Assignment: Homework after Webinar 3

Revision Date
March 12, 2022

“To see things in the seed, that is genius.”
Lao Tzu

A Documentation Tip

The online GRIN-Global guides have a table of contents. The TOC entries are "clickable." When you click on an item in the TOC, you should jump to that section in the guide.

GRIN-Global's Table Relationships 15

Conventions Used in this Manual **18**

Keyboard Shortcuts 18

Drag 19

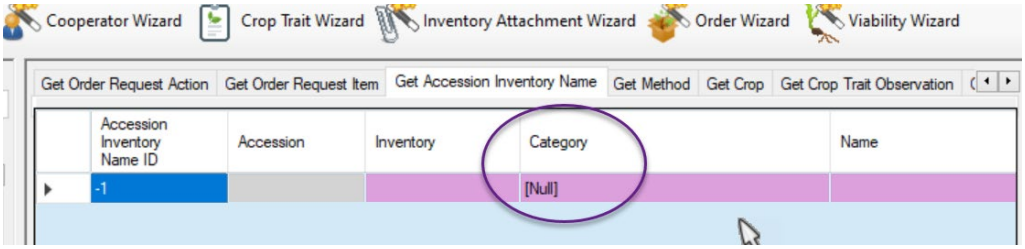
Drag and Drop 19

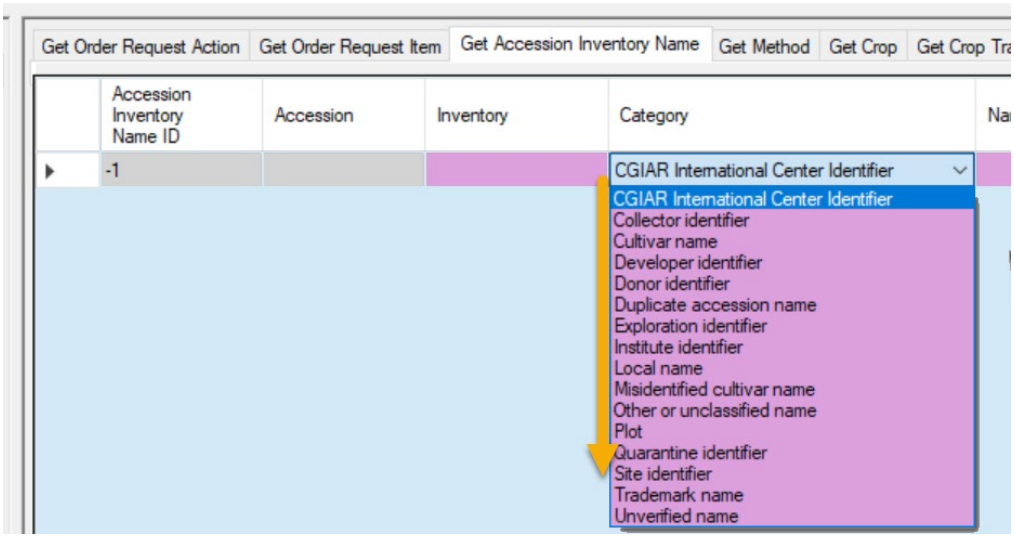
Selecting Multiple Rows 20

Frequently Asked Questions

Question: How do I determine what codes are valid?

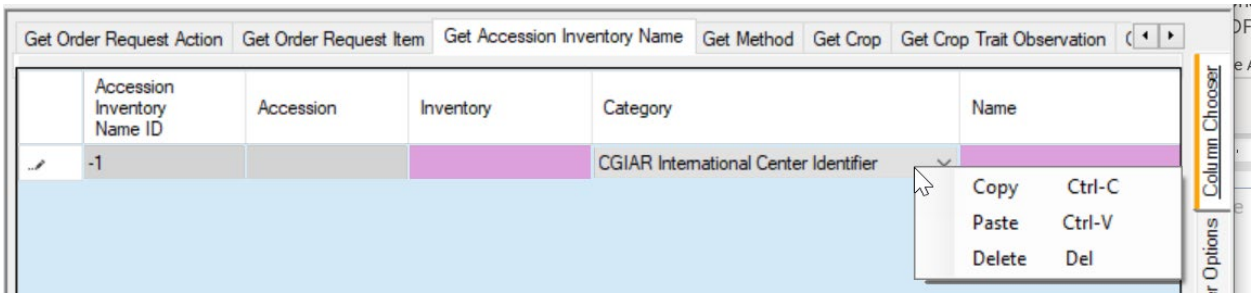
When adding records into the CT, some fields use a code. This ensures that valid data is entered. The fields are easily identifiable – in Edit mode, [Null] is displayed. For example:



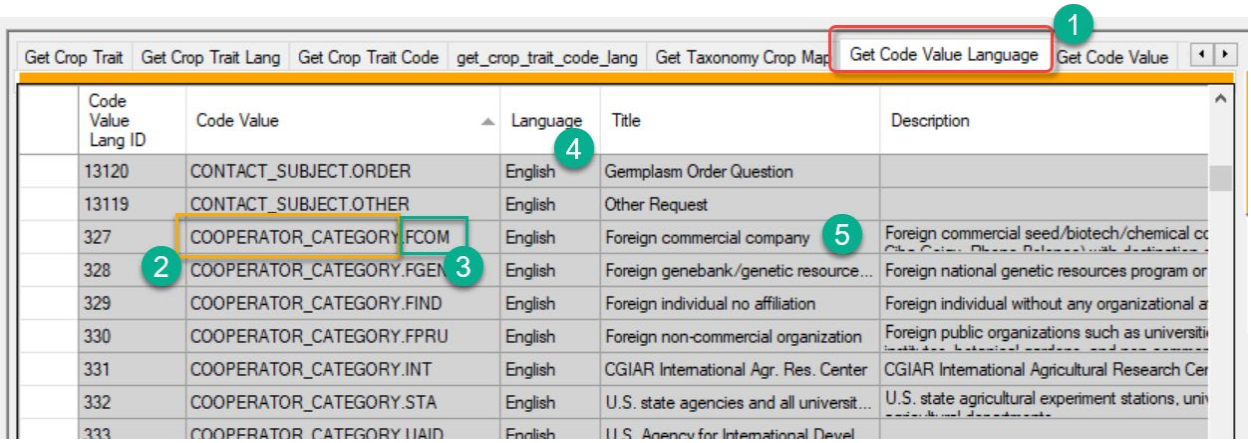


When you open the dropdown, the valid codes are listed. Where do these codes come from? The organization that maintains the database (NPGS, NordGen, whoever...) determines what codes they

intend to use; *only* the GG database administrator ("DBA") *can enter these codes into the database*. Codes can be created as needed, as determined by the organization.



Practice!



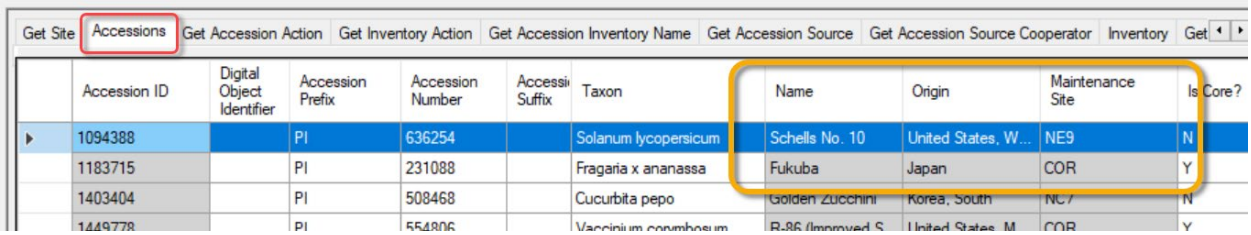
The Code Value column consists of two parts, the group (2) and the code (3). Shown here primarily are codes from the COOPERATOR-CATEGORY group. In the dropdown on the previous page, we saw the *titles* in the dropdown, not the *codes*. More on codes and languages will be discussed later.

Question: What is the difference between a dataview and a table?

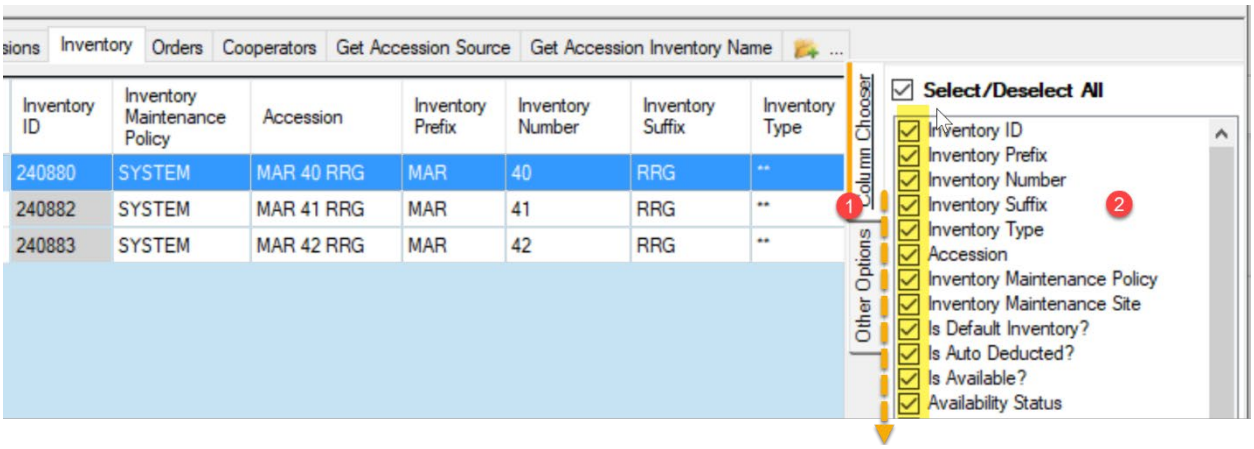
As a user of data, when using the Curator Tool, you only see the data through the lens of dataviews. Some people may use the two terms "table" and "dataview" synonymously for the most part, that's okay. Table = dataview. However, not really. In a database, data is stored in records in tables. But in the Curator Tool, we users see the data via a dataview; we don't see the raw tables.

To make a distinction. The table is where data is stored in a database. A CT dataview displays data on the screen. An interesting sidenote: a dataview can be designed to show only part of a table's data,

depending on the programmer's intent. A corollary statement – a CT dataview sometimes, and usually does, displays fields from more than one table.



The Accession ID is in gray is because as a user, you cannot change an ID field, even if you owned that particular record. However, the ID field is part of the record. Therefore, you cannot say "all fields in gray" are not in the table. Besides gray fields sometimes pointing to fields from other tables, a dataview gray field may be a calculated field. (The Inventory table has a **Pure Live Seed** field that is a calculated field.)

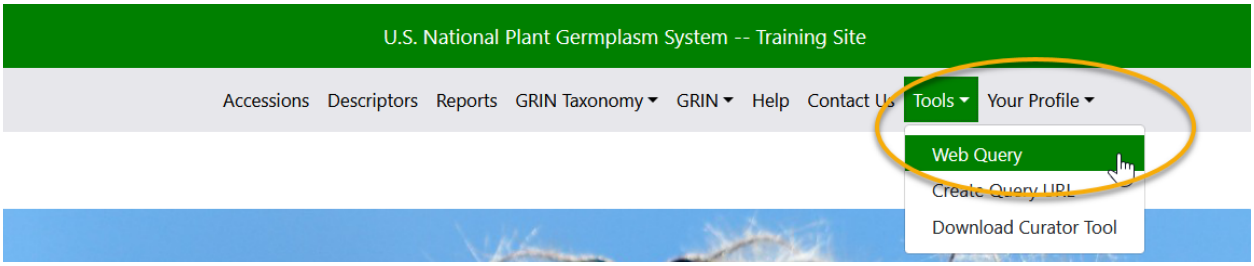


GG User Accounts

When working with GG, logging into the Curator Tool (CT) is essential for many internal genebank tasks. But consider after logging in to the CT, to launch the Public Website and login to it as well.

Note that it may seem that your PW user name is the same as your CT account, your email address, but it isn't. The UserName for the PW is separate from the CT UserName. Therefore, it is possible that the passwords are different, because they are really separate accounts. The organization's DBA can connect the two accounts, so that your public website account has special privileges which the ordinary PW user does not have. One of the privileges is described in the next section.

SQL Information

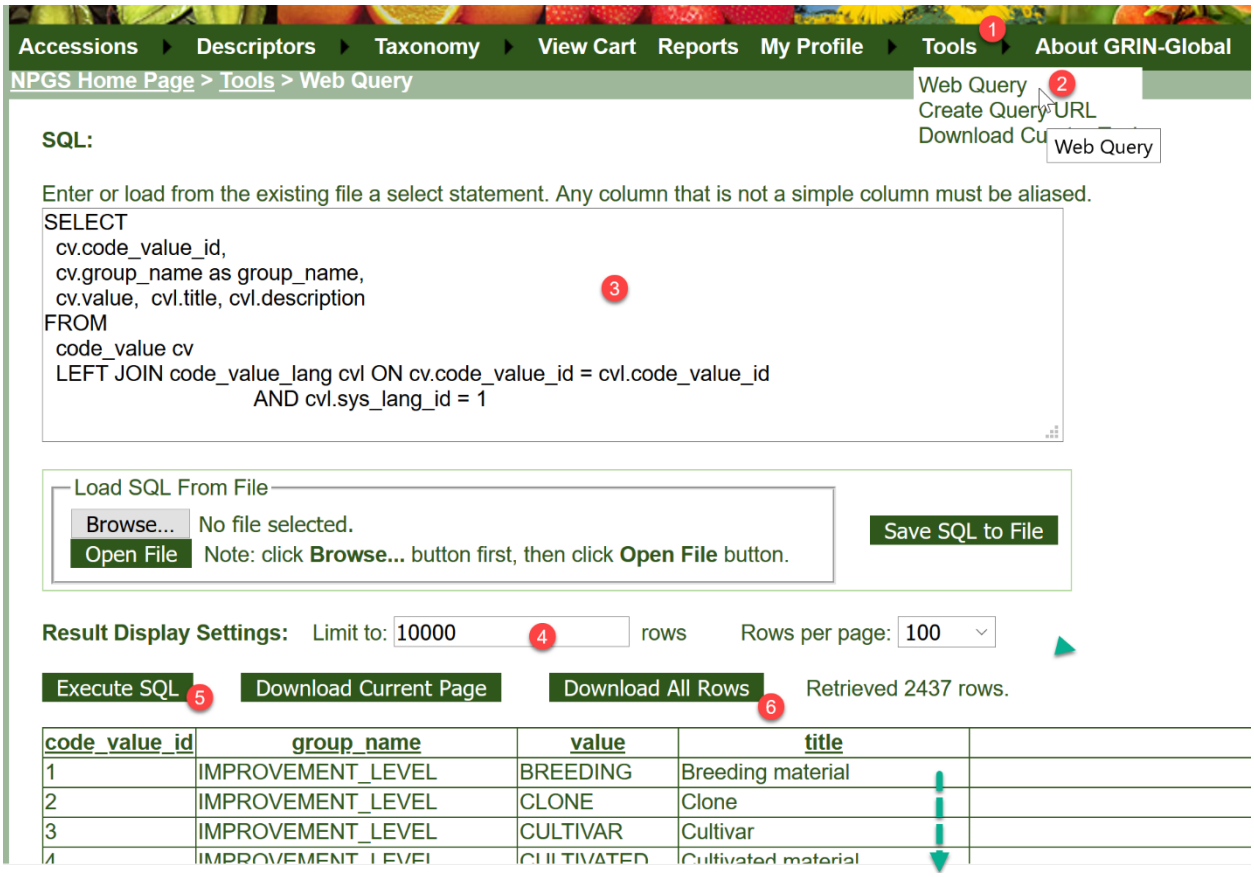


We haven't discussed yet using SQL. I include it here for those who might be interested. Skip to the next section unless you have time and are interested in learning how SQL queries can be run on the Public Website.

Remember to Log in to the Public Website. This account is different from the CT account. CT users with a PW account can then run SQL queries on the PW, as well as access internal reports that are unavailable to the external public users.

The SQL below will list all the Code Groups and Codes in the database. As shown below, you can copy this text into the Web Query box on the Public Website:

```
SELECT
  cv.code_value_id,
  cv.group_name as group_name,
  cv.value,  cvl.title, cvl.description
FROM
  code_value cv
  LEFT JOIN code_value_lang cvl ON cv.code_value_id = cvl.code_value_id
                    AND cvl.sys_lang_id = 1
```



(6) Download, and save a copy in Excel! You now have a current copy of all the codes used in your organization's GRIN-Global database.

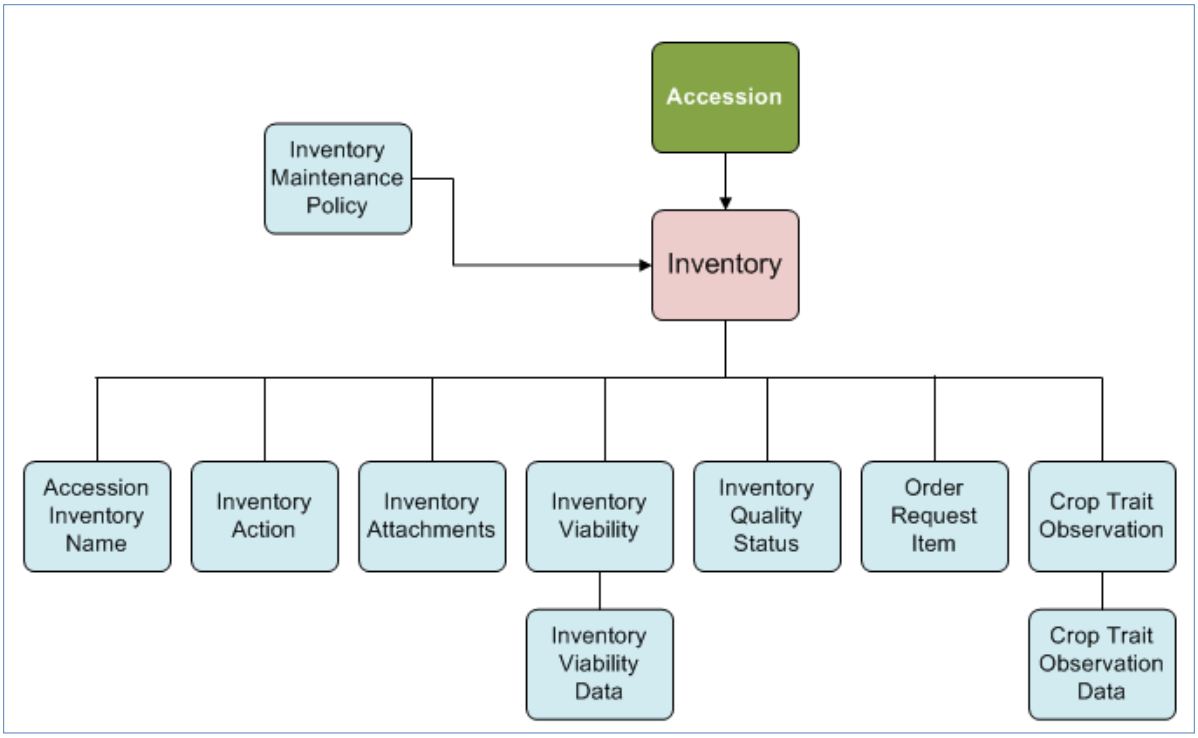
Remember that the GG database administrator (DBA) may add or delete codes at any time, based on the needs of the organization.

There is a dictionary online, a Google spreadsheet online, but it is generic and may differ from your organization's codes, or *may not be current*:
https://docs.google.com/spreadsheets/d/1QdVobmTov0Du0ad4k6JVtgPGiWME4lVK78VtXxZ9GJo/edit?hl=en_US&hl=en_US#gid=1660984974

The online document, SQL Library, at https://www.grin-global.org/docs/gg_sql_examples.docx has many handy SQL queries that are relatively easy to use. Generally, you copy from the SQL "as is" from the document and paste into the Query box on the Public Website. Try some out!

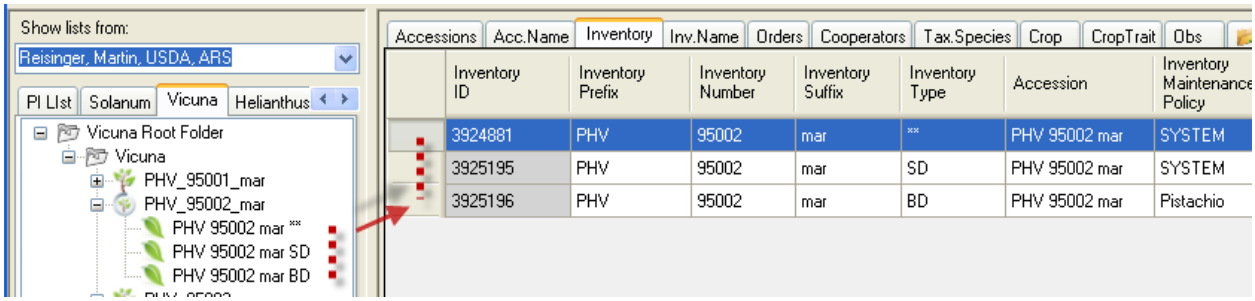
Inventory

The main inventory table is the parent to many children tables. In GRIN-Global, in the Curator Tool, we have many dataviews to facilitate the entering of data into the parent Inventory record and the children records – the Curator Tool is programmed to manage these relationships.



System Inventory Records

We mentioned that whenever an Accession record is created, a default inventory record is automatically created by GG. We refer to this default inventory record as the "system" inventory record. The "system" inventory record *does not* refer to physical inventory stored on a shelf or in a field somewhere.



Three inventory records are displayed – the two I created, with the **Inventory Types SD** and **BD**, and the virtual inventory record. The virtual record will always have the ** for **Inventory Type**.

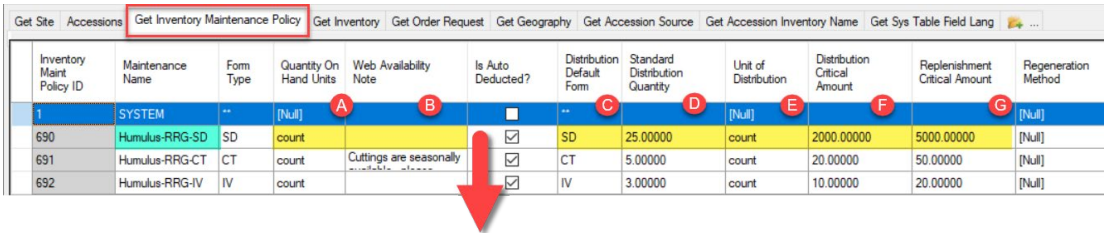
Practice! Create several inventory records for at least one of your accessions.

In the left List Panel, use a folder (list) that either dynamically points to your accession records or list items that point to your accession records.

Take a few minutes to review the inventory dataview and the many inventory fields. The online document goes into detail about each field: https://www.grin-global.org/docs/gg_inventory.docx

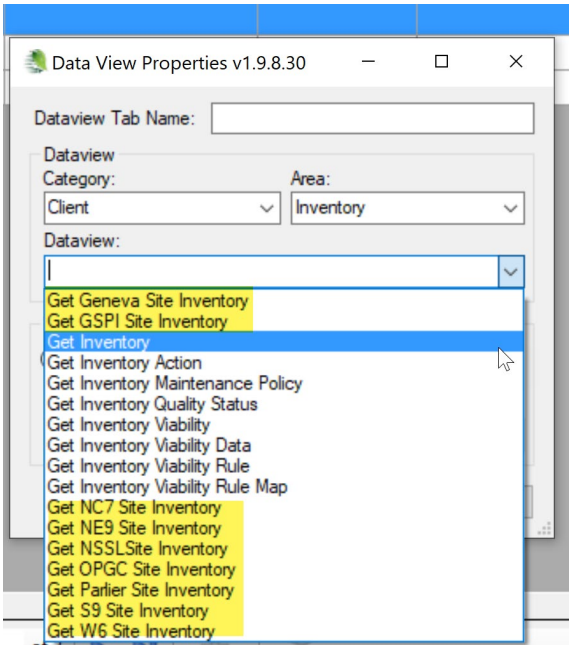
A reminder about a few points we discussed:

- when creating an inventory record, one of the required fields is the **Inventory Maintenance Policy**



- whoever owns the **Inventory Maintenance Policy**, *will automatically own the new inventory record* (owners can easily be changed later if necessary; we will learn how later)

- although the inventory record has many fields, most are optional
- each inventory record must have a unique identifier consisting of 4 fields: **Inventory -Prefix**, **-Number**, **- Suffix**, and -**Type**
- an accession on the Public Website will be listed as "*Not Available*" unless the accession has an Inventory record which has fields set to "Y" – the **Is Default Inventory?** and the **Is Available?** fields



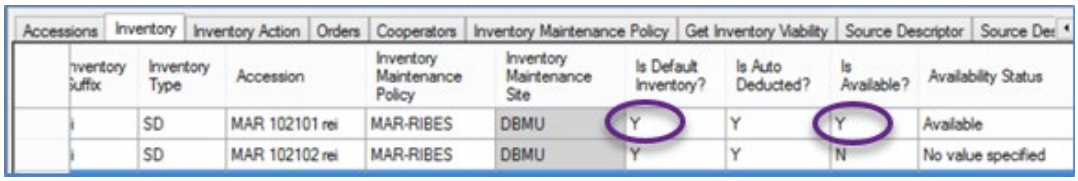
The highlighted dataviews were designed for specific sites in the USDA National Plant Germplasm System (NPGS). Your organization may or may not make these available. They can be used as is or copied by the DBA. When you have some time, open them and explore. This is something you should consider doing after you have used GG for some time and understand the schema better. You might decide to use a different inventory dataview rather than the standard **Get Inventory**.

Another point to make here is that it is relatively easy to have custom dataviews. Usually, an organization should use and test the GG database with its dataviews first to determine their specific needs.

Two Very Important Inventory Y/N Fields to Consider

An accession is considered *available*, that is, the accession can be added to the shopping cart, when it has at least one inventory record with two specific fields set to "Y":

- **Is Default Inventory?**

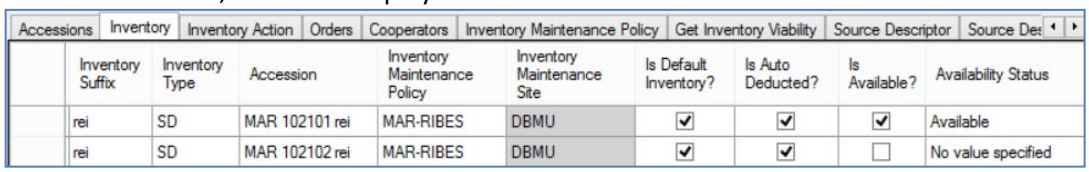


Accessions	Inventory	Inventory Action	Orders	Cooperators	Inventory Maintenance Policy	Get Inventory Viability	Source Descriptor	Source Des

nventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Default Inventory?	Is Auto Deducted?	Is Available?	Availability Status
i	SD	MAR 102101 rei	MAR-RIBES	DBMU	Y	Y	Y	Available
i	SD	MAR 102102 rei	MAR-RIBES	DBMU	Y	Y	N	No value specified

Note The code value in the **Availability Status** field does not determine the availability.

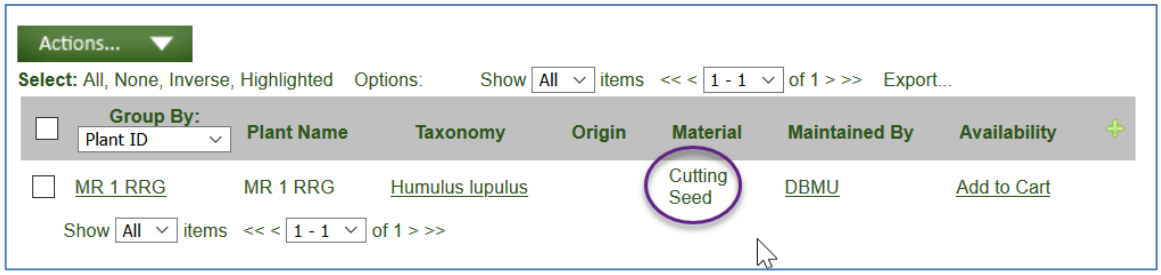
Note Fieldnames named with a question mark, for example **Is Available?**, can have a value of either **Y** or **N**. In Edit mode, the fields display as checked or unchecked.



Accessions	Inventory	Inventory Action	Orders	Cooperators	Inventory Maintenance Policy	Get Inventory Viability	Source Descriptor	Source Des

Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Default Inventory?	Is Auto Deducted?	Is Available?	Availability Status
rei	SD	MAR 102101 rei	MAR-RIBES	DBMU	☑	☑	☑	Available
rei	SD	MAR 102102 rei	MAR-RIBES	DBMU	☑	☑	☐	No value specified

Note

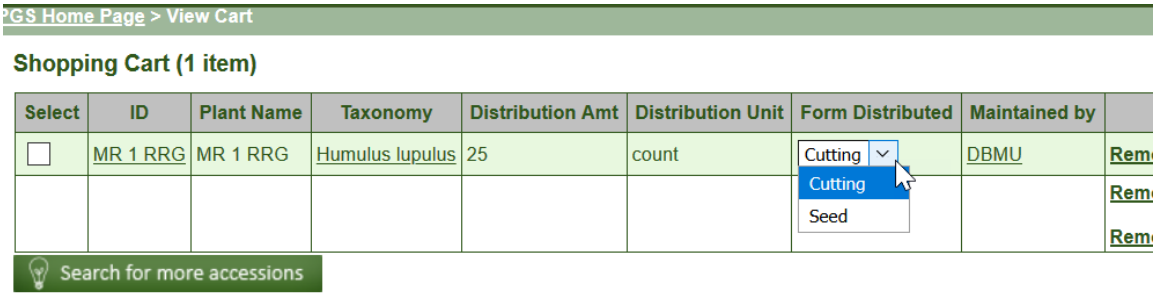


Actions...

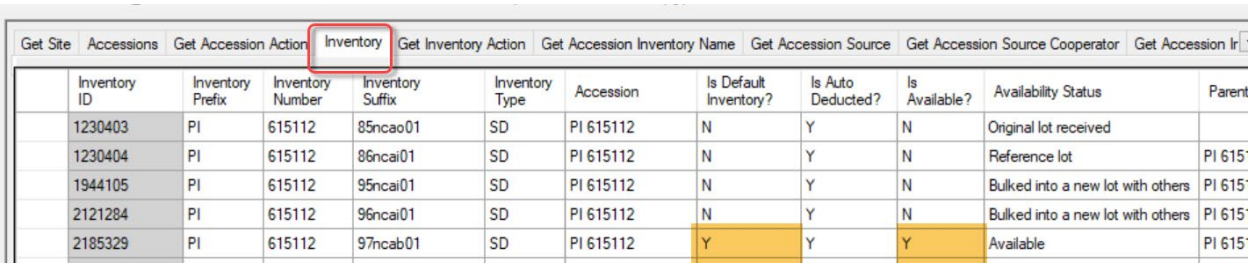
Select: All, None, Inverse, Highlighted Options: Show All items << < 1 - 1 of 1 > >> Export...

Group By: Plant ID	Plant Name	Taxonomy	Origin	Material	Maintained By	Availability
MR 1 RRG	MR 1 RRG	Humulus lupulus		Cutting Seed	DBMU	Add to Cart

Show All items << < 1 - 1 of 1 > >>



Practice! Experiment. Using your inventory record where you own the record (because you also owned the Inventory Maintenance Policy with which it relates to), go back and forth between the CT and the PW to see what happens when you change the two flag fields, Is_Default? and Is_Available? Set both to Y, then set one or the other to N, and so on.



Note: The **Is Auto Deducted?** field plays an interesting function, actually two functions. When an order is filled, and the seed is used, the Order Wizard will subtract the amount used against the original amount total to update the Qty on Hand. If this **Is Auto Deducted?** field is set to Y, it will also use a trigger to switch the Availability Status from "Available " to "Low Inventory" when the amount subtracted from the **Qty on Hand** takes the new quantity to be less than the **Distribution Critical Amount**.

Inventory Fields Before and After the Order is Filled

In the following example, the amount being distributed takes the Inventory **Quantity on Hand** level below the **Distribution Critical Amount**:

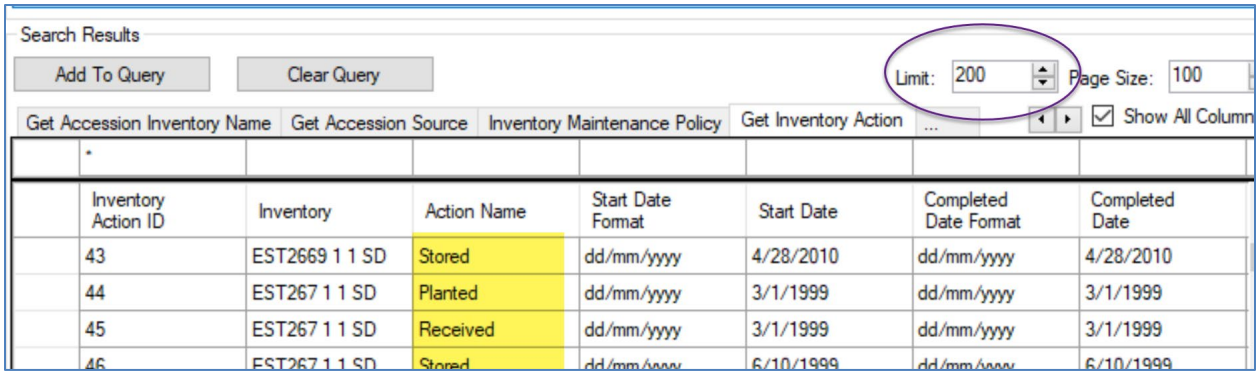
Fields	Value	Action
Quantity on Hand	80	
Distribution Critical Quantity	70	
Availability Status	Available	
Is Auto Deducted?	***Y***	
Standard Distribution Quantity	25	
		Order is Filled (standard quantity is shipped)
Quantity on Hand	55	
Availability Status	**Low**	
Is Available?	**Y**	

Managing Workflow by recording Inventory Actions

GG has several action tables – **Accessions Actions**, **Inventory Actions**, and **Order Actions**. Actions can be recorded in the respective tables to denote when a specific task has been started or completed, in some cases, both the start and completion dates.

Practice!

Open the **Inventory Action** dataview in the Search Tool, and search for some action records. Since there are many, be sure you have a reasonable number as the maximum number for the **Limit**:



Practice!

Inventory Practice

Use one of your accessions that you created in an earlier exercise.

a. Create two **Inventory** records for that accession.

   Remember that when creating any new records, in Edit mode, the violet color in the cell indicates that that field is required.

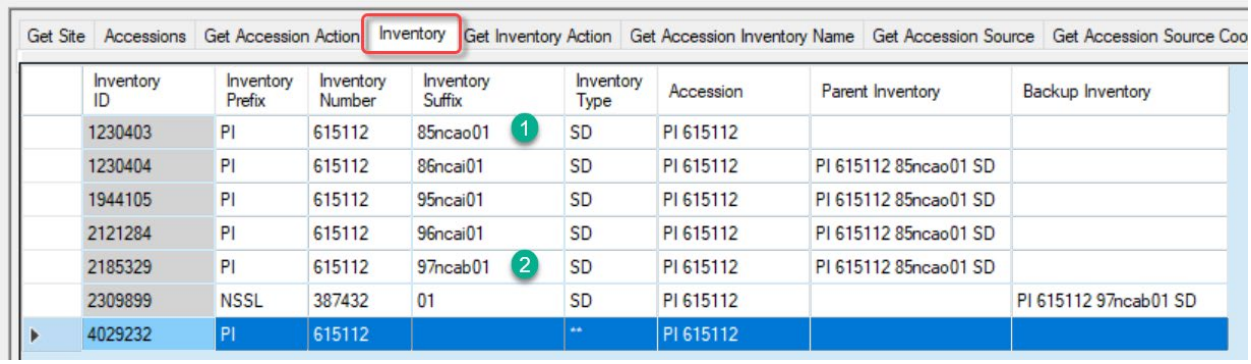
b. Create several **Accession Inventory Name** records. Then search in the Public Website for the related accession, and review its detail page to determine if the names are visible.

c. Highlight the **Accession** item in the List Panel. Practice switching between the dataviews: **Accession**, **Inventory**, **Inventory Name**, and **Inventory Action** dataviews.

Parent Inventory Records

Ideally, for any accession, the lineage / parentage should be known. Where did the accession come from? Was it collected? Did someone donate it? Did a breeder develop it? These questions can usually be answered by looking at the **Accession Source** records.

But how does GG handle inventory, especially ongoing? That is, typically a genebank must grow out more seeds to increase the number of seeds available. This new harvest is a new generation. Genebanks keep these generations separate, and every genebank has their own unique method for naming the generations. But not getting into naming conventions here, there is one thing all of the GG users should be doing: tracking the parent inventory. The seeds from "Jar 1" are sitting on the shelf. Use 250 seeds from the jar, plant them, and harvest. In GG, theses seeds should go into "Jar 2." The seeds in Jar 2 get their own inventory record, and in that record, the **Parent Inventory** field should point back to the inventory that was in Jar 1.



Backup Inventory

In the example above, the 6th record has the Backup Inventory field filled. This tells us that this batch of seeds is the backup of the seeds shown in the 5th row (2).

Note: This "suffix" naming convention was developed by the NC7 site at Ames, Iowa. In the Inventory Guide, there is an appendix that illustrates some other naming conventions.
[https://www.grin-global.org/docs/gg_inventory.pdf]

The NSSL prefix is used exclusively at the NPGS backup site at Fort Collins. Accessions throughout NPGS are backed up and these backup samples are housed at Fort Collins and not generally distributed. NPGS also has backups that are sent to the Svalbard vault.

Germplasm Requests

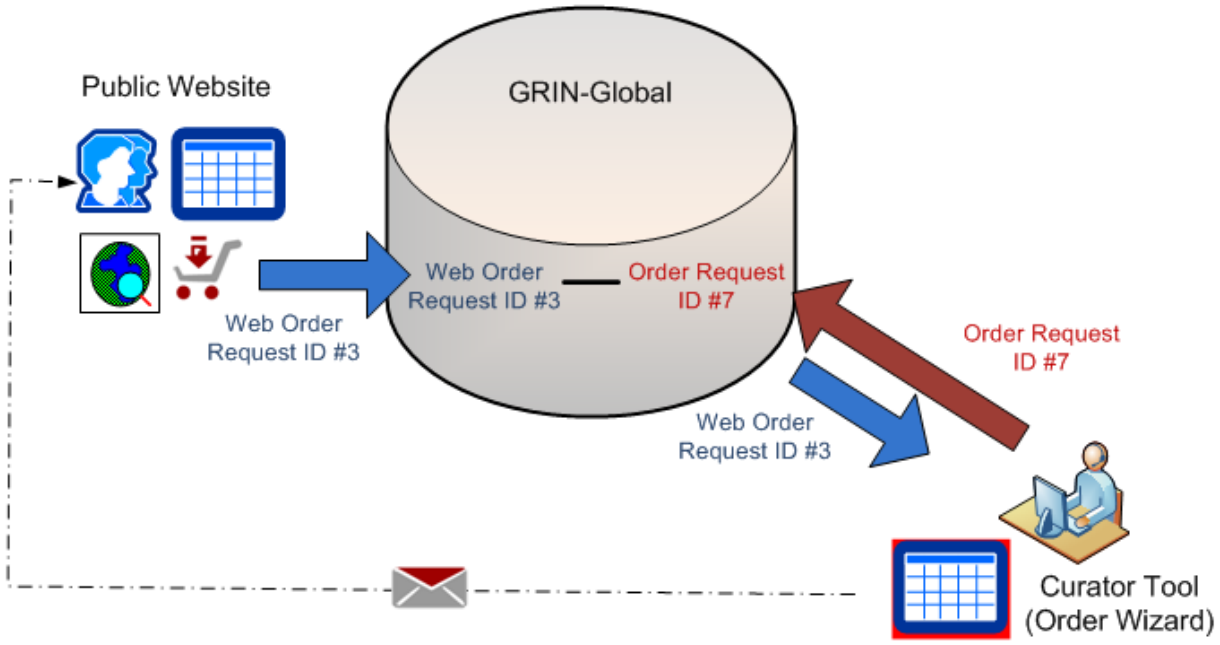
Handling Incoming Web Order Requests

Public Website requestors can search for accessions that meet specific criteria and then request them via the PW. When the PW submits their request, it is sent to the genebank hosting the GG site. The GG software evaluates the requests and sends emails to the sites that maintain the germplasm that was requested in the web order request (WOR).

(As an aside, requesting germplasm may be a bit too easy – hence the NPGS for example receives many requests from home gardeners and others who should be using commercially available seeds. That's a whole other discussion. But NPGS recently interjected a review step before the request is distributed to its various sites.)

Practice! By now you should have one or more accessions that have physical inventory. If they have physical inventory (**Qty on Hand**) and you have the two fields set to "Y,"(remember the **Is Default?** and **Is Available?** fields – see Yes/No if you don't), then the accession can be ordered.

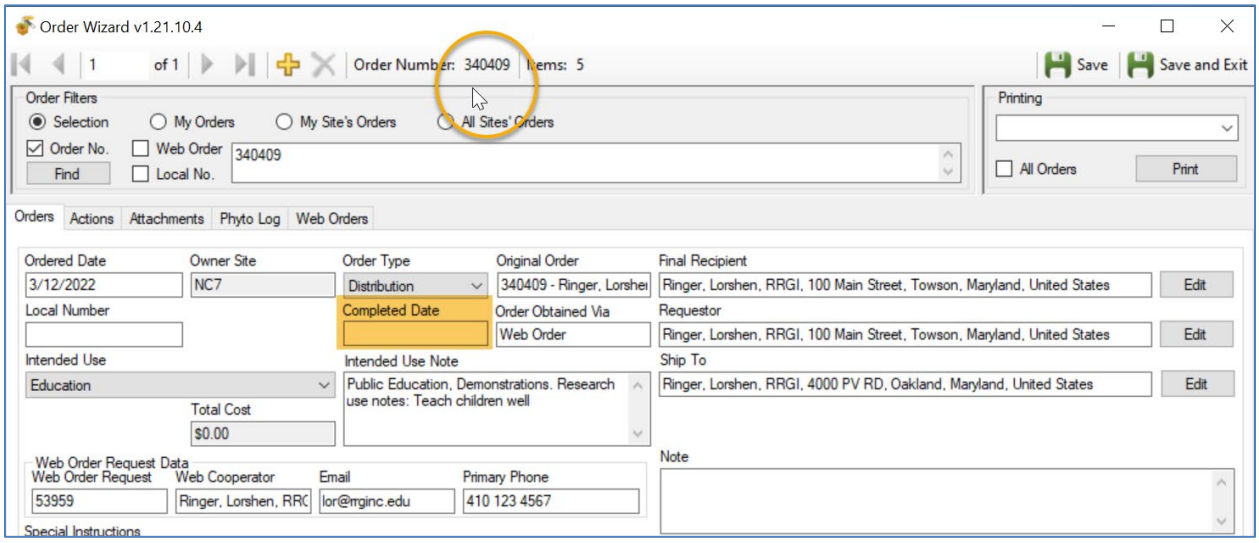
Public Web Orders to Orders Conversion (Diagram)



The illustration above shows the requestor submitting the web order request (WOR) and then it being processed by the genebank staff person. For this exercise, start at the Public Website. Search for your accessions and select them, add to the shopping cart; follow through and submit your request. Note the WOR number in the confirmation.

Switch over to the Curator Tool, start up the Order Wizard and search for the WOR number. Check out the video before proceeding. It demonstrates what is involved in converting the web cooperator data into standard cooperator records. The process of selecting the cooperators is a bit tricky until you do it several times.

See https://www.ars-grin.gov/npgs/gringlobal/videos/orderwiz2.mp4



We will review the order fulfillment process again in webinar 4, but if you have any questions, as always, email the instructor!

We actually never reviewed everything yet regarding the order wizard. For your reading pleasure, there are two order-related documents online:

Order Processing: https://www.grin-global.org/docs/gg_order_processing.pdf

Order & Cooperator Wizards v1.9.9.4+
https://www.grin-global.org/docs/gg_order_and_cooperator_wizard_v1.9.9.4.pdf