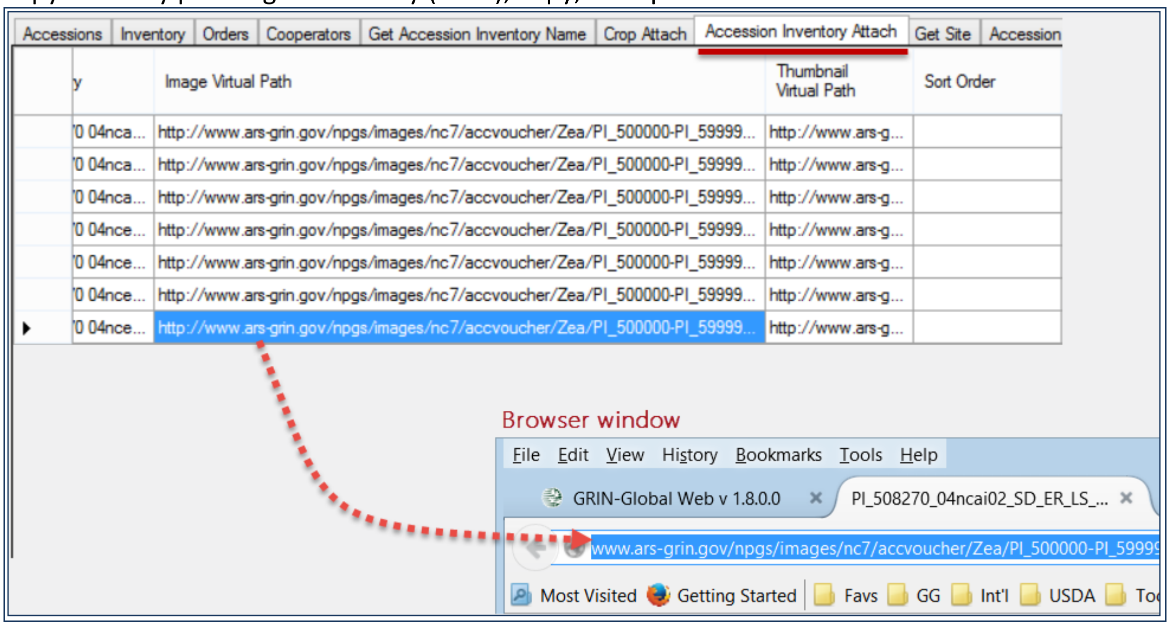
The ImageLoader window displays a text box for a **Common file path**. In the process of uploading the image files, you can indicate the location where the files will be stored. By default, the destination location will have a path that mirrors the source location. Depending on your needs and preference, you may not want to replicate the same path on the server. It is optional to change this field.



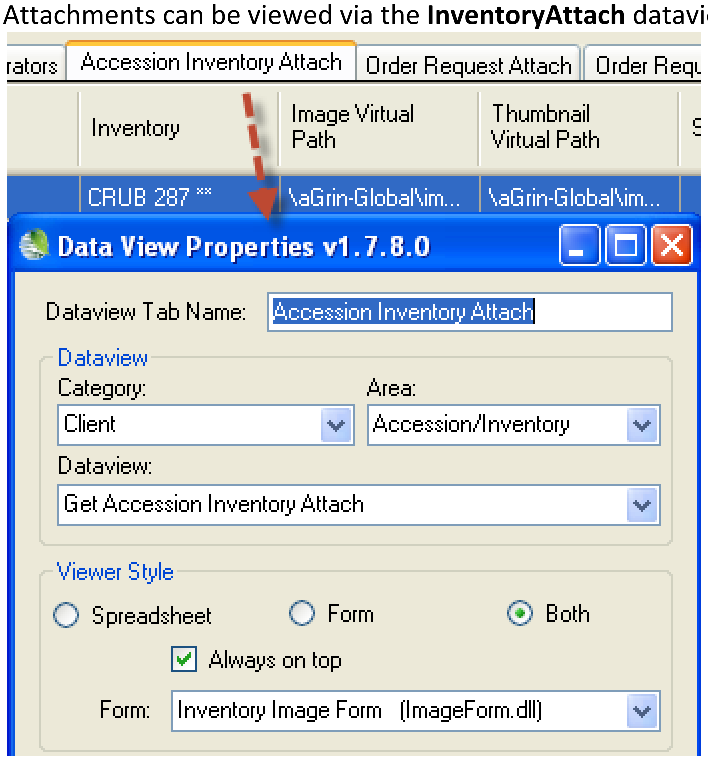
Displaying the Images

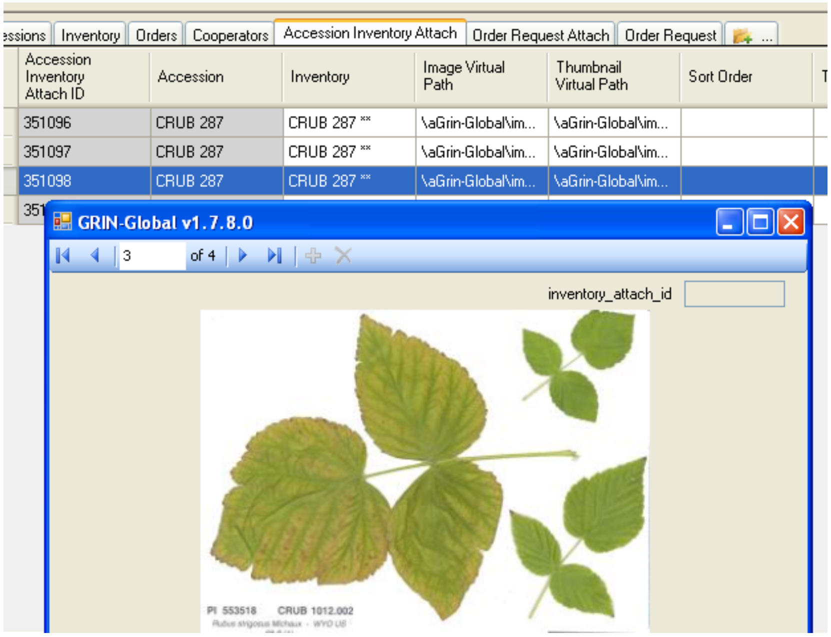
Tip

In addition to the method described below, you can also "block copy" the image address and drop it into a browser window, in the URL address box. In the CT, remember to invoke the block copy mode by pressing the ALT key (once); copy, then paste:



Attachments can be viewed via the **InventoryAttach** dataview. Display that dataview:





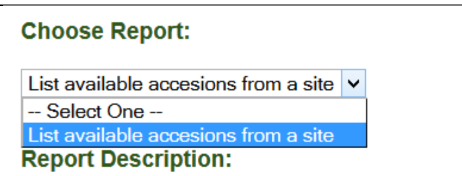
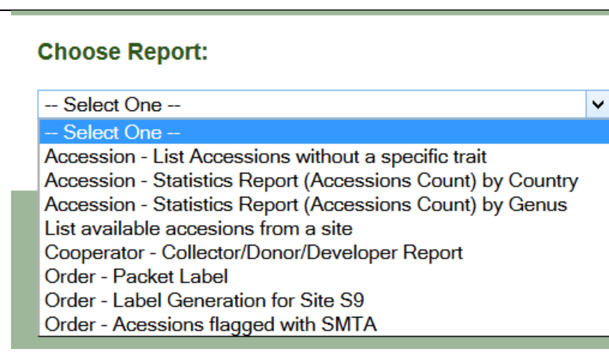
Reports

Report Overview

GRIN-Global has several methods for reporting. Since this is the Curator Tool User Guide, we are describing primarily reports designed to run in the Curator Tool. However, genebank CT users should be aware that two other kinds of GG "reports" may be available.

Public Website Reports

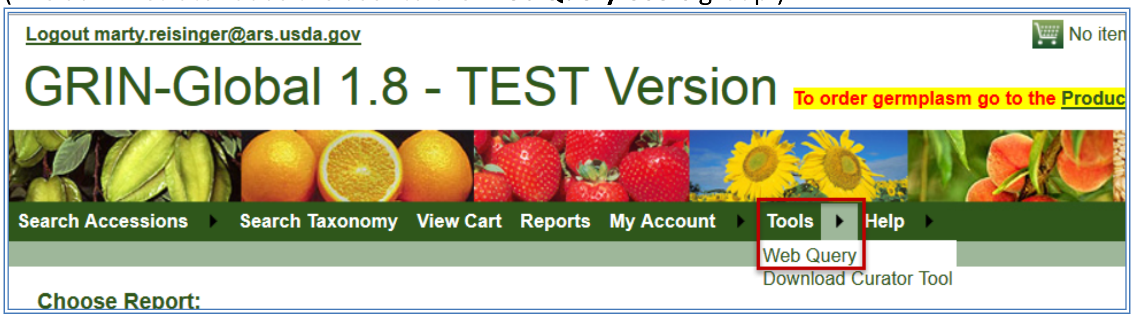
The Public Website has a **Reports** menu option - all PW users will see reports that are publicly available. Additional PW reports are also available, depending on two conditions: the genebank user must be logged in and the user account must have been given access to these "internal" reports.

Reports Available to all PW Users	Reports Available to a Logged-in User
	

[This note is for GG administrators.] In the Admin Tool, the dataviews for Web Reports have a “Configuration Options” parameter on the **Properties** tab. The text “external” indicates that this is a report that will be listed for all PW users. If “external” isn’t specified, the report may be listed for users who are considered “internal.” In order to see these internal reports, the user must be logged in with a Public Website account that has been associated to his CT user account (via the Web Login tab on the user’s cooperator Information window).

SQL Queries (“Reports”)

There is also an SQL Query capability built into the Public Website. Generally most users do not see this, but an organization’s GG administrator can enable specific internal users to have the SQL query feature. (The administrator adds the user to the **Web Query Users** group.)



When a user has access to the Web Query feature on the Public Website, the user may submit SQL queries that do not update data. (It is recommended that organizations consider creating a library of these SQL queries for users to share.)

Curator Tool Reports

When an organization installs GRIN-Global, Curator Tool report files that are bundled with GG can also be installed. Additionally, each organization has the capability to create its own custom reports to meet its specific needs.

In the Curator Tool, reports have been designed to work with specific dataviews to display specific data. (Additionally, there are reports designed to work within the Public Website’s Reports feature, but the following explanation pertains to the reports viewed within the CT.)

One tool used to create these .rpt files is **Crystal Reports** (from SAP). These files all have an **.rpt** file extension. The full version of Crystal Reports is a commercially available program that is used to design custom reports; embedded in the Curator Tool is a “viewer” version of Crystal Reports that can display existing .rpt files. (You cannot create new reports using this software. Your organization’s administrator and GRIN-Global developers can design additional reports using a full Crystal Reports package. Any valid reports designed for compatibility with the Curator Tool may be loaded in the proper GRIN-Global Curator Tool folder and then used as needed. GG Administrators: there are notes on Crystal Reports in the AT Guide.)

CT Reports Work with Specific Dataviews

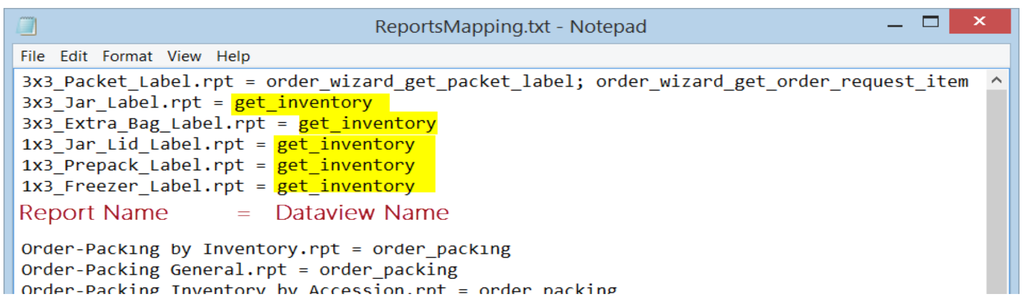
ReportsMapping.txt

A Curator Tool report is designed to work with one or more dataviews. Therefore, before running a report, you must have the respective dataview opened. A text file, "**ReportsMapping.txt**," controls the mapping of the report files to the CT dataviews. The **ReportsMapping.txt** file is stored in a Windows folder (directory):

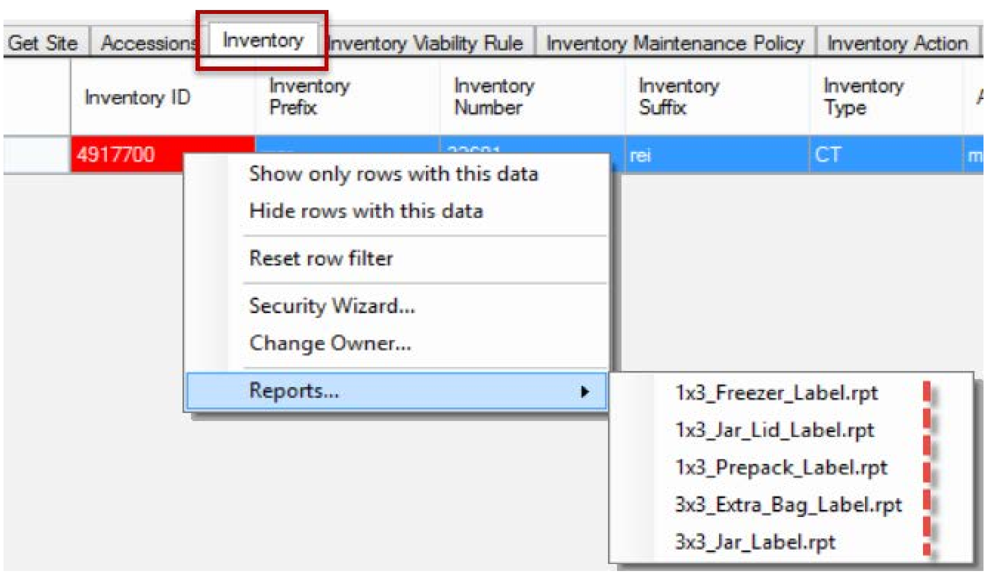
Operating System	Folder Containing the ReportsMapping.txt File
Windows 7.1; 8; 8.1	C:\Users***yourusername***\AppData\Roaming\GRIN-Global\Curator Tool

ReportsMapping.txt File (Example)

The statements in the **ReportsMapping**.txt file indicate the relationship of the .rpt file to the dataview. For example, the **1x3_Freezer_Label.rpt** file works with the **get_inventory** Dataview Name. (In English, the GRIN-Global naming convention has been for the CT dataview names to begin with "Get," such as "Get Inventory." This is the user friendly name. Internally the database name for this dataview is "get_inventory.")



The five inventory reports are displayed under the Reports option when the Inventory dataview is the active dataview (the menu was invoked with a right-click action by the user):



Editing the ReportsMapping.txt

The **ReportsMapping.txt** file can be manually edited to relate a .rpt file with a dataview. For example, the Packet Label .rpt bundled with CT v…41 can be displayed via the Order Wizard because of the following statement in the ReportsMapping.txt file:

> 3x3_Packet_Label.rpt = order_wizard_get_packet_label; order_wizard_get_order_request_item

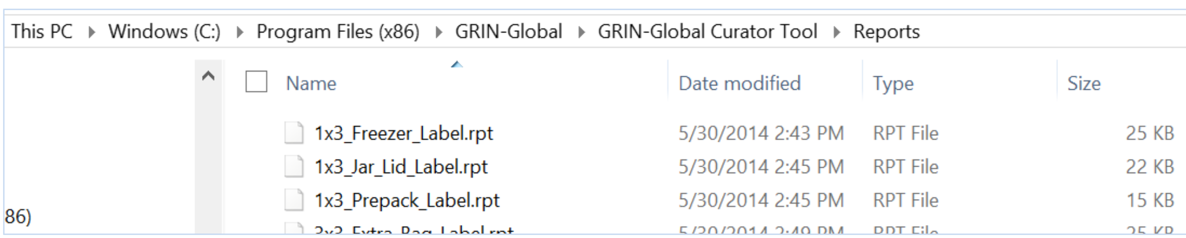
However, the 3x3 Packet Label report is not available to the standard get_order_request_item dataview in the CT's datagrid. To make that possible, the statement in the **ReportsMapping.txt** file needs to be edited to the following:

> 3x3_Packet_Label.rpt = order_wizard_get_packet_label; order_wizard_get_order_request_item**;**
> **get_order_request_item   (red & bold added for emphasis – note the additional semicolon)**

Location of the Crystal Report (.rpt) Files

The .rpt files must be stored in a specific folder in order for the CT to use them. Typically the Curator Tool user will have these files loaded in this folder:

Operating System	Folder Containing the ReportsMapping.txt File
Windows 7.1; 8; 8.1	C:\Program Files (x86)\GRIN-Global\GRIN-Global Curator Tool\Reports



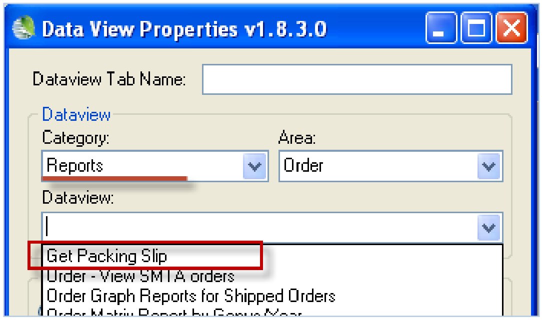
Review the [Reports](#) spreadsheet for a list of available Curator Tool and Public Website reports (updated April 14, 2015.)

Displaying a Curator Tool Report

Note: In versions prior to 1.9.2, all reports were listed whenever the report option was selected. The menu did not indicate which reports were valid for the active dataview. If the report selected was not designed for the active dataview, you would get an error message. Beginning with version 1.9.2, only the reports designed for the active dataview will be listed.

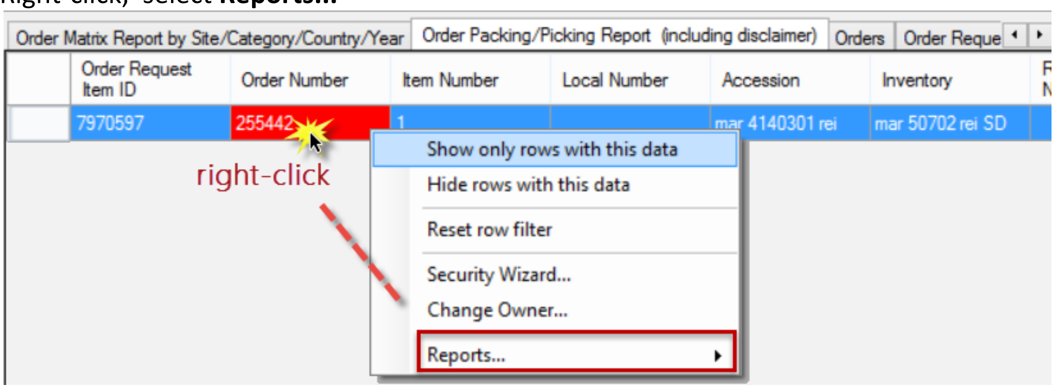
To use a report, you will:

- Switch to, or open the dataview that correlates to the respective report you intend to produce

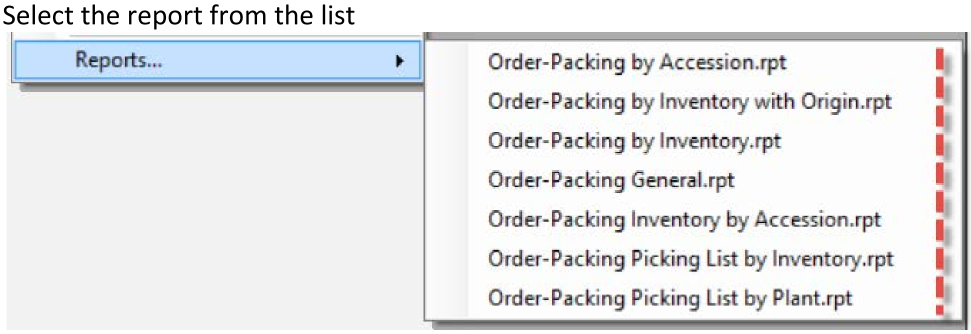


- In the dataview, select the record(s) that are to be included in the report

- Right-click; select **Reports...**



- Select the report from the list

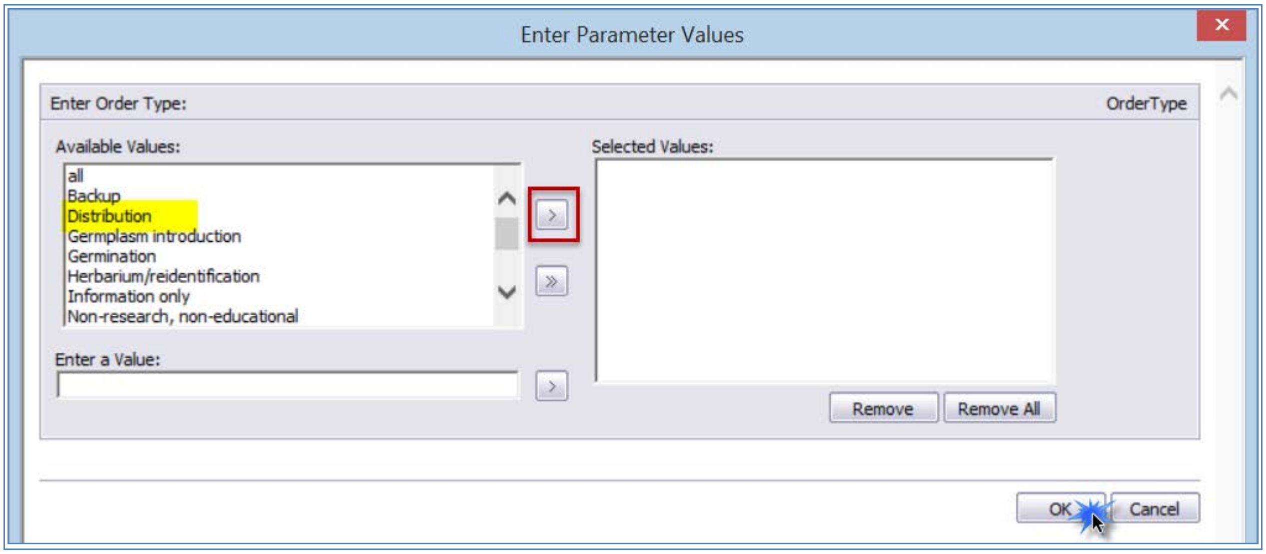


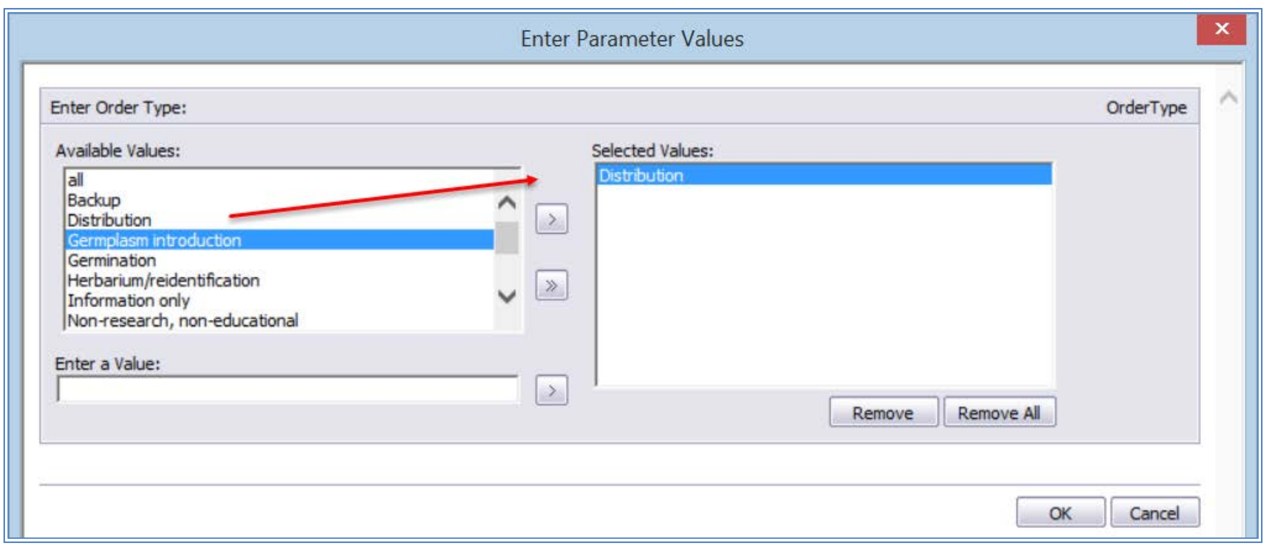
Note

If the report isn't visible in the dataview where you expect it, assuming the report was designed to work with that dataview, you need to edit the **ReportsMapping.txt** file.

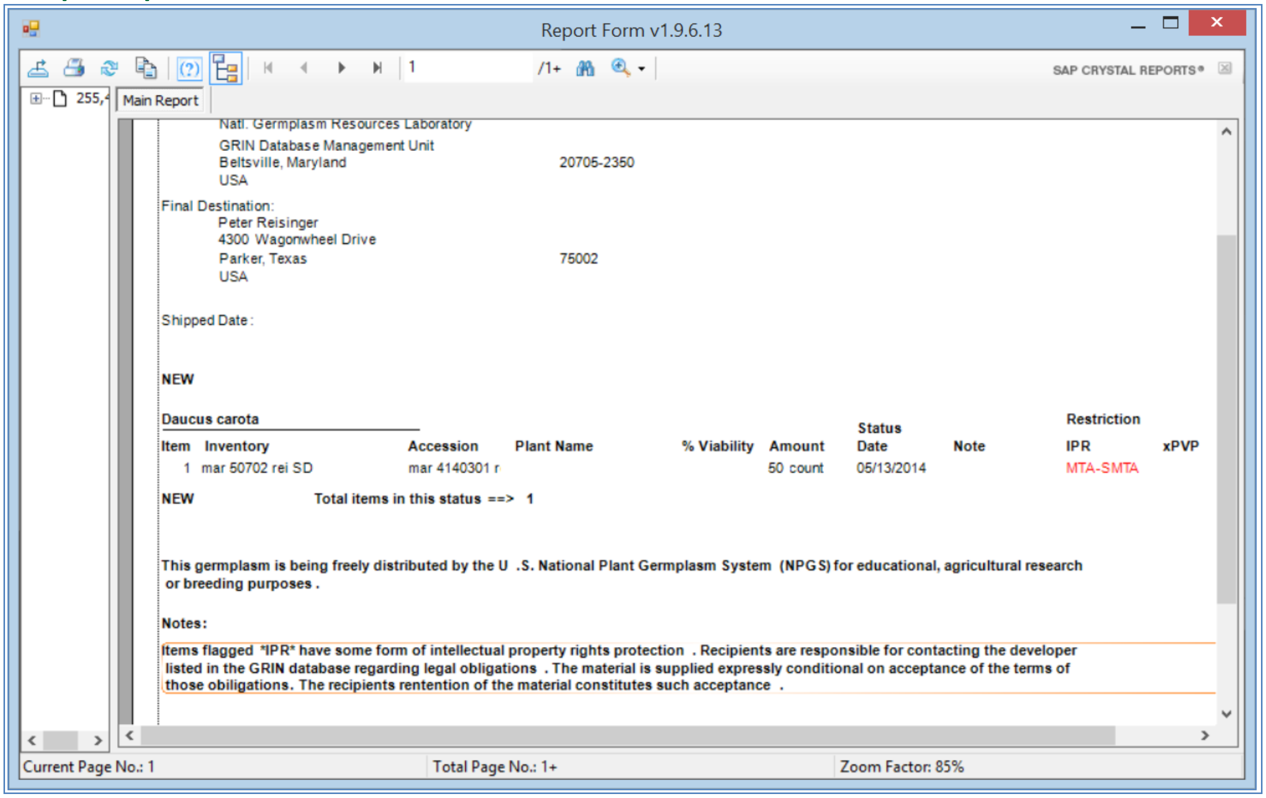
Completing the Crystal Reports Parameters

Some of the Crystal Reports require the user to supply parameters. These parameters filter the records and select the records in which the user is interested. In the **Enter Parameter Values** window, the Crystal Reports wizard





Sample Report



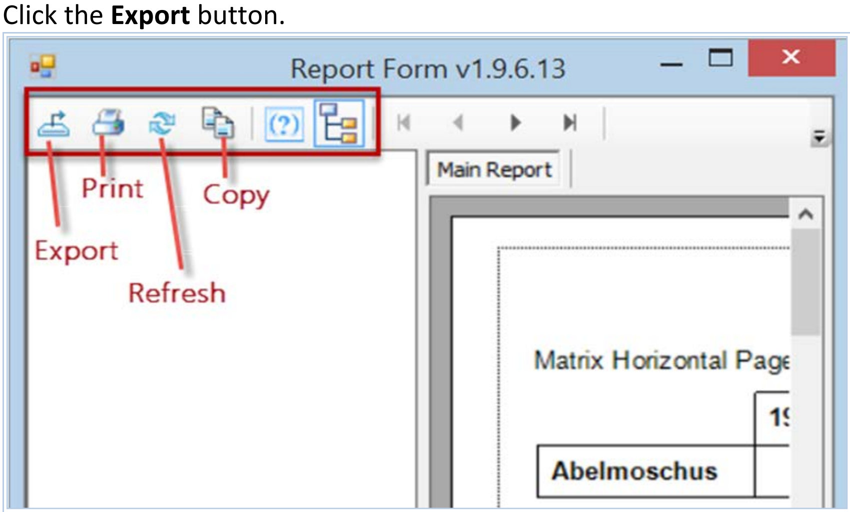
Exporting and Printing Reports

On the **Report Form** window menu, there are multiple report options including:

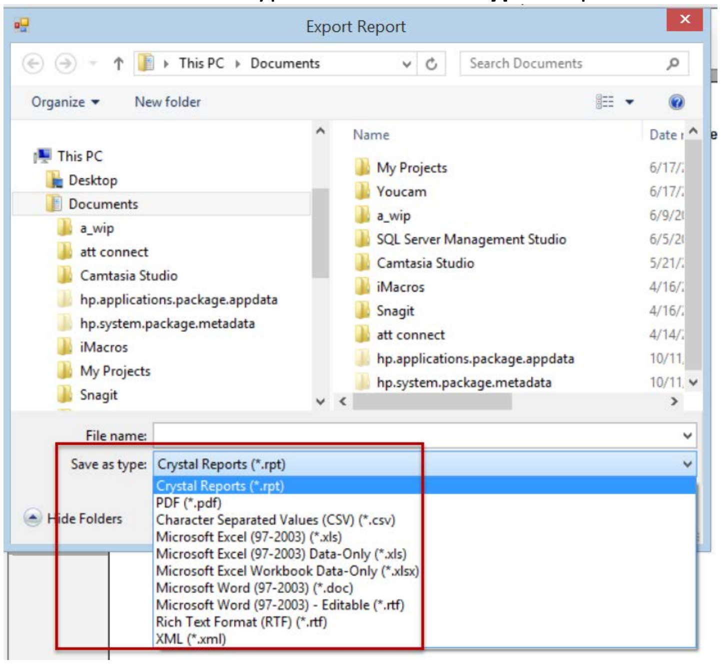
- exporting the report to a spreadsheet (or other file formats)
- printing the report
- refreshing the data
- searching for a text string

Exporting to a Spreadsheet (or other file types)

1. Click the **Export** button.

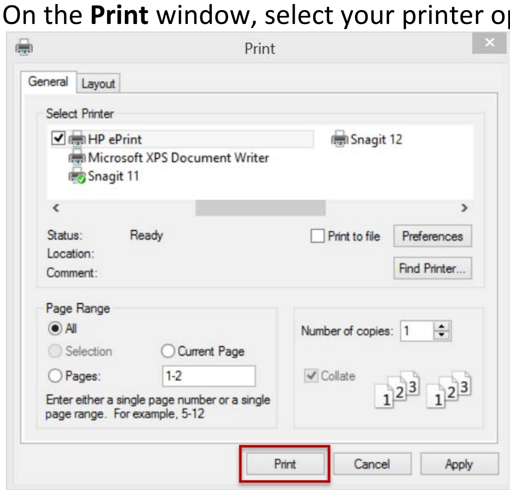


2. On the **Export Report** window, indicate where the file will be saved; type or select a file name; then select the file's type in the **Save as type** dropdown.



Printing Reports

1. Click the **Print** button.
2. On the **Print** window, select your printer options; click the **Print** button.

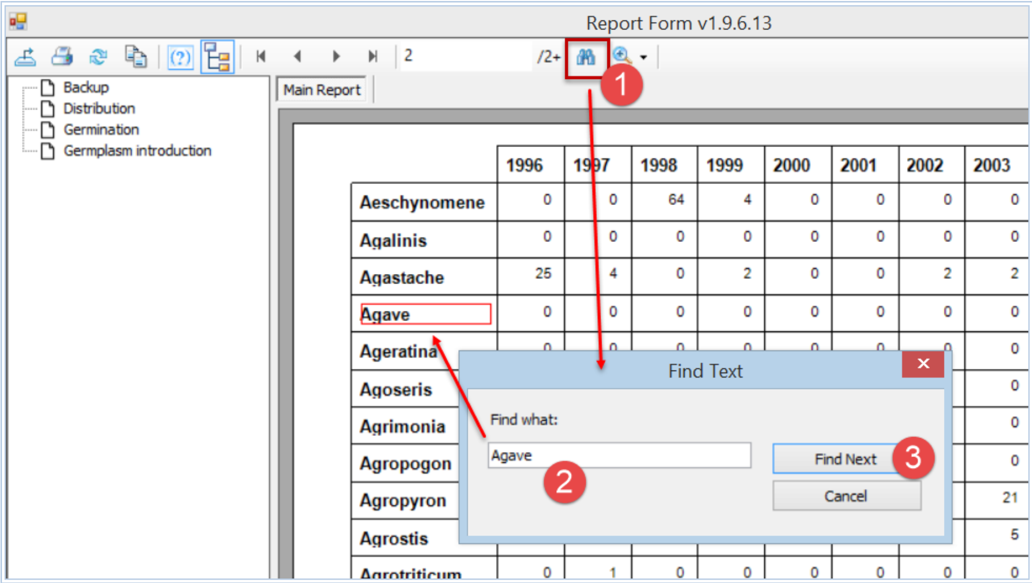


Refreshing Data

If you have had the **Report Form** window open for some time, click the **Refresh** button to ensure that the data being displayed is current.

Finding Text

1. Click on the **Find Text** button; type the text ("search string") in the popup window; click the **Find Next** button.



If matching text is located, the text is outlined in a box.

Wizards

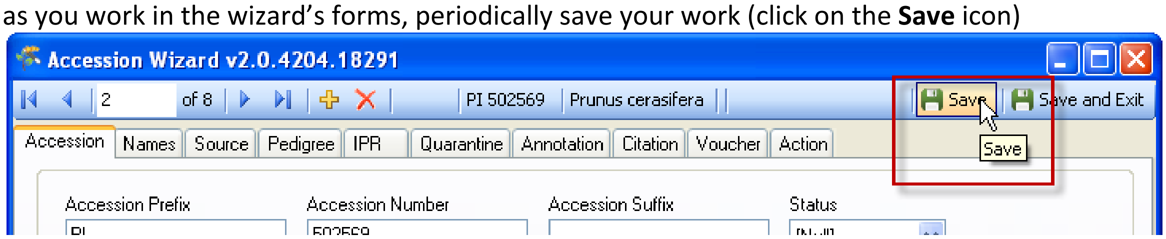
General Notes about Curator Tool Wizards

Wizards

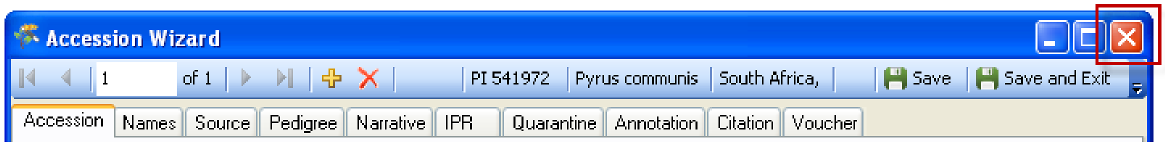
The Curator Tool has several wizards currently available (Accessions, Orders, Cooperators) and more are in development. Wizards have some common characteristics:

- wizards can be used to create a new record or to find and edit existing records; use wizards rather than the straight dataviews whenever possible since wizards generally have been programmed with more features and functionality than the dataviews. For example, the wizards will have embedded triggers to validate data or make specific calculations. One example is the Order Wizard's ability to deduct from existing inventory any amounts shipped within the order.

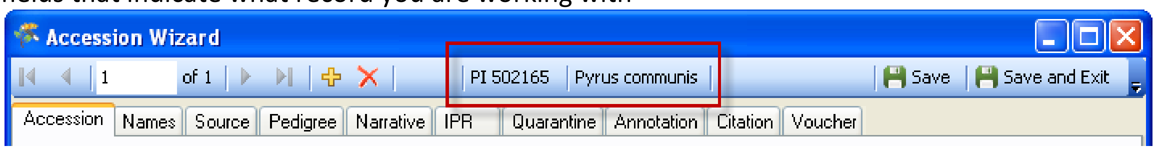
- as you work in the wizard's forms, periodically save your work (click on the **Save** icon)



- use the window's close button to cancel when necessary. *However, any data not yet saved will be dropped, not just for the current tab screen, but for any of the tabs.* (This is why the previous point is so important.)



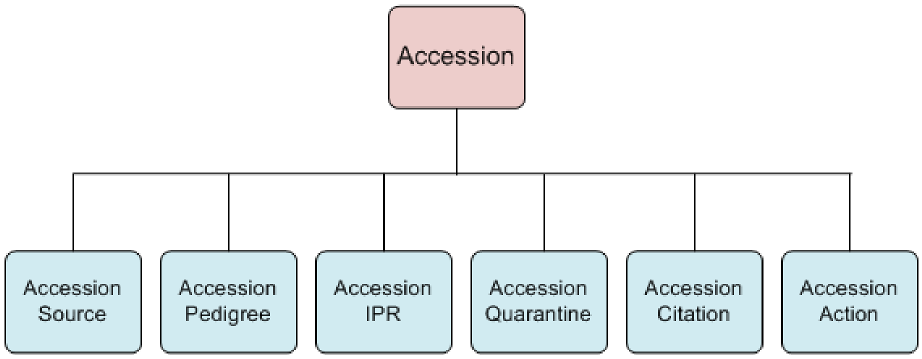
- when reviewing the wizard's screens, notice that the screen's header displays certain important fields that indicate what record you are working with



Accession Wizard Overview

The Accession Wizard facilitates the inputting of new accession data across the parent accession and its related child records.

Remember that accession data is stored in multiple related tables (not all are shown here):



The wizard can also be used to modify the children records as well as the data stored in the parent accession table.

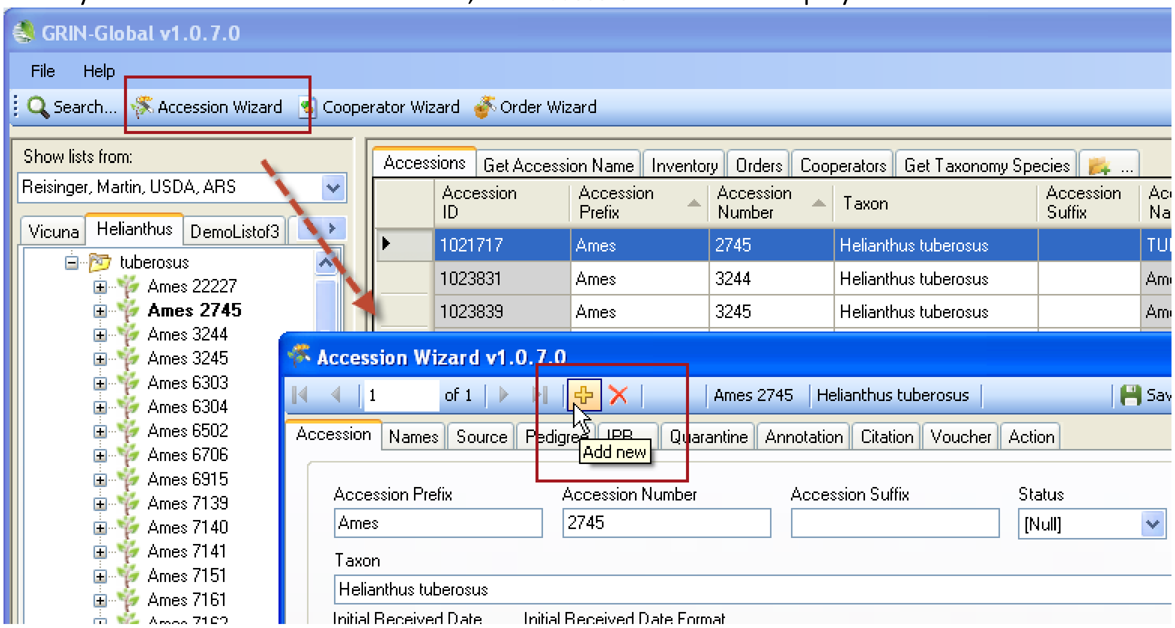
In GRIN-Global, accession data, including the multicrop passport descriptors (MCPD) data, is distributed across multiple tables that are linked to each other. (Inventory tables contain information about the physical germplasm such as quantities available for distribution, whereas the accession tables contain, among other items, the passport information.)

In the Curator Tool, many related dataviews have been designed for inputting and editing accession data in these tables. In fact, there are at least 10 accession-related dataviews. However, many of the tables' fields are optional and may never be used by some organizations. (GRIN-Global was designed to be flexible and accommodate different organizations and genebanks with unique requirements.)

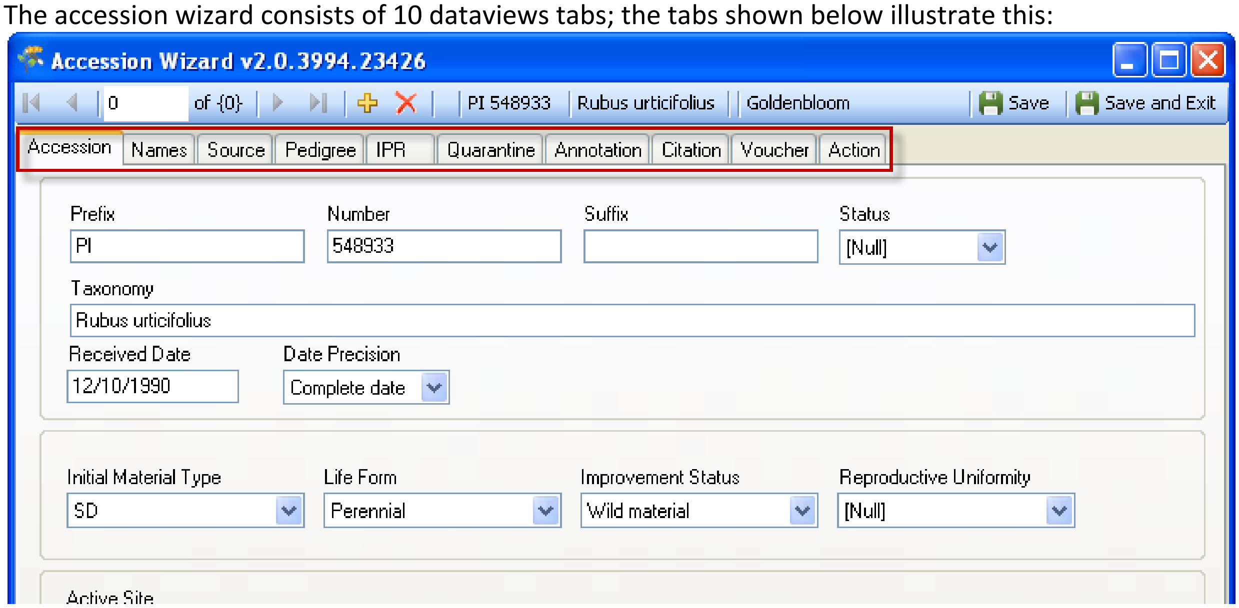
Please refer to the separate Accessions document describing accession data in detail.

General Accession wizard concepts

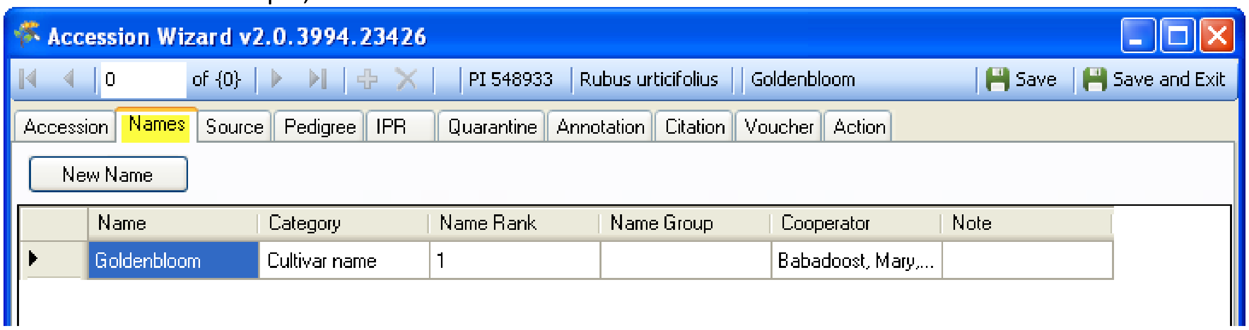
When you invoke the Accession Wizard, the **Accession** dataview displays:



The accession wizard consists of 10 dataviews tabs; the tabs shown below illustrate this:



While using the wizard, the user can click on any of the tabs to display that tab's corresponding dataview. In this example, the **Names** tab has been selected.



Saving the Data

In any window in which you enter data, in order to save the record, you must input data in the *required* fields' data. You do not need to complete each window, since they are dataviews to different tables.

When completing (or partially completing) a dataview, before proceeding to the next tab, click the **Save** button as you continue inputting in the wizard.

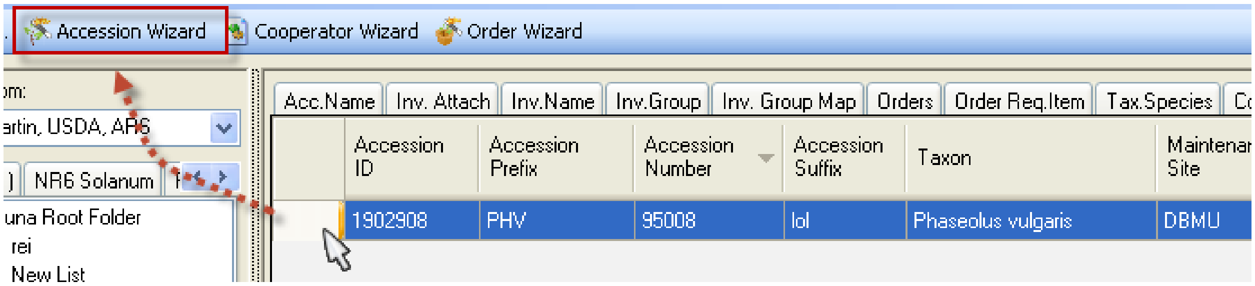
Use the **Save and Exit** button when you are finished using the wizard. (Since you can use the wizard to edit existing data, you can always return later and edit the data.)

The **Save and Exit** button will close the accession wizard and return to the Curator Tool, but first it will indicate that you were successful and also prompt you to add an item to the current list folder (if it is a new item). If you select **Cancel**, the record will be created, but no item will be generated in the current list folder.

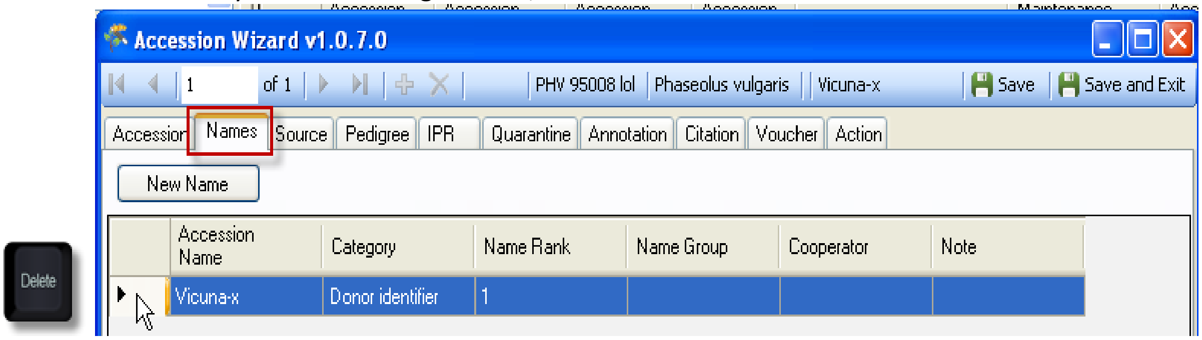
Deleting Accession Records

In a relational database where there are parent and children tables, the general principle is that a parent record cannot be deleted if it has any children records. In order to delete an Accession record, (which should be a rare occurrence), you must ensure that all of its children records are first deleted.

The Accession Wizard is useful for helping you to do this. First, select the Accession record in the Curator Tool Accession dataview that you intend to delete; click the Accession Wizard button:

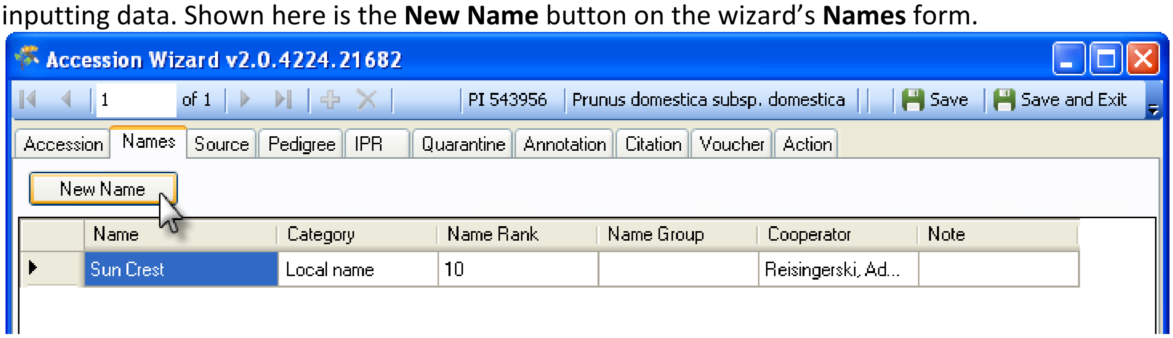


In the Accession Wizard, review for children rows. If the Accession has a child record, you can delete that record by selecting it and then clicking the keyboard's **Delete** key. In the example here, the Accession has a Name record; the user selected the row by clicking on the left margin; then the user presses the **Delete** key. Before exiting this tab, the user needs to click the window's **Save** button:



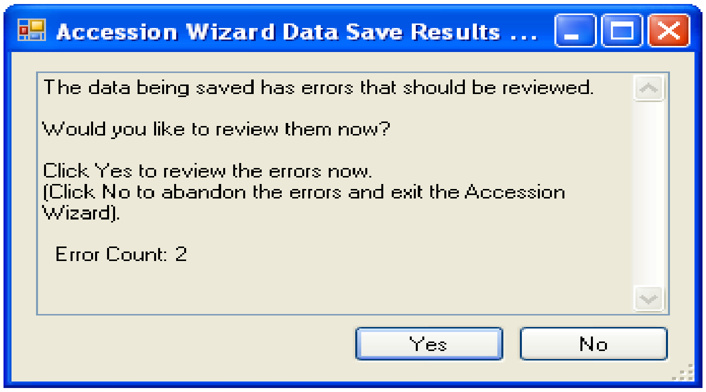
Subordinate Accession Dataviews

The subordinate (or "child") dataviews have their respective tabs. On each of these windows, there is a **New *dataview*** button. When clicked, the Curator Tool displays a new row on the dataview grid for inputting data. Shown here is the **New Name** button on the wizard's **Names** form.

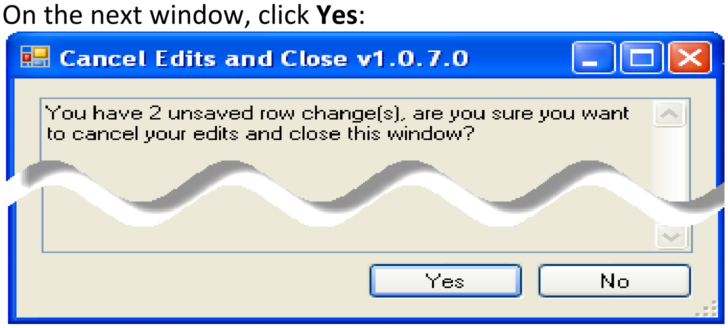


Tip

In moving through the various subordinate Accession wizard windows, you may have clicked a **New** button without intending to do so. When you click on **Save and Exit**, you will be prompted with an error message, in which you should click **No**:



On the next window, click **Yes**:



There are several fields in the Accession wizard dataviews which are unique and will be explained in detail here.

Remember to save each view as you move from one window to another.

Other Ancillary Accession Dataviews

For information about the other fields used in the accession dataviews, refer to the online data dictionary.

Two other online documents contain detailed information on Accession dataviews and fields and Passport data:

http://www.ars-grin.gov/npgs/gringlobal/docs/gg_accessions_and_passport_data.pdf

and

http://www.ars-grin.gov/npgs/gringlobal/docs/gg_multi_crop_passport_descriptors_MCPD.pdf

Cooperator Wizard

Use the Curator Tool's Cooperator Wizard whenever you wish to add a new cooperator to the GRIN-Global database or edit an existing cooperator record. One advantage of using the wizard, rather than using the cooperator dataview, is that you can search the database before inputting a new cooperator.

Background Information

Note that there are two kinds of cooperator records:

- web cooperators
- "ordinary" GRIN-Global(GG) cooperators

We will always distinguish between the two types of cooperator records by including "web" when referring to "web cooperator records" and by stating only "cooperator records" when speaking of GRIN-Global cooperator records.

Web Cooperators

A user on the GRIN-Global public website has an opportunity to self-register – during this registration process the user's contact information is stored in a *web* cooperator record. This web cooperator record is not the same thing as the GG cooperator record.

GRIN-Global Cooperator Records

In addition to the web cooperator records, GRIN-Global maintains cooperator records that are records containing data on individuals and organizations involved with germplasm activities (donors, collectors, breeders, requestors, etc.) Besides storing active address and organization data, cooperator records can be used to store historic data containing the previous addresses of a person or institution.

Also, all users of the GRIN-Global Curator Tool have a cooperator record. When the administrator adds them as Curator Tool users, a GRIN-Global cooperator record is also generated.

Whenever working with or searching cooperators or web cooperators, it is recommended that you update the cooperator lookup tables. Specifically, the three lookup tables are:

- Cooperator
- Cooperator (Big)
- Web Cooperator

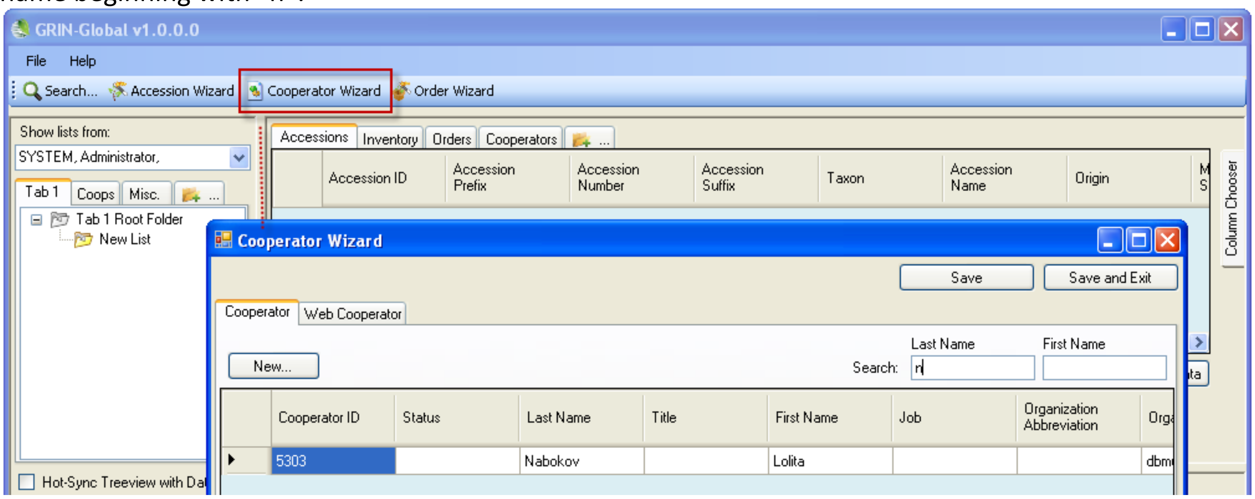
Why three cooperator lookup tables? (Cooperator), Cooperator ("Big"), and "Web."? The Cooperator lookup has a display field formed by cooperator last name, first name, and organization. It is a simple string used as a lookup on the GG records' audit fields such as owned_by. It doesn't need to be too defined because it is used for displaying which curator owns a record.

The "Big" lookup includes many more fields in the display string so that curators can distinguish public cooperators with similar names. That lookup is used when the cooperator is used in a field such as original requestor or donator. You need more detail there, hence the two lookups are used for different needs.

The "Web" Cooperator lookup organizes the Public Website users. When a PW user makes an order, his Web ID is associated with the web order.

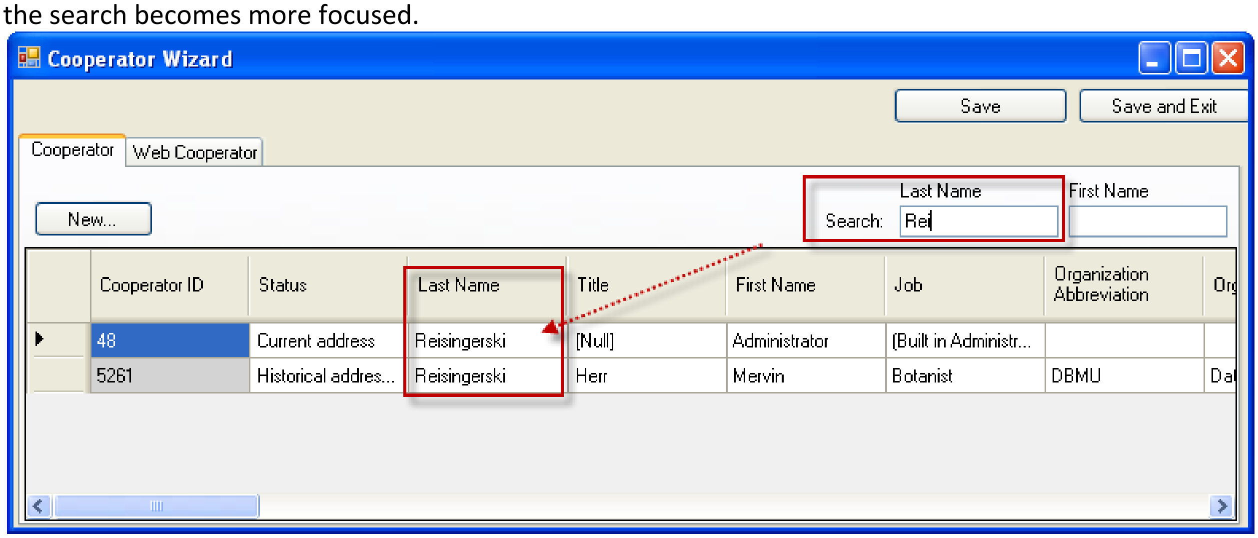
Using the Curator Tool Cooperator Wizard

Use the Cooperator Wizard to add new cooperators or edit existing ones. If you intend to edit an existing cooperator record, use the Cooperator Wizard to quickly locate the desired cooperator record. You can do this from any vantage point in the Curator Tool – you do not necessarily need to be in the cooperator dataview. In the following example, while the user had the **Accessions** dataview as the active dataview, he clicked on the **Cooperator Wizard** button and began searching for cooperators with a last name beginning with “n”:



Search for an Existing Cooperator Record

In the example below, the user started inputting the first three letters of a person’s last name. As the user typed, the Curator Tool responded with several potential matches. As you type more characters, the search becomes more focused.



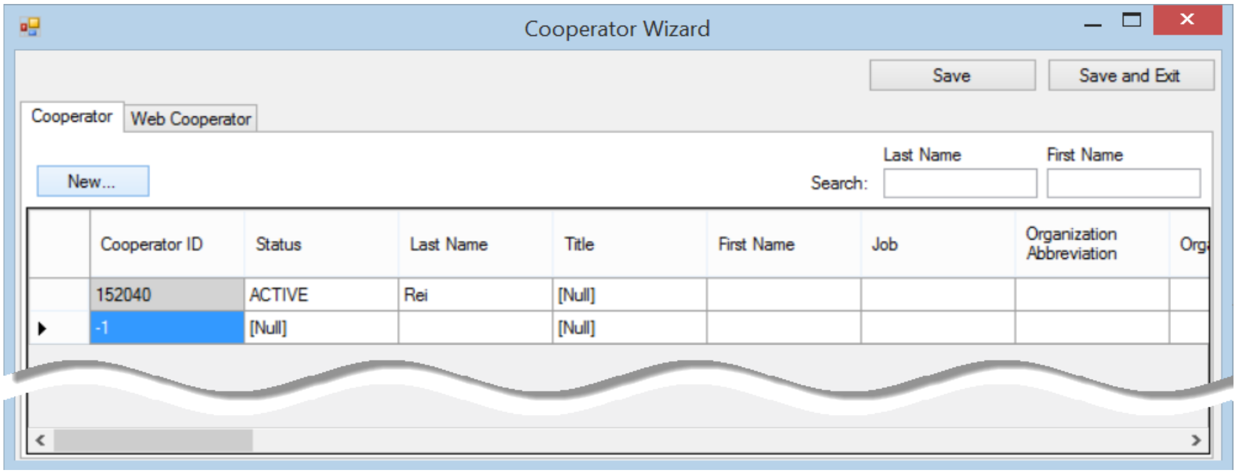
To Edit an Existing Cooperator Record

T o edit the data, click in any cell in the displayed records. Make the changes, and then click either the **Save** or **Save and Exit** buttons.

To ignore any changes made, click the Window Close button (the red X in the top, right corner).

To Create a New Cooperator Record

The cooperator wizard is fairly straightforward. Click on the **New…** button to create a new cooperator record. The wizard window starts a new row.



Required Fields

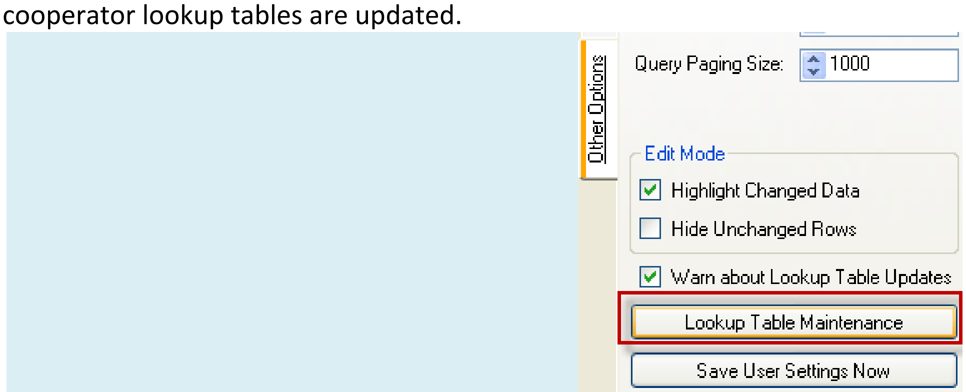
Input the data for the cooperator. You must enter text in either the **Last Name** or the **Organization** fields.

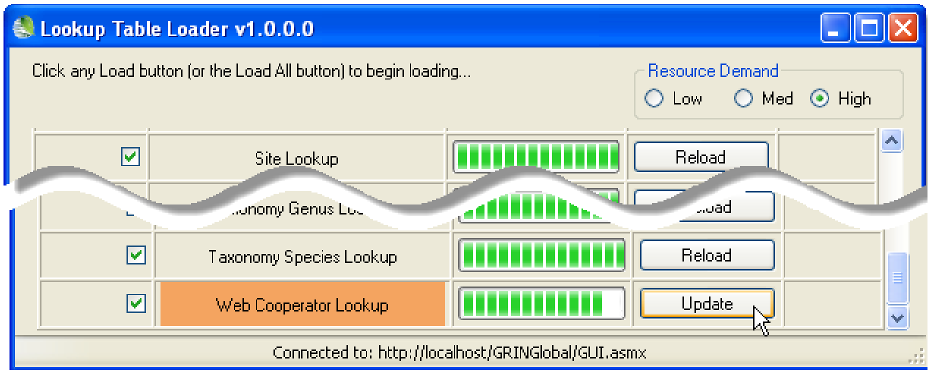
Web Cooperator Records

Users of the GRIN-Global Public Website can self-register; when they do their information becomes a web cooperator record. Each time they use the Public Website they can log in and then add items to their shopping cart.

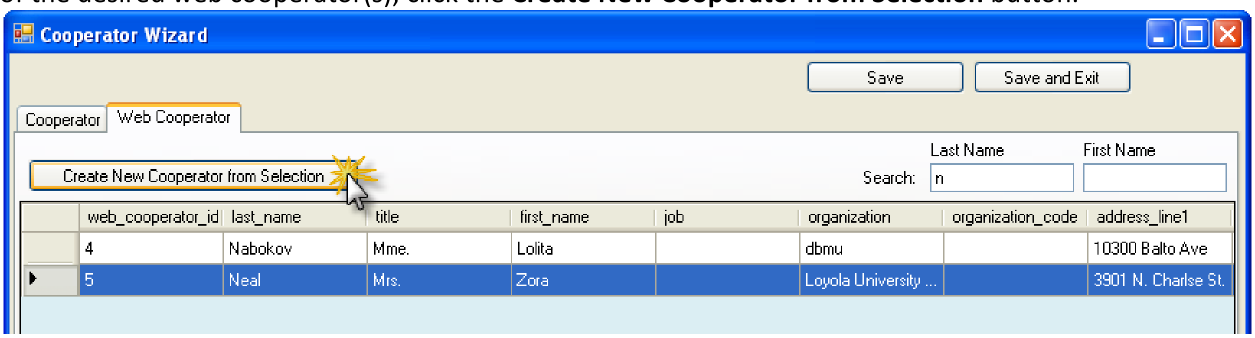
This web cooperator record is also available to the Curator Tool's Cooperator Wizard. A curator or genebank employee with the responsibility can use the wizard to convert the Web cooperator record into a standard GRIN-Global cooperator record. They can do this via the Cooperator Wizard or also via the Order Wizard when processing an Order sent from the Public Website.

However, before searching with the cooperator wizard, in the Curator Tool ensure that the three cooperator lookup tables are updated.

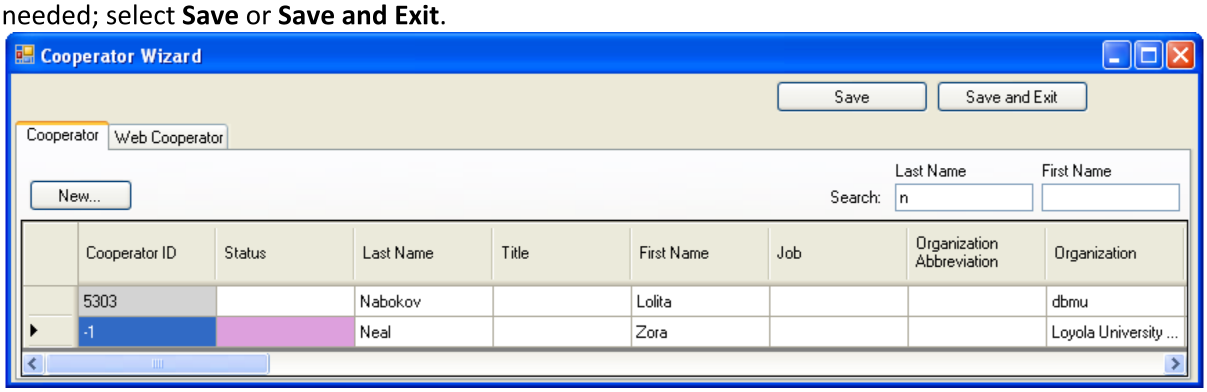




In the **Cooperator** wizard, when the desired web cooperator records are found, select the row (or rows) of the desired web cooperator(s); click the **Create New Cooperator from Selection** button.

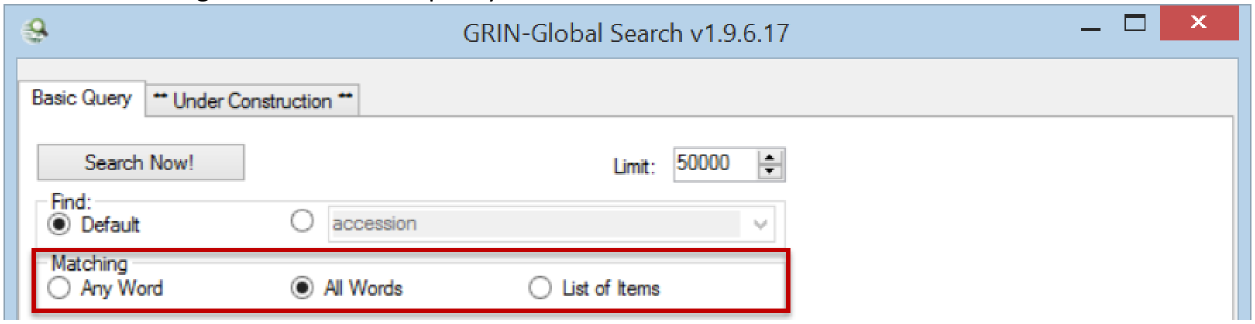


The wizard displays the **Cooperator** tab with the selected records. Edit / complete the record data as needed; select **Save** or **Save and Exit**.



"OR" and "AND" in the Query-by-Example Search Method

Use the Matching radio buttons to specify how the text in the search criteria text box should be treated:



- ***Any Word*** – less restrictive, records are returned whenever any word in the search box is matched; the "OR" operator will be used instead of "AND" – either search criteria must be met

- ***All Words*** – more restrictive, *all* of the words used in the search text must match (see the first example below); this creates an "AND" condition

  Example:
  In a test database, using the search string **Rubus glaucus*,** with "*All Words*" -- only four records are found. With "*Any Word*," selected, 48 records are found – 4 of the 48 are the **Rubus glacus**. So the other 44 records found had either **Rubus** or **glaucus** in their name. (42 happened to be **Rubus,** including the four **Rubus glaucus**, and six were **Elymus glaucus**.)

- ***List of Items*** – used typically when a list, such as a list of accessions, is copied into the search text box. See 96 for an example.

When inputting search criteria in two or more cells, the search condition that is created depends on whether you have selected the radio button **All Words** or **Any Word**:

- **All Words** – the criteria in multiple QBE cells work together as an "AND" …both search criteria must be met in order for records to be found.

- **Any Word** – the criteria in multiple QBE cells work together as an "OR" …any one of the search criteria must be met in order for records to be found

List of Items

This option is used typically when a list, such as a list of accessions, is copied from a spreadsheet into the search text box.

When using this "List of Items" search, the Search Engine is restricted to finding matches in these columns:

accession_number_part1
accession_number_part2
accession_number_part3
inventory_number_part1
inventory_number_part2
inventory_number_part3

form_type_code
plant_name
order_request_id

Example:

List of Items: (example)

PI 500501
PI 612346
PI 612347

Appendix: Release Notes

Curator Tool version 1.9.6.41

- Enhanced the Curator Tool text import method to gracefully handle malformed PKEY data present in tab delimited data being imported to the CT via copy/paste or drag/drop (Trac 973)
- Enhanced the Curator Tool's Order Wizard to alert the user in real-time when the requested amount to be shipped exceeds the amount available in the inventory lot number (Trac 970)
- Enhanced the Curator Tool's Order Wizard to enable Web Order Request Attachments to be updated on the Order Request Attachment tab of the wizard - this is handled through a new 'Update' button on the 'Attachment Tab' of the Order Wizard (Trac 971)
- Fixed the Curator Tool to stop showing an exception message about ‘quantity_shipped’ column not existing during a DataGridView refresh (something that happens automatically when the user clicks the ‘Save’ button and the data is successfully saved)

Curator Tool version 1.9.6.39

- This version corrected a bug in (v1.9.6.38). The bug was introduced by security patches applied to Visual Studio 2012. The net result is that the Accession Wizard throws an error message on startup but will function normally if the 'Continue' button is clicked.

Curator Tool version 1.9.6.38

- Fixed the Curator Tool so that block-mode imported data that contains empty rows/data will no longer remove the empty rows/data but instead will clear the text in DataGridView cells receiving the empty data (Trac 967).
- Enhanced the Curator Tool so that imported data that contains embedded new line characters (/n or /r) are replaced with the HTML tag for a line break (<br>). Also enabled the replacement text to be customized to a different replacement text through the AppSettings.txt file by using this key/value pair: GrinGlobalClient_replacementTextForEmbeddedNewLines =
. Automatically removed double quotes from the beginning and ending of text that contains embedded new line characters (the double quoting is something that Excel does when embedding new line characters in text via the ALT+ENTER keystroke) (Trac 287)
- Enhanced the Curator Tool so that DataGridView column changes made while in 'Edit Mode' (ex. column width or position) are remembered after clicking the 'Save Data' button (Trac 80)
- Enhanced the Search Tool to remember the column changes made by the user (ex. column width or position) when the user clicks the 'Search Now' button or clicks on another DataView Tab - this also fixed the bug that resulted in the Query By Example DataGridView column widths becoming misaligned with the Search Results DataGridView (Trac 960 and Trac 961).
- Fixed a Curator Tool bug in the Lookup Picker dialog box that prevented proper refreshing of the list when the user changed or deleted the filter text (Trac 948)
- Fixed a Curator Tool bug that prevented Drag and Drop or Copy/Paste (CTRL+C, CTRL+V) data from importing properly when there were embedded NewLine or CarriageReturns in the text data (Trac 287)
- Enhanced the Curator Tool login dialog box to display a login banner when there is an entry in the app_setting table or the AppSettings.txt file on the local machine (Trac 956)
- Fixed a Search Tool bug that prevented the last query results from being cleared when the user clicked the 'Clear Query' button (Trac 958)

- Fixed a Search Tool bug that prevented the last query results from being cleared when the user changed a dataview tab property (Trac 947)
- Enhanced the Tab Order for the Accession Wizard and the Accession Form to ease data entry using the keyboard only (Trac 924)
- Enhanced the Order Wizard to display the ordered_date field and the completed_date field with a default format of date only (suppressing the timestamp in the display) (Trac 946)
- Enhanced the Curator Tool Lookup Table Maintenance Dialog's display of the status for each individual lookup table to more accurately and uniformly reflect its current status (Trac 255)
- Enhanced the Search Tool to enable the user to clear the search text without clearing the Query By Example text (Trac 251 and Trac 525)
- Fixed a bug in the Order Wizard to persist the row highlights for Items with Alerts after the user resorted the Order Items (Trac 939)

Curator Tool version 1.9.6.33

- Enhanced the drag and drop method in the Search Tool to gracefully ignore all drag and drop data that is not a tab being moved
- Fixed a bug in the Search Tool that prevented search criteria text to be dragged and dropped to dynamic folders in the Curator Tool (Trac 928)
- Fixed a bug in the Search Tool that allowed the search criteria in the Query By Example (QBE) DataGridView to persist when the user changed the DataView associated with the current Results tab – now when the user changes the DataView associated with a Results tab the QBE DataGridView will automatically clear and the user will be prompted to additionally clear all search criteria in the Search Criteria TextBox and any search results returned from the server if they choose (Trac 929)
- Changed the text in the Order Wizard alert message from '*** Order Contains IPR Items ***' to '*** Order Contains Items with Alerts ***'
- Fixed a bug in the Search Tool that did not properly refresh a dataview after changing the properties on that dataview (Trac 915 and Trac 625)
- Fixed a bug in the Search Tool that prevented the red highlighting of a cell during a right mouse button click from properly disappearing when the right-click context menu disappeared (Trac 807)
- Enhanced the Search Tool to more gracefully exit when the user clicks the Cancel button during login (Trac 668)
- Fixed a bug in the Search Tool that produced an exception when the user clicked on text in the Basic Query textbox – the exception error indicated that the selected text specified was out of range
- Enhanced the Search Tool to accommodate all object types used by all dataviews by automatically selecting the object to find (based on the dataview currently being viewed) or enabling the user to select the objects to find by choosing from a sorted dropdown combo-box (Trac 600 and Trac 889)
- Removed the 'Advanced Query' tab in the Search Tool from user view (until design changes can be implemented)
- Enhanced the Order Wizard method that finds a cooperator record that matches the web cooperator record (during new order request creation) to find the newest cooperator record (the one with the biggest cooperator_id) in the case the search finds multiple matches

- Fixed a Curator Tool bug in Vertical Tab Control (aka Dataview Options Tab Control on right side of CT) that sometimes required the user to click somewhere in the CT in order to get the Dataview Options Tab to respond to a user mouse click (Trac 926)
- Enhanced the Accession Wizard and Accession Form to support the new 'is_web_visible' field and 'status_code' field (Trac 924 and Trac 448)
- Enhanced the method used to determine the state of the local Lookup Tables to compensate for the influence records that have been deleted from the remote database have on the determination of whether or not the Lookup Table is up to date (Trac 819 and Track 754)
- Fixed a bug in the Curator Tool that could potentially corrupt a user's TreeView list if the user saved settings when viewing someone else's TreeView list – now the Curator Tool no longer allows the TreeView list to be saved when a user is viewing someone else's TreeView list (Trac 921)
- Fixed a Curator Tool bug that would inadvertently remove a TreeView tab from the user's TreeView tabs collection when the user was renaming the tab and then clicking the 'Save User Settings' button (Trac 922)

Curator Tool version 1.9.6.29

- Fixed Accession Form so that when a user chooses Initial Receive Date Format before entering Initial Receive Date the Accession Form gracefully supplies the current date (Trac #814)
- Enhanced the DataGridView control handling of the CTRL+N keystroke so that read-only fields in the new row are left empty instead of being populated with data from the source row (Trac #887)
- Enhanced the DataGridView edit-mode formatting code to more rapidly reflect highlighting of changed cells (Trac 635)
- Enhanced the Tools->Reset TreeView Lists menu option to only delete treeview lists when the user is viewing their own list (not someone else's list) (Trac #790)
- Enhanced the TreeView Tab Control to properly handle situations where the user accidentally creates a new tab name using the same name as an existing tab name (Trac #794)
- Fixed the TreeView to properly change the static folder icon to the dynamic folder icon when the user manually edits the dynamic folder query text (Trac #801 & Trac 815))
- Fixed the TreeView so that images can be added to inventory objects as well as accession objects (Trac #898)
- Enhanced the Security Wizard to overcome a bug in the Middle Tier that allows a user to create a security policy that actually creates working security permissions for records not owned by the user. To work around this Middle Tier bug, the Security Wizard will no longer present all records selected by the user but instead the Security Wizard will filter the list of records to only those records owned by the user - this is a stop-gap measure to prevent users from violating security policies (Trac #812 Trac #825)
- Fixed the Search Tool so that wild-carding of numeric fields properly encloses the numeric search pattern in single quotes (Trac #669 and Trac #879)
- Fixed the Accession Wizard to properly allow the user to delete and add source descriptor observation records in the same edit session (Trac 894)
- Enhanced the Cooperator Wizard to only process cooperator records that were selected before startup of the wizard - in the past the Cooperator Wizard would allow the retrieval of the associated cooperator records for other record types (for example accession, inventory, etc records) (Trac #864)

- Fixed Navigator Tab Control to properly handle renaming a tab to a name already in use by another tab on the control(Trac #919)
- Enhanced the Accession Wizard, Order Wizard, and Cooperator Wizard to gracefully handle entry of partial dates (for example year only) as long as the date format code has already been specified by the user (Trac 917)
- Fixed a refresh issue in the Accession Wizard to enable the wizard to properly load new records created by datatriggers during a Save operation - for example auto-creation of an Accession Name will now show in the wizard if all data changes were successfully saved (Trac 920)
- Enhanced the Change Password dialog to suppress the warning message that New Password and Confirm Password do not match until text has been typed in both text boxes (Trac 872)
- Enhanced the Order Wizard's Inventory Picker to process wildcards applied to the Accession Number (ex. PI 500*) when searching for suitable inventory (Trac 859)
- Fixed issue in the Lookup Picker that did not allow multiple wildcards in the search string (Trac 882)
- Enhanced the Vertical Tab Control ('Column Chooser' and 'Other Options' on right hand side of application) to auto-disappear when the user moves the mouse away from the Vertical tab (Trac 678)
- Enhanced the DataGridView to allow the Curator Tool to automatically provide default values in required fields (when the middle tier passes the default values to the Curator Tool in the Extended Properties - for example the is_distributable field) (Trac 806)
- Enhanced the DataGridView to show only the columns visible in Read-Only mode when changing to Edit mode(Trac 820)
- Enhanced the TreeView Tab Control to safely prevent duplication of tab names when the user modifies the tab name through the Tab Properties dialog - including properly updating the 'Show Tabs' context menu list (Trac 901 & Trac 776 & Trac 919)
- Fixed a bug in the processing of Friendly Name Formulas in the TreeView that prevented static text at the end of the formula from being used in the building of the TreeView Node's friendly name (Trac 817)
- Changed the ‘New Source Descriptor’ button to ‘New Source Descriptor Observation’ (Trac 851)
- Enhanced the TreeView sorting routines to more accurately sort TreeView Node Friendly Names that include decimal numbers in the text (Trac 802)
- Fixed a bug to prevent the Search Tool from 'resetting' the DataGridView displayed columns to show the left-most column when the user resized any columns in the DataGridView (Trac 899)
- Enhanced the Accession Wizard's Source DataGridView to show the 'is_web_visible' field (Trac 865)
- Enhanced the DataGridView key-press handling to leave column widths intact when pressing CTRL+' or any other special purpose editing key presses (Trac 893)
- Enhanced the Accession Wizard to refresh all data in the wizard after a fully successful 'Save' button press (Trac 920)
- Enhanced the Accession Wizard to present the date/time format code field before the data/time field so that users can more easily enter partial dates (Trac 917)

Curator Tool version 1.9.6.26

- Enhanced the Accession Form, Image Form, Inventory Form, and Order Form to remember the last key pressed when editing a Lookup Table value (FKey field)
- Enhanced the Accession Wizard, Cooperator Wizard, and Order Wizard to remember the last key pressed when editing a Lookup Table value (FKey field) in Data**GridView** fields and in Form fields
- Enhanced the Order Wizard to enable the user to start the Cooperator Wizard directly from the Order Wizard by clicking a new Edit button next to the **Final Recipient**, **Requestor**, and **Ship To** text boxes
- Enhanced the Order Wizard to put user input focus on the Final Recipient textbox when the user clicks the "+" button at the top to add a new empty Order Request
- Enhanced the Order Wizard to automatically populate the **start_date** and **start_date_code** fields in the Order Action tab when the user clicks the **New Action** button to add a new empty Order Request Action row
- Fixed a bug in the Order Wizard to enable the user to modify Order Request Items that have been newly added but not saved to the database yet
- Enhanced the Order Wizard to activate the Cooperator Wizard even when there is no cooperator chosen in the **Final Recipient**, **Requestor**, or **Ship To** text boxes
- Fixed a bug in the Web Services List Editor dialog box (this is the editor for managing the Web Services dropdown list for the Login dialog box) so that the checkbox for "Use SSL" is properly remembered

Curator Tool version 1.9.6.23

- Modified the **Save Data** button click event to suppress error messages when saving records that have code_value fields populated with codes that do not exist in the code_value table
- Enhanced the lookup table maintenance method so that it loads faster during CT startup and also displays lookup table maintenance progress in the status bar at the bottom of the CT to let the user know that the CT is updating the Lookup Tables
- Enhanced the **Refresh Data** button click event (and the F5 key press) to inspect the currently active **DataGridView** tab to detect fields that use Lookup Tables and if any are found in the **DataGridView** – update those Lookup Tables before refreshing the data. After updating Lookup Tables used by the **DataGridView** the final procedure is to also background thread updating of all other Lookup Tables as well (these Lookup Tables are updated in the background so the user does not have to wait for updating Lookup Tables not used by the current DataGridView)
- Enhanced the Accession Wizard to properly handle keyboard short-cuts for all DataGridView tabs in the Wizard
- Enhanced Lookup Table maintenance methods to remove associated memory cache dictionaries when a Lookup Table is being dropped and rebuilt
- Changed the spelling of "finally" to "finally" in the AppSettings.txt file
- Moved the Edit Mode checkboxes for: **Highlight Changed Data** and **Hide Unchanged Rows** from the Options Tab on the right side to a more prominent position on the Main DataGridView area (for easier user access). NOTE: these checkboxes only show when the CT is in Edit Mode
- Added an additional Edit Mode checkbox for **Hide Non-Error Rows** to make it easier for users to find errors in DataGridViews with a large number of rows where only a few have errors. NOTE: this checkbox only shows when the CT is in Edit Mode

- Fixed a bug that did not always properly re-process corrected edits when there were errors in the CT's Main DataGridView
- Fixed **Hot-Sync Treeview with Dataview** checkbox functionality to work with the new dynamic folders
- Added a 'Show All' checkbox to the Cooperator dropdown combo-box for enhanced user-list filtering capability so that users can see TreeView lists from other sites
- Added a Rich Text Editor dialog box to enable large text fields (for example, ***Note*** fields) to be viewed and edited more easily. NOTE: To use the new Rich Text Editor to view/edit large text fields – simply click on the DataGridView cell and press CTRL+E (same as in GRIN-Classic). This Rich Text Editor is available in both Edit mode and Read-Only mode
- Enabled the Edit mode DataGridView to word wrap large text fields for easier in-place cell editing
- Enhanced the **Reset User Settings** Tools Menu command to remove nearly identical user settings (for example when the user setting record was only different in a field containing a NULL value).
- Enhanced the Read-Only mode DataGridView so that the current cell is highlighted using a light Sky-Blue color. NOTE: this assists the user in knowing which cell will be displayed in the Rich Text Editor when pressing CTRL+E
- Modified the behavior of the Lookup Table Updating process to work around a flaw in the Middle Tier's **GetAllLookupTableStats()** web method. The flaw in the MT Web Method allows updates to be missed when the data changed was not in the PKey table associated with the Lookup Table but was instead a change in a table joined to the PKey Lookup Table. For example if changes are made to the code_value_lang table (perhaps for a correction or additional translation for the code_values) – the GetAllLookupTableStats() web method will ignore those changes and incorrectly report back to the CT that the code_value lookup is up to date. Therefore the results returned to the CT after a call to GetAllLookupTableStats() report no updates needed even though language changes have been made and the code_value Lookup Table needs to be updated

Curator Tool version 1.9.6.19

- Fixed CT code that automatically updates lookup tables so that it will now upgrade an existing local lookup table database ad hoc instead of requiring the user to reload all of the lookup tables when upgrading from CT v1.9.6.13 or earlier versions to newer CT versions
- Enhanced the Lookup Table Dictionary methods to gracefully handle corrupted lookup table dictionaries (by detecting a read problem and deleting the dictionary so that it can be automatically rebuilt by the CT)

Curator Tool version 1.9.6.17

- Fixed bug that disabled copy/paste (Ctrl+C and Ctrl+V) from the CT datagrid view (when in Read-Only mode)
- Enhanced the CT datagrid view to enable "block-mode" selections in addition to the default "full-row" selections when the user is in Read-Only mode. NOTE: this allows copying of a cell or a block of cells to another Windows program, such as Excel. To initiate a block-mode selection the user simply presses the "Alt" key.
- Enhanced SearchTool datagrid view to allow copy/paste (Ctrl+C and Ctrl+V) from the query results dataview

- Modified the following Crystal Reports labels: 1x3 Freezer, 1x3 Jar Lid, 1x3 Prepack, 3x3 Extra Bag, 3x3 Jar, 3x3 Packet to use the new Bar Code server in Ames Iowa – so now any testers world-wide can see the capability of the Crystal Reports labels to deliver barcodes embedded in labels, tags, and reports.
- Enhanced the speed of synchronizing /updating LookupTables by using the MT WebService GetAllLookupTableStats() webmethod (which should be faster) – the CT should load faster now
- Enhanced the "Refresh Data" button (including pressing F5 key) to update Lookup Tables before the datagridview data is retrieved
- Fixed a bug in the Column Chooser (checked listbox on the right side of the CT) to prevent columns with similar names from being confused during the check or uncheck process
- Fixed a bug in the TreeView that prevented folders from consistently remembering the user requested sorting order
- Fixed a bug that prevented the TreeView from detecting user navigation (mouse clicks) after saving settings (from the SaveSettingsNow button in the options menu).

Curator Tool version 1.9.6.12

Enhanced the DGV build methods (edit and read-only) to: 1) honor the ExtendedProperties 'default_value' for columns that have a default value provided, 2) provide the ExtendedProperties 'description' for the column as a mouse-over tool tip.

This new version has these changes listed below:

- Enhanced the DataGridView to use default values passed from the Middle Tier to the Curator Tool during edit mode
- Provide column descriptions in the DataGridView that are visible to the user during a mouse wave-over/hover-over [Note: data for column descriptions is not yet in the database]

Curator Tool version 1.9.6.11

- Fixed bug that prevented the CT DataGridView from remembering sort order for user settings (Trac #885)

Curator Tool version 1.9.6.9

- Fixed the Windows .NET security update that broke the "drag and drop" from the Search Tool to the Curator Tool
- Order Wizard:
    - Now supports Web Order Request Attach files (automatically migrates web_order_request_attach entries to order_request_attach entries. The binary data is copied from the web side to the curator side.
    - Now has a new Order Wizard **Attachments** tab page which supports the Order Request Attach files. Attachments are brought into the wizard via the method described in the bullet above. Also, additional files (.doc, pdf, xlsx, jpg, etc.) can be manually dragged onto the Order Wizard Attachments page's datagridview)
    - Refined the date/time fields so that they no longer convert the date/time value to UTC before saving

  - The Order Request Date filter is now working properly (similar to the Web Order Request Date filter)
  - Both Web Order Request Date filter and Order Request Date filter have been enhanced to support a broader range of date syntax. For instance, the wizard now automatically converts a two-digit year less than 50 to 20xx and a two digit year greater than 50 to 19xx as most people would prefer. If you need the other millennia simply include the full four digits of the year. It also is more savvy about handling mm-dd-yyyy vs. European dd-mm-yyyy date formats (it now uses the user's locality preferences for the operating system)
  - The top Navigator Bar is hidden from view when the user is not on the **Orders** tab (for example when the user is on the **Actions**, **Attachments**, or **Web Orders** tab pages)
  - The hiding and showing of the error text box (at the bottom of the **Orders** tab page) will not properly resize the Items datagridview so that the scroll bars of the datagridview are always visible
- The Order Wizard now freezes the tabs when it is in the middle of creating a new order from a web order (this prevents the user from clicking something that could inadvertently mess up the new order building process and also acts as a visual cue that the Order Wizard is busy doing work)
- The Order Wizard will only download a local copy of attachment files if the OW user clicks on the **Attachments** tab page (lazy evaluation of the attachment downloads – no need to download them if the user does not intend to look at them)
- Fixed a bug that improperly passed the wrong keystroke into the LU Picker dialogbox when the user pressed a key to initiate selecting a FKEY field value
- Fixed a bug which was allowing the saving of user settings from the CT to overwrite the ST settings (and vice versa)
- Commented out the AppSettings.txt file entries since they are now added to the app_setting table in the database
- Fixed a bug in the CT drag and drop that would inadvertently revert the column order back to default column ordering instead of honoring the column order displayed in the datagridview
- Enhanced code to properly process database table app_setting entries for max number of rows and page size global variables
- Enhanced code to save all user settings when the "Save User Settings Now" button is clicked
- Treeview lists and LU table caches are now also saved when the "Save User Settings Now" button is clicked
- Now displays a radio button indicating the selected **Resolve To** object type in the Treeview Node Properties dialogbox
- Added code to cache user settings frequently during normal user interaction with the CT to enhance the CT's ability to remember new/changed user settings (such as default row color, etc.) while the user is doing normal navigation around the CT
- Fixed bug in that allowed the DataGridView user settings to bleed into other DataGridViews (for example from get_inventory to get_accession)

Curator Tool version 1.9.6.4

- This version is a downgrade of the .NET Framework required for the CT (from version 4.5 to version 3.5 of the Framework).

- Fix for odd UTC date time behavior when user is not in the same time zone as the server. This fix requires changes to both the MT and the CT to properly fix the bug. I have checked in the code changes for the MT to the SVN vault for a future build. Until those minor changes to the MT are incorporated into a build there will continue to be problems with dates in the CT showing up wrong depending on which time zone you are in. When the MT is patched with the minor changes – all versions of the CT from v1.9.4 and above should properly handle display of dates in tables. Because this involves MT changes please ensure that date time fields are given extra special attention during your testing for the next several CT versions.
- Order Wizard will now visually cue the user when some of the order request items have restrictions (IPR, quarantine, etc). When an order with restrictions is displayed you will see a pink textbox indicating that restricted items are included in the order and each restricted item will have its row in the datagrid highlighted in pink as well.
- The Order Wizard will now transfer the web order request action to an order request action for the SMTAACCEPTED actions.
- The Web Order tab on the Order Wizard now displays the total number of items in the web order request.
- The search for web order request IDs in the Order Wizard Web Order tab operates the same as the search for order request IDs on the Order tab.
- The Order Wizard's Print dropdown combobox and Print button are hidden when the user is not viewing the Order tab.
- The Date Search functionality for the Order Wizard has been enhanced to make searches for orders (and web orders too) based on dates much easier. Wild carding of partial dates is much more intuitive now and the Wizard now automatically appends wild cards for the unspecified hh:mm:ss times when the user specifies only the day in the search and forgets to append the wild card for time within that day.
- Right clicking to get the context menu on the order items datagrid in the Order Wizard will now show just the report(s) relevant to the order items data (in our case this will be the 3x3 Packet Label) – NOTE: if you have modified your ReportsMapping.txt file then you will need to modify that file manually in order to get the packet label Crystal Report to show up on the menu. So if you want to test this enhancement, modify this line in your copy of the ReportsMapping.txt file as follows……
  the line that looks like: 3x3_Packet_Label.rpt = order_wizard_get_packet_label
  should become: 3x3_Packet_Label.rpt = order_wizard_get_packet_label; order_wizard_get_order_request_item
- The Lookup Table refresh bug should be fixed now

Curator Tool Release 1.9.5

- Includes the fix for the Windows .NET security update that broke the drag and drop feature from the Search Tool to the Curator Tool
- Order Wizard:
  - Now supports Web Order Request Attach files (automatically migrates web_order_request_attach entries to order_request_attach entries and copies the binary data from the web side to the curator side).

- Now supports Order Request Attach files (including new Attachments tab page in wizard and drag and drop of image files to the “Attachments” tab page datagridview for adding additional order_request_attach files).

- Refined the date/time fields so that they no longer convert the date/time value to UTC before saving.

- The Order Request Date Filter is now working properly (just like the Web Order Request Date Filter).

- Both Web Order Request Date Filter and Order Request Date Filter have been enhanced to support an even broader range of date syntax. For instance the wizard will now automatically convert a two digit year less than 50 to 20xx and a two digit year greater than 50 to 19xx as most people would prefer. If you need the other millennia simply include the full four digits of the year. It also is more savvy about handling mm-dd-yyyy vs. European dd-mm-yyyy date formats (it now uses the users locality preferences for the operating system).

- The top Navigator Bar is hidden from view when the user is not on the **Orders** tab (for example when the user is on the **Actions**, **Attachments**, or **Web Orders** tab pages).

- The hiding and showing of the error text box (at the bottom of the “Order” tab page) will not properly resize the Items datagridview so that the scroll bars of the datagridview are always visible.

- Renamed the **Order** tab page to the **Orders** tab page; renamed **Web Item Status** label on the **Web Orders** tab page to **Web *Order* Status**.

Curator Tool Release 1.9.4

- This version is a downgrade of the .NET Framework required for the CT (from version 4.5 to version 3.5 of the Framework). This change is to maintain compatibility with NCGRP development efforts that are already using the 3.5 Framework in new GG apps for use at Ft. Collins. This version should have the same Crystal Reports and other minor feature upgrades you are currently using.

- Fix for odd UTC date time behavior when user is not in the same time zone as the server. This fix requires changes to both the Middle Tier (MT) and the CT to properly fix the bug. Until those minor changes to the MT are incorporated into a build, there will continue to be problems with dates in the CT showing up wrong depending on which time zone you are in. When the MT is patched with the minor changes – all versions of the CT from v1.9.4 and above should properly handle display of dates in tables. Because this involves MT changes please ensure that date time fields are given extra special attention during your testing for the next several CT versions.

- Order Wizard will now visually cue the user when some of the order request items have restrictions (IPR, quarantine, etc). When an order with restrictions is displayed you will see a pink textbox indicating that restricted items are included in the order and each restricted item will have its row in the datagrid highlighted in pink as well.

- The Order Wizard will now transfer the web order request action to an order request action for the SMTAACCEPTED actions.

- The Web Order tab on the Order Wizard now displays the total number of items in the web order request.

- You can search for web order request IDs from the Web Order tab in exactly the same as you search for order request ids on the Order tab in the Order Wizard.

- The Order Wizard's Print dropdown combobox and Print button are hidden when the user is not viewing the Order tab.

- The Date Search functionality for the Order Wizard has been enhanced to make searches for orders (and now in web orders too) based on dates much easier. Wild carding of partial dates is much more intuitive now and the Wizard now automatically appends wild cards for the unspecified hh:mm:ss times when the user specifies only the day in the search and forgets to append the wild card for time within that day. This enhancement needs testing by others (because as I have come to find out, we all specify dates differently). By having more sets of eyes look at this we can ensure that the majority of the natural date specifications are properly handled in the Order Wizard.

- Right clicking to get the context menu on the order items datagrid in the Order Wizard will now show just the report(s) relevant to the order items data (in our case this will be the 3x3 Packet Label) – NOTE: if you have modified your ReportsMapping.txt file then you will need to modify that file manually in order to get the packet label Crystal Report to show up on the menu. So if you want to test this enhancement modify this line in your copy of the ReportsMapping.txt file as follows……
  the line that looks like: 3x3_Packet_Label.rpt = order_wizard_get_packet_label
  should become: 3x3_Packet_Label.rpt = order_wizard_get_packet_label; order_wizard_get_order_request_item

- The Lookup Table refresh bug should be fixed now (Mark this one is addressing the problem you had last night with LU tables being constantly out of sync and was partially due to the changes in the MT to fix display of UTC dates).

Curator Tool Release 1.9.2

Note

This Curator Tool version is the first version to use InstallShield as its installer; the CT is not installed by the GRIN-Global Updater program.

Also, (one time only), before installing version 1.9.2, you will need to manually *uninstall* your existing CT with the Updater program.

This CT has four prerequisites that may or may not need to be installed by the CT installer. They are:

- .NET 4.0 Framework
- .NET 4.5 Framework

- Crystal Reports 13.0.5
- SQL Server 20XX Express
  (the CT will use any SQL Server Express version that is installed, but if you do not have SQL Server Express installed the installer will install SQL Server 2012 Express).

  If you have all of these prerequisites already installed, the process takes less than a minute to complete. If you need to download and install any of these prerequisites, the installation process will take longer.

This 1.9.2 version has these changes:

- Added the reports printing functionality within the Order Wizard. The pre-defined reports were designed using Crystal Reports (version 13.0.5)
- Updated the **AppSettings.txt** file with standard entries
- Enhanced the **Reports** context menu to only display reports that are apply to the current dataview.

  [A text file, **ReportsMapping.txt**, controls the mapping of the reports to the dataviews. This file is stored in the "**C:\Users\YOURUSERNAME\AppData\Roaming\GRIN-Global\Curator Tool**" directory. The file can be edited as needed.]
- Six new Crystal Reports were developed for jar, bag, and packet labels:
  1. 1x3_Freezer_Label,
  2. 1x3_Jar_Lid_Label,
  3. 1x3_Prepack_Label.rpt,
  4. 3x3_Extra_Bag_Label.rpt,
  5. 3x3_Jar_Label.rpt,
  6. 3x3_Packet_Label.rpt
- The Lookup Picker window was enhanced to suppress the checkbox filter when the field is "NULL" (typically when a new row is being and that field has not been populated yet)
- Increased the memory size of the Search Tool's criteria text box to be constrained by the computer's available memory
- Corrected the Drag & Drop behavior when creating a new dynamic folder so that the dynamic folder will use **Default** for the "**Resolve To**" object type when "Default" has been chosen in the Search Tool
- Increased the Search Tool limit (maximum number of rows allowed) from 50,000 to 1,000,000 records
- Increased the Curator Tool limit (maximum number of rows allowed) from 50,000 to 1,000,000 records
- Fixed the "**Dictionary Missing Value**" bug that happened sometimes when the Curator Tool was started without Lookup tables loaded

- Added support for the new SSL connection (a checkbox on the edit server list dialog box – child window of the logon dialog box)
- Added support for handling new password strength rules

Curator Tool Release 1.8.33.0

This 1.8.33.0 version has these changes:

- Fixed a minor bug that prevented the order_request completed date from being populated when a new order was immediately cancelled for all items.
- The **Ship All** button should work properly for APHIS order items now…
- When the completed_date is populated in the order header there is an action added with a action_code of “DONE”
- Total Cost is now being calculated for costs captured in order_request_actions
- The Feedback text box and label are now hidden
- Cancelling all order_request_items in a new order will properly populate the order_request completed_date using direct datagrid edits or the context menu
- The note for APHIS has been fixed to properly record that the order has been sent to ‘Plant Inspection’
- The web_order_request_items and web_order_request dataviews now hide the created/modified/owned *by and *date columns
- Added support for accession_source_map table in the Accession Wizard **Source** tab
- Added support for source_desc_observation table in the Accession Wizard **Source** tab
- Added a checkbox **My Site's Accessions Only** to the Order Wizard **Web Order** tab – basically this will split the web order up by site if it is left checked
- Added a switch statement to the **Create Order Request** button click event to properly populate the order_request.order_type in the Order Wizard from the Web Order Request Intended Use field

Curator Tool Release 1.8.30.0

This 1.8.30.0 CT version includes these changes:

- The **Ship All** button works for APHIS (inspection) order items…
- When the completed_date is populated in the order header there is an action added with a action_code of **DONE**
- **Total Cost** is now being calculated for costs captured in order_request_actions
- The **Feedback** text box and label are now hidden
- Cancelling all order_request_items in a new order will properly populate the order_request completed_date using direct datagrid edits or the context menu
- The note for APHIS has been fixed to properly record that the order has been sent to “**Plant Inspection**”

- The web_order_request_items and web_order_request dataviews now hides the created/modified/owned *by and *date columns
- The web_order_request_items and order_request_items dataviews now show a new column for xPVP status warning

Appendix: Document Revision Notes

– January 13, 2106

- corrected link to online Frequently Asked Questions (FAQ) document

– December 29, 2015

- added summary note regarding drag and drop

– November 30, 2015

- moved Appendix of GG documentation resources to the front of this document

– November 5, 2015

- edited text regarding ownership & permissions

– October 5, 2015

- edited text for dates when searching with the % wild card

– June 10, 2015

- added an example for a text search

– April 30, 2015

- minor edit added to the Reports section regarding the link to the online list of current reports

– April 8, 2015

- edited the Reports section

– March 9, 2015

- extensive editing of the Search section – especially the table of valid search parameters

– January 14, 2015

- edited Lookup table information

– January 6, 2015

- edited the Reports Mapping section

– November 18, 2014

- added the version notes for 1.9.6.38, …39. 41

– October 21, 2014

- added more details for IS NULL / NOT NULL and IN / NOT IN in the Search section

– June 23, 2014

- rearranging the content of the entire User Guide to emphasize "How To…" with the background and release information moved to the Appendices

- edited references to the CT installation to reflect that the CT is now installed via InstallShield (and not the GG Updater)

– June 17, 2014

- extensive editing of the Reports section

– May 6, 2014

- added developer notes for versions 1.9.6.x

– April 8, 2014

- added an example for manually modifying the search text in order to use a wildcard with a numeric field (such as Accession Number)

– April 4, 2014

- inclusion of Appendix with links to GG supporting documents Wizard

- general updating of several revised windows and inclusion of 1.9.4 and 1.9.5 notes

– November 11, 2013

- included new text regarding the revised Order Wizard

– August 14, 2013

- multiple edits including adding information on dynamic folders, source dataviews, and other features added since version 1.5

- substantial edit of the introductory explanation of GRIN-Global components

- minor edits to the lookup and permissions sections

– April 2, 2013

- initial document for the Curator Tool 1.8.3 release.

Appendix: Database and GRIN-Global Basic Concepts

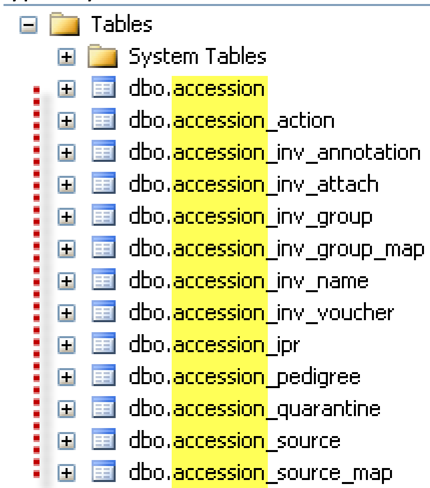
GRIN-Global Overview

GRIN-Global is a Relational Database

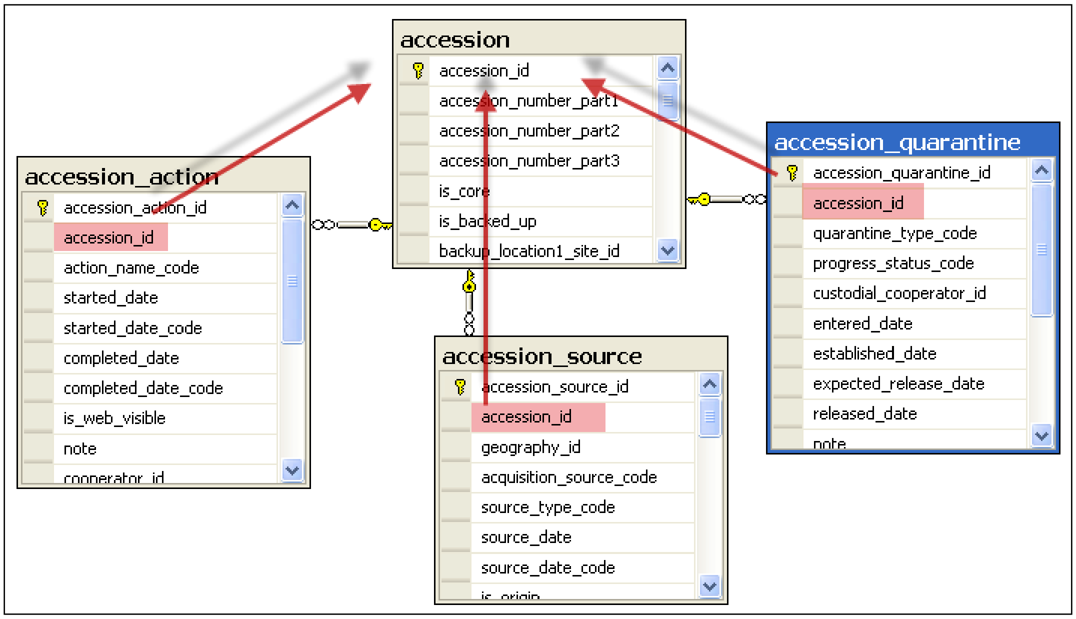
The GRIN-Global data is stored in many tables; this type of database is referred to as a relational database. Each table relates to other tables by key fields. A single spreadsheet, on the other hand, may be considered a database, but because the spreadsheet stands alone, it is not relational and is sometimes referred to as a flat file database. Generally, relational databases:

- are easy to use
- reduce redundant data
- consist of many tables that are used together to quickly find desired information
- are easier to expand when data needs change

In GRIN-Global the accession data is stored across more than 103 related tables. The illustration below lists the tables by their actual table names. (This is not a Curator Tool screen shot, but was taken from the database tool in which the developers designed the tables. As a Curator Tool user, you will not typically see the names shown here.)



Each record in the accession table has a unique accession_id. (The accession_id field is the table's primary key.)The subordinate tables that relate to the main accession table do this by pointing to the main accession table's **accession_id**.



(Not all of the accession tables are shown in this illustration.)

Fortunately, as a GRIN-Global Curator Tool user, these relationships are managed for you in “dataviews” – dataviews mask these raw data descriptions and relationships.

Relational Database Example: Accessions and Inventory

The following example illustrates how combined Accession and Inventory data would look in a non-relational database, such as a spreadsheet:

Accession Prefix	Accession Number	Accession Suffix	Taxon	Life Form	Additional Acc. Fields...	Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Inventory Maintenance Name
PI	537023	mar	Phaseolus vulgaris	SD	...	49051	WRF1	3175	01	SD	BEAN_HYBRID_SEED
PI	537023	mar	Phaseolus vulgaris	SD	...	49042	PI	537023	1995	HE	BEAN_HERBARIUM
PI	537023	mar	Phaseolus vulgaris	SD	...	49033	NSSL	3175	1996	SD	BEAN_HYBRID_SEED
PI	537023	mar	Phaseolus vulgaris	SD	...	49024	WRF1	335162	01	SD	BEAN_HYBRID_SEED
PI	537023	mar	Phaseolus vulgaris	SD	...	49015	NSSL	3175	1995	SD	BEAN_HYBRID_SEED

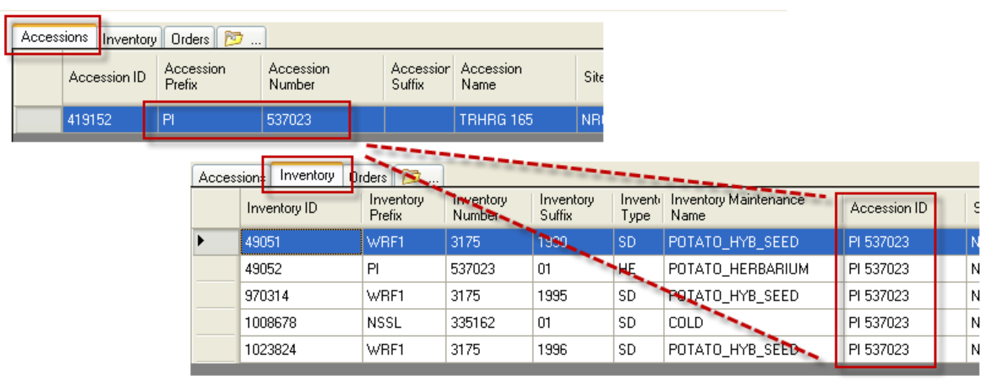
The data highlighted in yellow is redundant Accession data; for every inventory record, the Accession data is duplicated. By splitting out the data into relational tables as shown below, the data is not duplicated. Besides saving storage space, there are other advantages including less chance of data entry errors and preventing accidental deletion of records having related data.

Accession Prefix	Accession Number	Accession Suffix	Taxon	Life Form	Additional Acc. Fields...
PI	537023	mar	Phaseolus	SD	...

Accession	Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Inventory Maintenance Name
PI 537023 mar	49051	WRF1	3175	01	SD	BEAN_HYBRID_SEED
PI 537023 mar	49042	PI	537023	1995	HE	BEAN_HERBARIUM
PI 537023 mar	49033	NSSL	3175	1996	SD	BEAN_HYBRID_SEED
PI 537023 mar	49024	WRF1	335162	01	SD	BEAN_HYBRID_SEED
PI 537023 mar	49015	NSSL	3175	1995	SD	BEAN_HYBRID_SEED

(In GRIN-Global, the Inventory records relate to the Accession records by the combined Prefix, Number, and Suffix fields. Every accession record must have a unique combination of those three fields.)

The following graphic illustrates how an accession record relates to inventory records. These are Curator Tool accession and inventory dataview images. In this example, the five inventory records are considered to be children of the accession record because the inventory records are linked to a prerequisite accession record.



For more background information on relational databases, see http://en.wikipedia.org/wiki/Relational_database.

Schema

When GRIN-Global is installed, most organizations typically choose to use the schema as defined by the GRIN-Global developers. The term "schema" is basically the definition of the tables, the fields, the relationships, the dataviews, the indexes, and other components that comprise the complete database system. An organization can modify the schema if desired; for example, sometimes an organization may add an additional table because of its unique needs. The organization can also modify the headings displayed in dataviews to meet their specific usage, including their primary language.

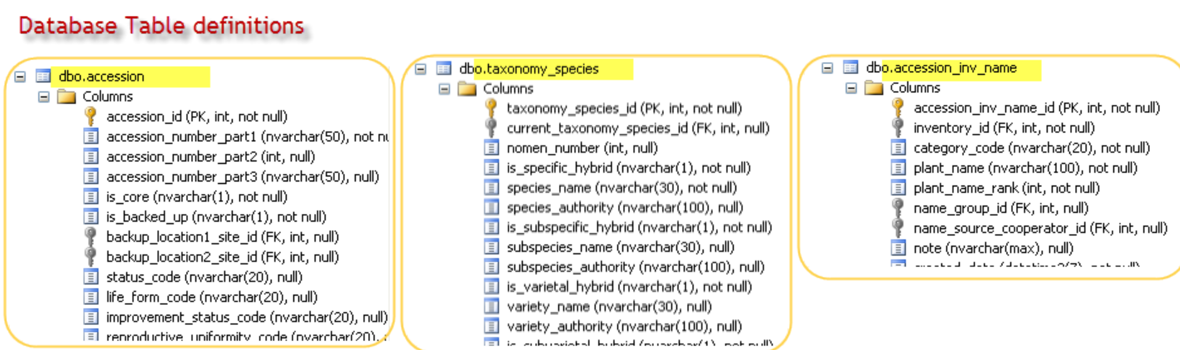
Additional Administrator Guides

Step-by-step directions for administering the dataviews are in the *GRIN-Global Administrator's Guide*. There is also a separate document, the *GRIN-Global Data Preparation Cookbook*, which contains detailed steps for importing an organization's data from spreadsheets into GRIN-Global.

GRIN-Global Tables

All data for GRIN-Global is stored in its many tables. Each PC or server relies on one of the four database software engines, MySQL, SQL Server, Oracle, or PostgreSQL, to do the actual storing of the data.

Some of the fields from three important GRIN-Global tables are shown below. The definitions below are what the GRIN-Global programmers worked with; as a Curator Tool user you will not refer to the physical database table definitions.

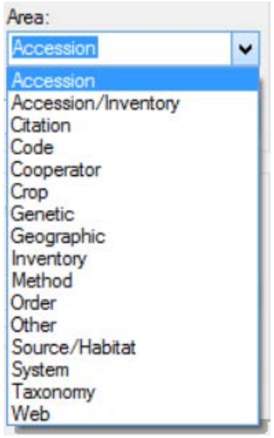


Dataviews

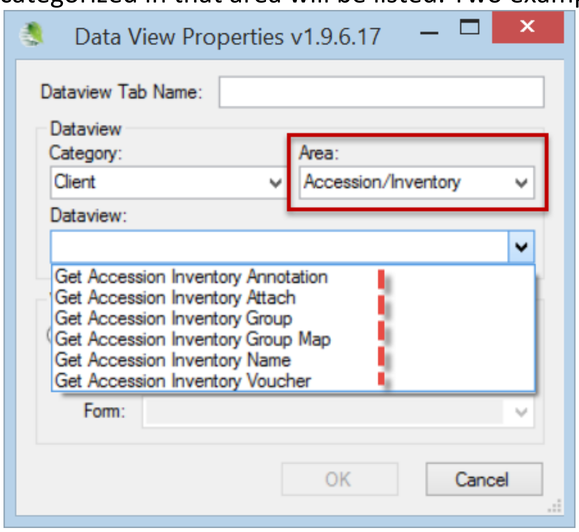
GRIN-Global consists of many dataviews which are used to display data – some were designed to work specifically within the Curator Tool (and others for the Public Website). The dataviews are used to display data in the database – they have been coded so that you as the end user do not need to write SQL code to access the data in the database.

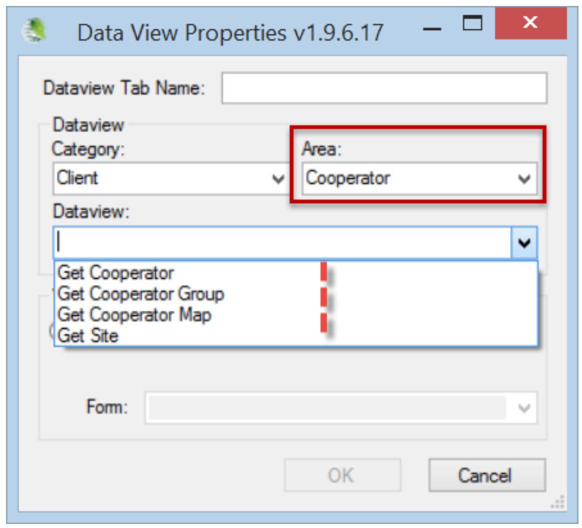
Within the Curator Tool, dataviews are grouped into Areas; each area may hold multiple dataviews. To the end user, having the dataviews organized by Area makes it easier to locate a dataview – the areas simply subdivide the full set of dataviews into smaller subsets.

The dataview areas are shown in this screen capture:



In the process of selecting a dataview to display in the CT, after you select an area, only the dataviews categorized in that area will be listed. Two examples:

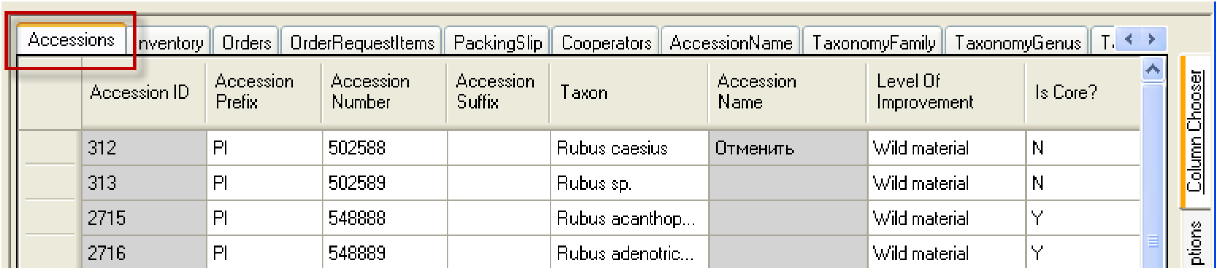




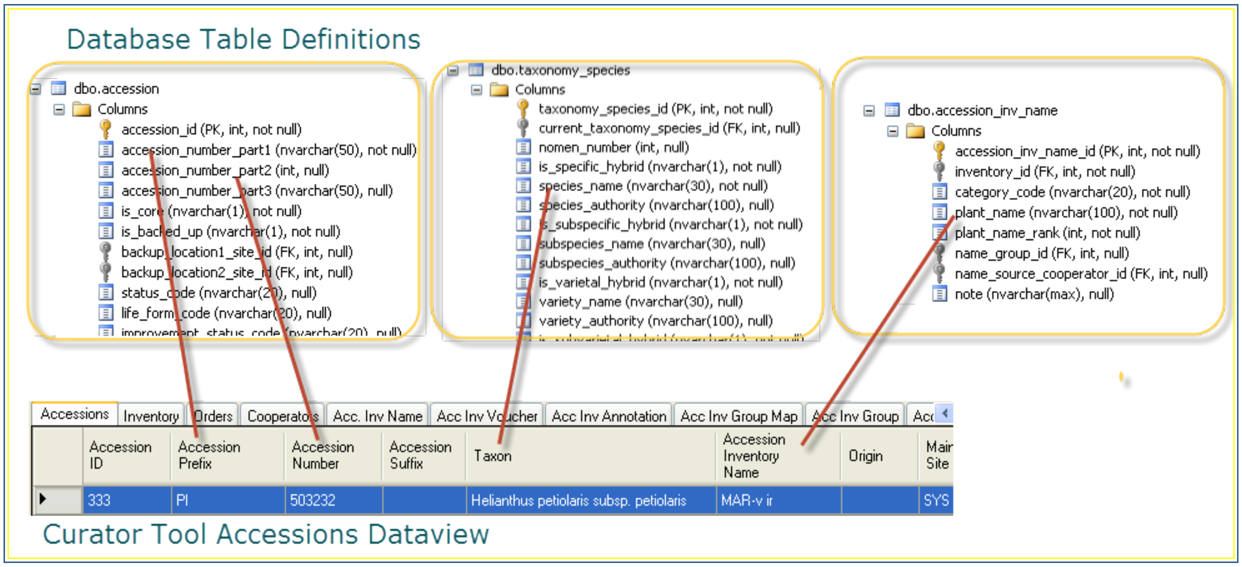
Note

The GG Administrator can produce a list of all the dataviews currently in your GG installation by previewing the get_dataview_list dataview. Use this link to display a generic list representative of many dataviews used within the Curator Tool.

A dataview essentially retrieves data from tables via a programmed query. Fortunately, these dataviews have been created for you. You can display many dataviews and switch back and forth by clicking on their tabs. Shown below are nine dataview tabs – the **Accessions** dataview is currently selected, therefore the datagrid is displaying Accessions-related data:



When the programmer created the Accessions dataview, she selected specific fields to be displayed. Note that a dataview's fields are not restricted to one table in the database. For example, in the Accessions dataview, the **Taxon** data originates in the **dbo_taxonomy_species** table and the **Accession Name** data comes from the **dbo_accession_inv_name** table.



Technical Overview of a Dataview

The following explanation is intended for those readers interested in a brief explanation of the technology behind the dataviews: A dataview is a SQL SELECT statement embedded within the Curator Tool. The programmed logic uses some pre-defined criteria to select related records from the database's many tables. The dataview fields correspond to fields in one or more database tables. Language-specific "friendly" names are assigned to each dataview field, which in turn are displayed as the field column titles in the Curator Tool. Although the data displayed in the Curator Tool appears as a single table of rows and columns, it most likely originated from several related tables.)

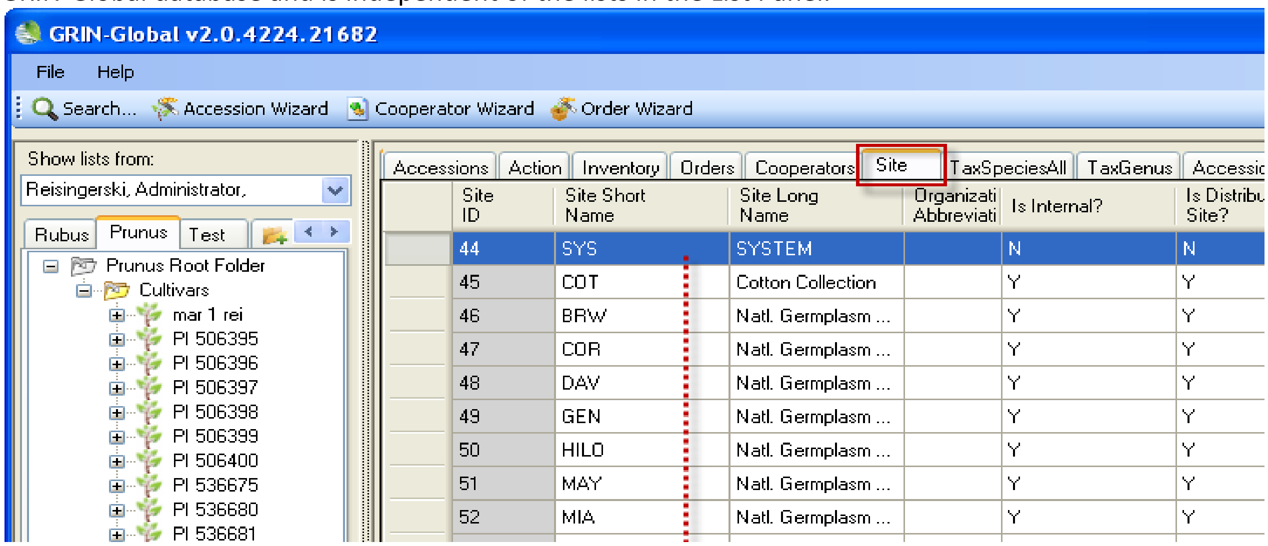
Many dataviews are included when the Curator Tool is installed. For example, the three main dataviews, **Accessions**, **Inventory**, and **Orders**, are displayed by default. Other dataviews are not initially displayed, but are available and can be easily selected. Over time, your organization may develop additional dataviews for specific purposes. Eventually you will become familiar with certain dataviews and have a basic understanding of what data is displayed in each one. Some you may use frequently, and others perhaps rarely (if ever), depending on your position and interests.

Some Dataviews Show All Records and Some Do Not

The data displayed in a dataview may transcend multiple tables. As a Curator Tool user, you should be aware that some dataviews show all records in a table, whereas most of the dataviews do not because they filter the data based on certain programmed criteria. (The dataview programmer codes the dataview so that each time the dataview is invoked by the Curator Tool user, program parameters are applied, thus filtering the records. The programmer would say that the parameters were "resolved.")

Although most dataviews are designed to work with parameters and display just a subset of the entire database, a few dataviews show *all* of the records for a given table and do not use any parameters.

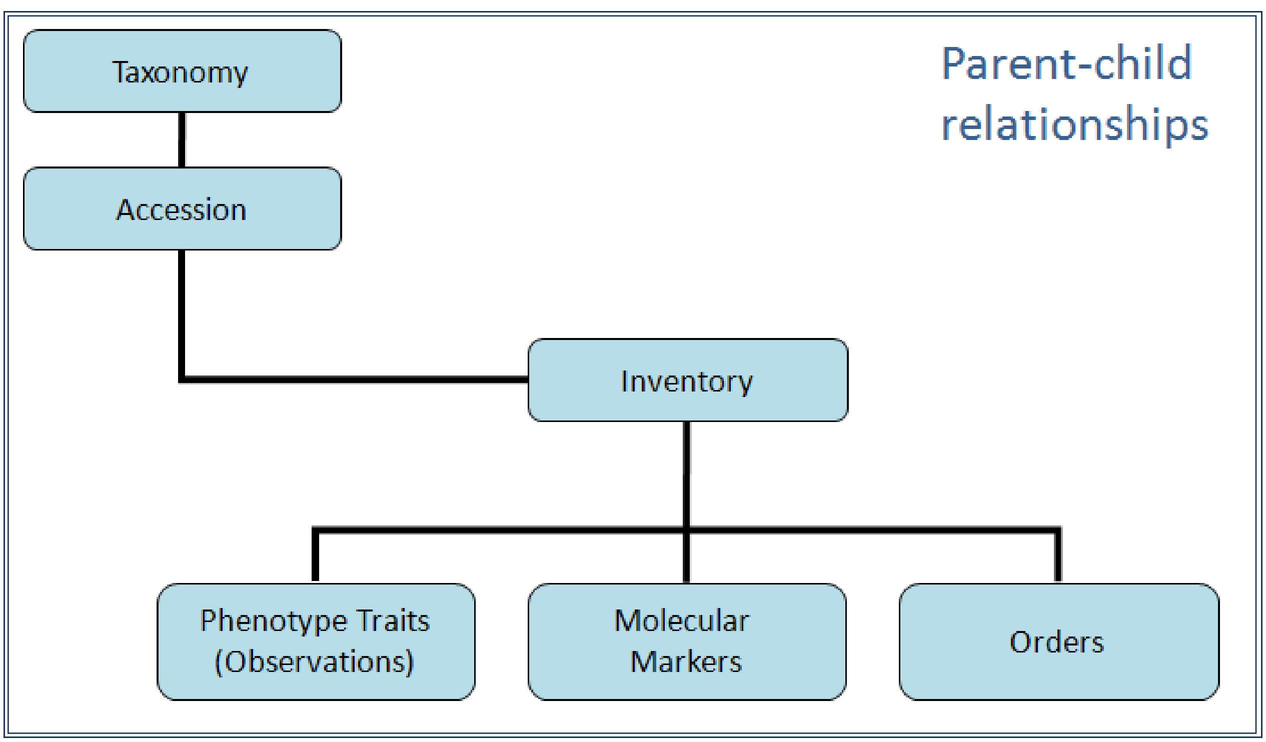
This illustration is showing a snapshot of the Curator Tool, with its List Panel on the left and the dataviews on the right. The **get_site** dataview is a dataview that displays all of the site records in the GRIN-Global database and is independent of the lists in the List Panel.



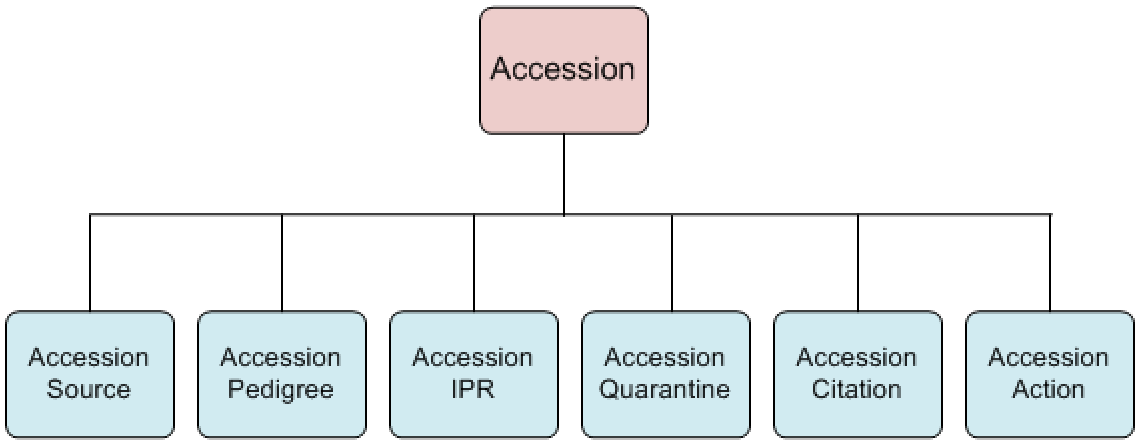
The GRIN-Global developers have created a data dictionary which describes what type of data is accessed by the many dataviews. (See: GRIN-Global data dictionary.) Complete step-by-step directions for working with dataviews begin on page 35.

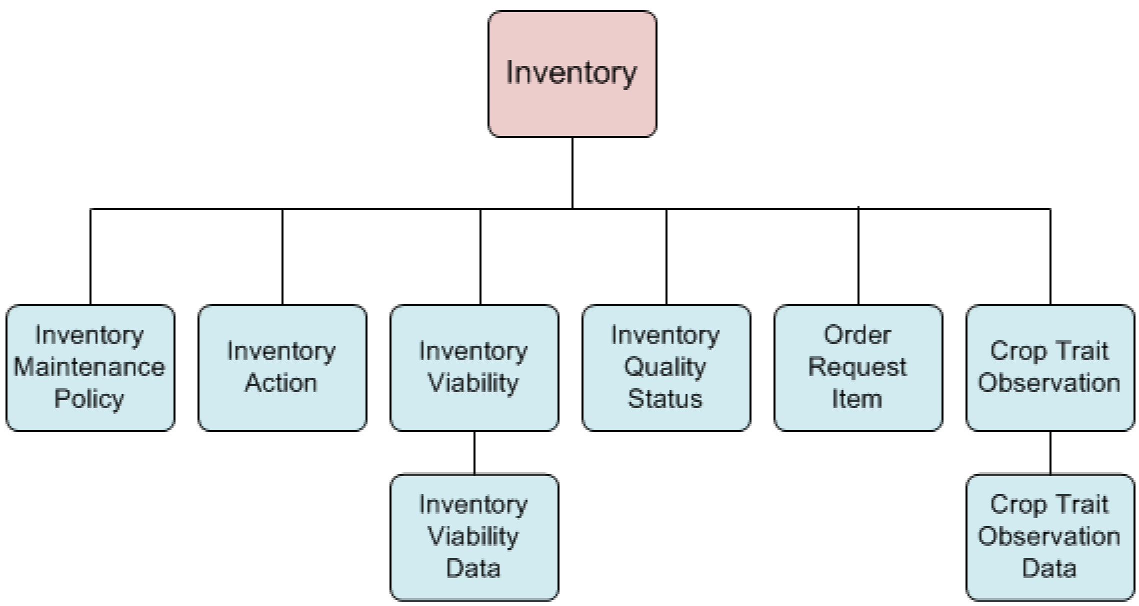
GRIN-Global's Table Relationships

The following diagram illustrates the relationships between the primary GRIN-Global tables:



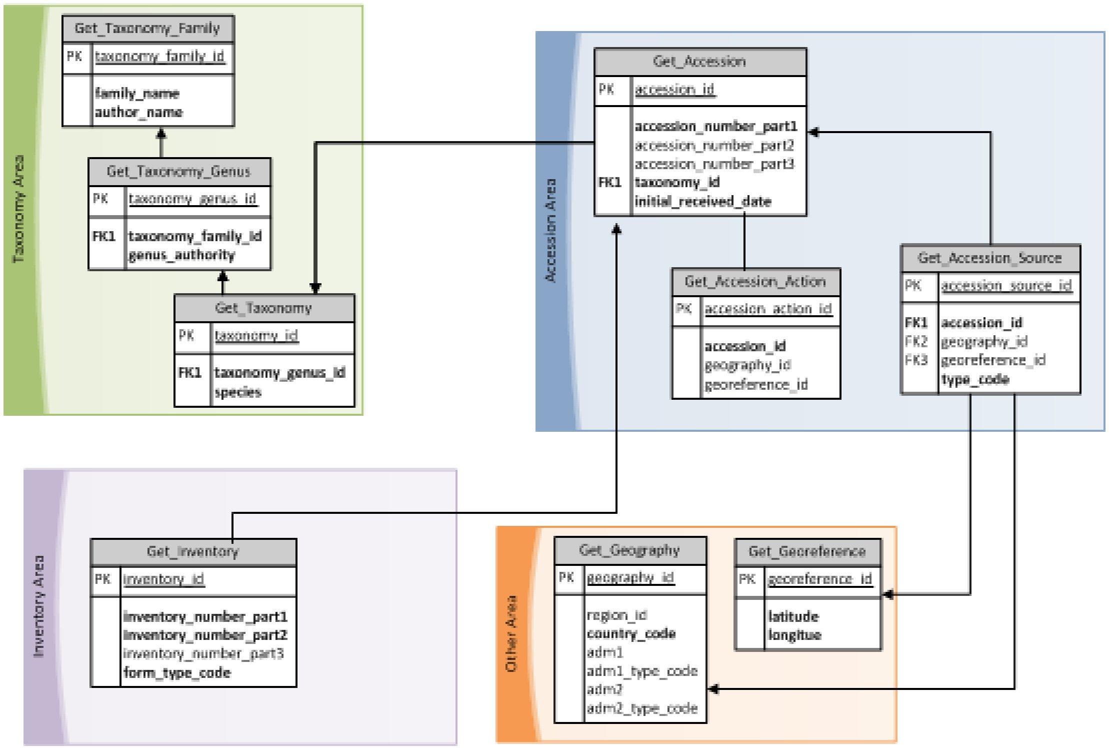
There are many other tables in GRIN-Global which are not represented in the previous illustration. Data such as geography, cooperators, crops and descriptors, codes, etc. are stored in ancillary tables. For example, there are many accession-related child tables. These tables support the main accession table. Customized dataviews, accessible from the Curator Tool, obtain their data from these tables.





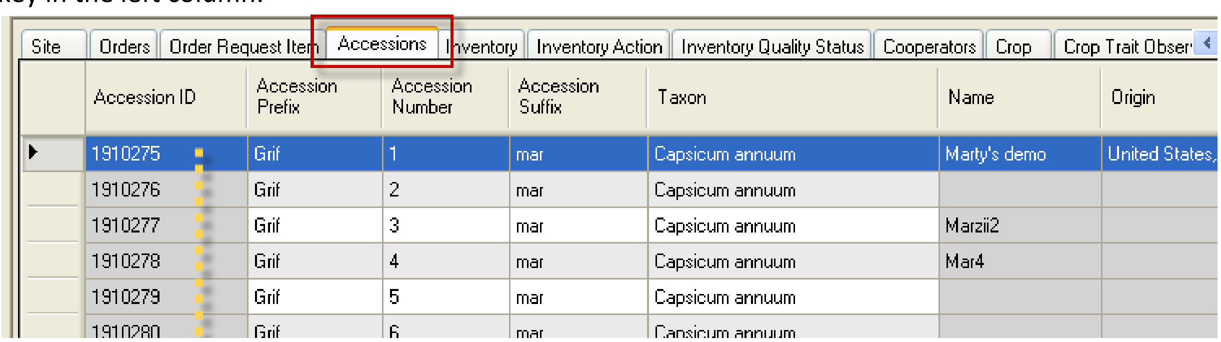
Keys: Primary and Foreign

The partial schema GRIN-Global diagram below illustrates the relationship between some of the main GRIN-Global tables. (The primary key (PK) and foreign key (FKn) are used by the GRIN-Global program designers to indicate key fields. The relationships have also been established by the program designers.



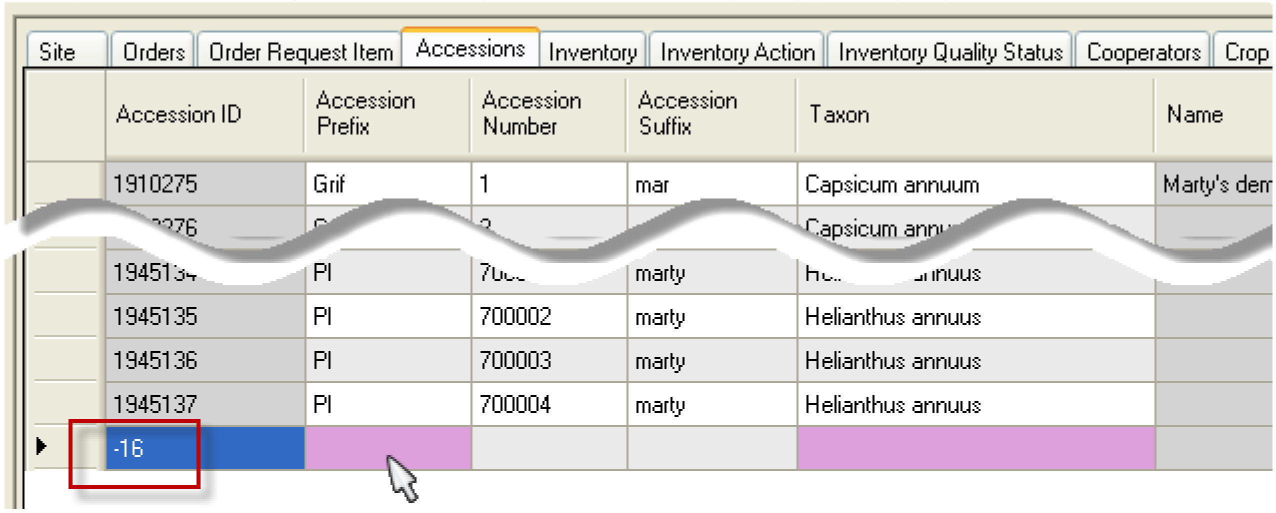
Primary Keys

A primary key is system generated. In the Curator Tool, every dataview by default displays the primary key in the left column:



Notice that the **Accession ID** field is gray – the gray color indicates that this is a read only field. When you add a new record to the GRIN-Global database, the system will generate the next available number.

In the process of creating a new record, you will notice a temporary primary key (the **Accession ID**):



After the data is saved, the temporary number changes to a permanent number.

Secondary (or "Alternate") Keys and Foreign Keys

Most users will not remember data by the record's primary key, since the primary key is system generated and is not actual curatorial data. Instead, most genebank users will know their data by the records' secondary keys. For example, in the U.S. NPGS, every permanent accession in the system has an identifier that is commonly referred to by the users as the accession's "PI Number." In GRIN-Global, the permanent PI number is stored in two fields: **Accession Prefix** and **Accession Number**. (PI is an acronym for "Plant Introduction" – the USDA starting assigning PI numbers to the accessions in their collection many years before the advent of computers.)

Many sites will first add their accession data into the GRIN-Global database, but use a temporary number – in many cases these sites will use three fields: **Accession Prefix, Accession Number,** and **Accession Suffix.** These three fields collectively comprise the accession secondary key. The combination of these three fields must be unique – no two accession records can have that same combination. (In cases where an accession record only uses two of the three fields, that combination must be unique.)

A **foreign key** is one field (or a collection of fields) in one table that uniquely identifies a row of another table. In other words, a foreign key is a column or a combination of columns that is used to establish and enforce a link between the data in the parent and child tables. When creating a new child record, the child's foreign key must match the parent's secondary key.

Refer to the GRIN-Global Data Dictionary which contains detailed information on the GRIN-Global dataviews, tables, and fields.

Getting Started with the Curator Tool

Because GRIN-Global will be adapted by diverse organizations, diverse approaches may be taken for getting started. As mentioned previously, some organizations may run GRIN-Global on a single PC, whereas the more typical configuration will be in a networked environment with one server and multiple user PCs.

The organization will need to determine how existing data will be populated into GRIN-Global. Will the data be manually entered, or assuming the organization has substantial data already, will an GRIN-Global administrator import the data into the GRIN-Global database? Organizations may have stored their data in spreadsheets or other database formats and will need to convert that data into the GRIN-Global schema. On the other hand, some organizations may need to input data stored in paper format into the GRIN-Global database.

To work with the GRIN-Global database, you will need to learn the mechanics of the Curator Tool which is explained in detail in the remainder of this document.

Appendix: Updating the Curator Tool

Starting with Curator Tool 1.9.x, the CT uses its own separate installer; the GRIN-Global Updater program should not be invoked to update the Curator Tool.

Installation directions for installing the CT in the ***NPGS*** are available online.

International installation directions are also available.