

Inventory



Revision Date

August 2, 2016



This guide provides details on the Inventory –related dataviews. The GRIN-Global database has approximately 10 inventory related tables and the Curator Tool has approximately the same number of Inventory dataviews.

The [Appendix](#) contains [change notes](#) pertaining to this document.

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](#).

For example, the [Curator Tool User Guide](#) listed there contains detailed information on the GRIN-Global Curator Tool.

Table of Contents

Inventory Overview	3
Inventory Dataviews.....	3
Physical Germplasm.....	5
Virtual (System-Generated) Inventory.....	5
Each Inventory Record has a Parent Accession Record.....	5
Prerequisites	6
Recording New Inventory	6
What Determines Accession Availability?.....	8
Inventory Dataview Fields.....	11
Inventory Maintenance Policy.....	13
Inventory Dataviews in the Accession_Inventory Area	22
Names.....	22
Name Groups	22
Accession Inventory Groups.....	23
Annotations.....	25
Attach(ments).....	25
Voucher.....	27
Inventory Actions	27
Inventory Actions Fields.....	29
Inventory Quality Status	29
Viability Testing	31
Viability	31
Viability Dataviews	31
Pathology Testing	32
Regenerating Inventory	32
Appendix: Schema Change (v1.5)	37
Appendix: Inventory Naming Conventions	39
Appendix: Frequently Asked Questions (Inventory)	41
Appendix: Document Change Notes	41

Inventory Overview

One goal for a genebank is the long-term preservation of accession samples maintained in its active collection. The physical stock for each accession is considered the inventory. Often an accession will have multiple lots (“inventory” or “samples”). For example, there may be different inventory generations, storage types, locations, sites, etc.

Seed genebanks will most likely have multiple lots for one accession – each lot should have its own respective inventory record. The physical germplasm is identified with its Accession identifier, date of harvest, the seed lot produced, the parental lot, its storage location, and other information – this information is inputted into GRIN-Global via the **inventory** and the **accession_inv** dataviews.

Clonal sites will typically create one inventory record for each clone and assign each clone an inventory identifier. The inventory record should be assigned at least a Qty-on-Hand value of **1** – otherwise, the Order Wizard will generate an error message because it doesn’t see any available quantity.

Inventory Dataviews

Keep in mind that a dataview and a table are not equivalent. A dataview can be used to display all of a table’s fields, but often a dataview displays fields from more than one table. In the Curator Tool, in Edit Mode, dataviews will allow editing from only one table at a time; the fields from related tables that are displayed with a gray color cannot be edited in that particular dataview.



In the current GG version, you may see inventory dataviews that are not “universal.” These dataviews originated in the U.S. in specific National Plant Germplasm System (NPGS) sites. These sites used similar views in the GRIN system and in switching to GG, these dataviews were created for those sites. They are named differently and should be recognizable by the word “Site” in their name.

Site Specific Inventory Dataviews

- Get Geneva Site Inventory
- Get GSPI Site Inventory
- Get NC7 Site Inventory
- Get NSSL Site Inventory
- Get OPGC Site Inventory
- Get Parlier Site Inventory
- Get S9 Site Inventory
- Get W6 Site Inventory

Inventory Dataviews (General)

- Inventory
- Inventory Action
- Inventory Maintenance Policy
- Inventory Quality Status
- Inventory Viability
- Inventory Viability Rule
- Inventory Viability Rule

- Inventory Viability Data

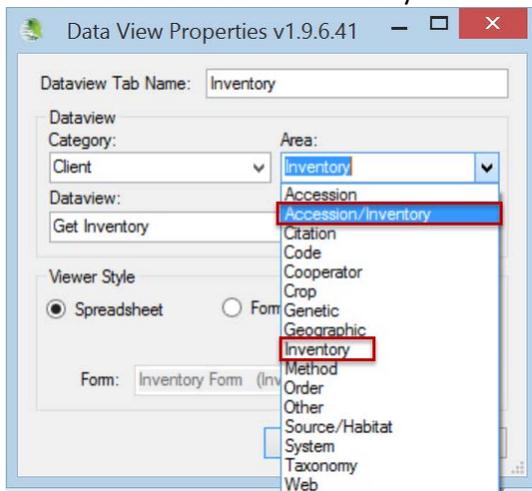
Accession/Inventory Dataviews

- Accession Inventory Annotation
- Accession Inventory Attach
- Accession Inventory Group
- Accession Inventory Group Map
- Accession Inventory Name
- Accession Inventory Voucher
- Accession Inventory Annotation

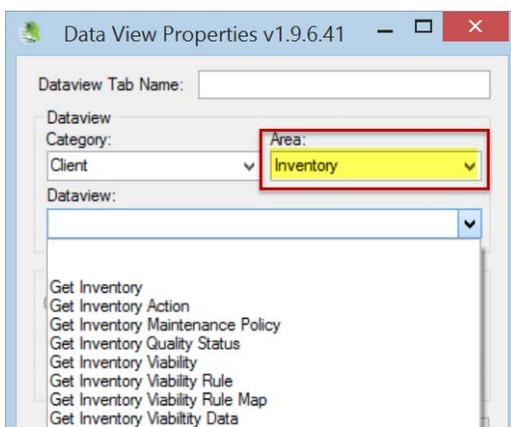
In the Curator Tool, it is important to know that the inventory dataviews can be found in two areas: **Inventory**, and **Accession/Inventory**. Why two areas? Because some inventory dataviews pertain strictly to inventory records, such as **Inventory Action**, whereas others can apply to either inventory or accessions. An example of the latter is “**Names**,” which can be assigned to an accession or a specific inventory lot.

Inventory Dataview Areas

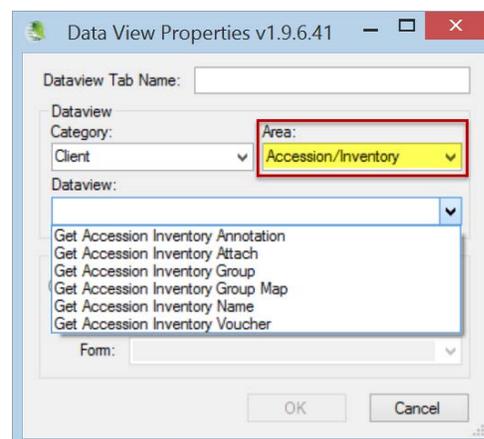
The CT has two areas for inventory dataviews:



Inventory Area



Accession/Inventory Area



Physical Germplasm

The Inventory tables store data about physical germplasm –what form the germplasm is stored, where it is stored, quantities on hand, etc. The GRIN-Global database has approximately 10 inventory related tables and the Curator Tool has approximately the same number of Inventory dataviews. Each table serves a particular function. For instance, the **Inventory Maintenance Policy** table stores the rules for how inventory is distributed and the **Inventory Viability** table stores data about viability.

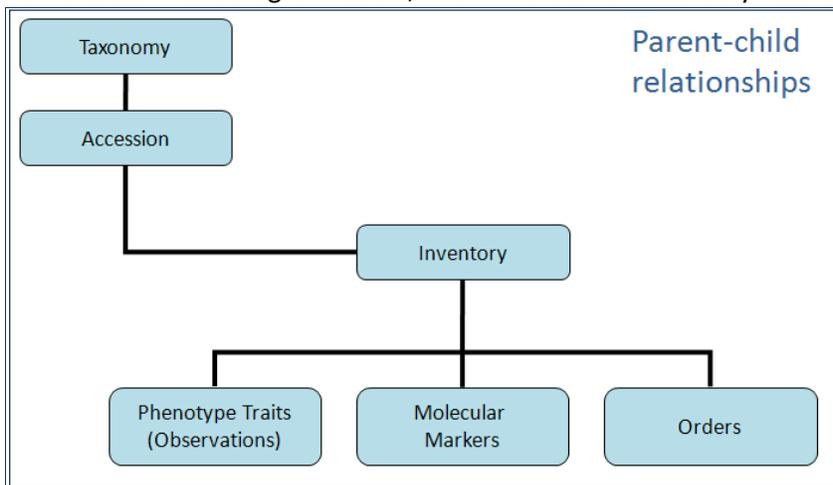
Virtual (System-Generated) Inventory

In addition to the physical inventory, GRIN-Global maintains one system-generated inventory record for each accession. This software-generated inventory record does not represent physical inventory. When a user creates an accession record, a default inventory record is automatically generated. These system-generated inventory records are used by GG so that child records can be associated to the accession rather than to specific physical inventory. In GRIN-Global these system-generated inventory records are always denoted with a ** for their **Inventory Type** (as contrasted with Seed, In-vitro, etc.).

Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site
1046743	PI	537000	.01	PL	PI 537000	Malus	GEN
1046744	PI	537000	.02	PL	PI 537000	Malus	GEN
2207057	NSSL	366612	51	BD	PI 537000	CRYD	NSSL
2451162	PI	537000	.03	PL	PI 537000	Malus	GEN
2451164	PI	537000	.04	PL	PI 537000	Malus	GEN
2626982	PI	537000	.05	PL	PI 537000	Malus	GEN
2626983	PI	537000	.06	PL	PI 537000	Malus	GEN
4431936	PI	537000		**	PI 537000	SYSTEM	GEN

Each Inventory Record has a Parent Accession Record

As indicated in the diagram below, in GRIN-Global an inventory record has a parent accession record.



Reading from top down, the diagram is showing dependencies and hierarchy among the data. For example, in order to input an accession, the database must first have the relevant taxonomic data. If the accession's taxon is *Helianthus tuberosus*, that taxon must be in the database first. When inputting the accession information, the GG user selects the taxon *Helianthus tuberosus* from a list of taxons. This ensures that the taxonomic data is consistent and avoids typographical errors.

If the taxon is not in the database, then someone responsible for managing the organization’s taxonomy must first add the taxonomy name(s) to their GRIN-Global database before the accession can be added.

Prerequisites

There are certain requirements in order to input inventory. For example, you first must have an accession to which the inventory relates. When inputting a new inventory record, there are five required fields:

- accession (the taxonomy and passport information is stored in the parent accession table and its related children tables)
- inventory prefix (in some organizations, because of organizational requirements, you may also be required to input an input number and/or a suffix)
- inventory type (In GRIN-Global, the Code Group used to store the inventory type is called **GERMPLASM_FORM**) For example, some of the germplasm form codes include BD (Budwood), CT (Cutting), PL (Plant), SC (Scion), and SD Seed. (Each organization adopting GG can edit the code list to meet its specific organizational needs.)
- [inventory maintenance policy](#) (a method for assigning a name to a rule for handling orders. For example, the rule can indicate how many units (propagules) the genebank site will distribute for an order of a given taxon and germplasm form.)
- [availability status](#) – must be one of the **INVENTORY_AVAILABILITY_STATUS** Code Group values in the Code Value table.

Recording New Inventory

Seed genebanks often have one or multiple lots for an accession. Each physical lot should have its own respective inventory record. The physical germplasm is identified with its accession via the Accession identifier. The main **Inventory** dataview is used to record the date of harvest, the seed lot produced, the parental lot, and other information.

Partial View of the Inventory Dataview

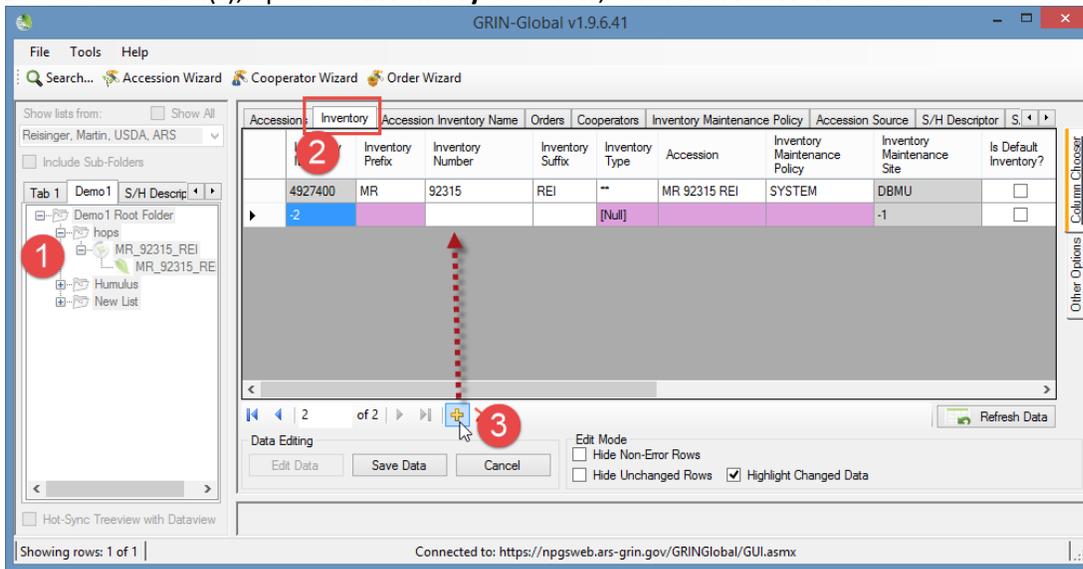
Site	Accessions	Inventory	Orders	Accession Action	Accession Inventory Name	Accession Inventory Group	NES Site Inventory	NC7 Site Inventory	Web Order Request	Inventory Maintenance	
Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Parent Inventory	Is Default Inventory?	Is Auto Deducted?	Is Available?
2173244	G	11277	61UO	SD	G 11277	NE9InactiveTomato	NE9		N	Y	N
2175975	G	11277	70GI	SD	G 11277	NE9InactiveTomato	NE9	G 11277 61UO SD	N	Y	N
2169977	G	11277	84AI	SD	G 11277	NE9InactiveTomato	NE9		N	Y	N
2169997	G	1590	54UO1	SD	G 1590	NE9InactiveTomato	NE9		N	Y	N
2169998	G	1590	54UO2	SD	G 1590	NE9InactiveTomato	NE9		N	Y	N

To Add a New Inventory Record



The simplest way to add a new inventory record for an accession is to first have the accession record active in the datagrid. For example, first open the Accession dataview and have in the list on the left panel the record (or records) visible for which you will be adding inventory records. There are various means for listing records – you could have a static or dynamic folder that points to the relevant accessions.

List the accession(s); open the **Inventory** dataview; click the **Add New** button:

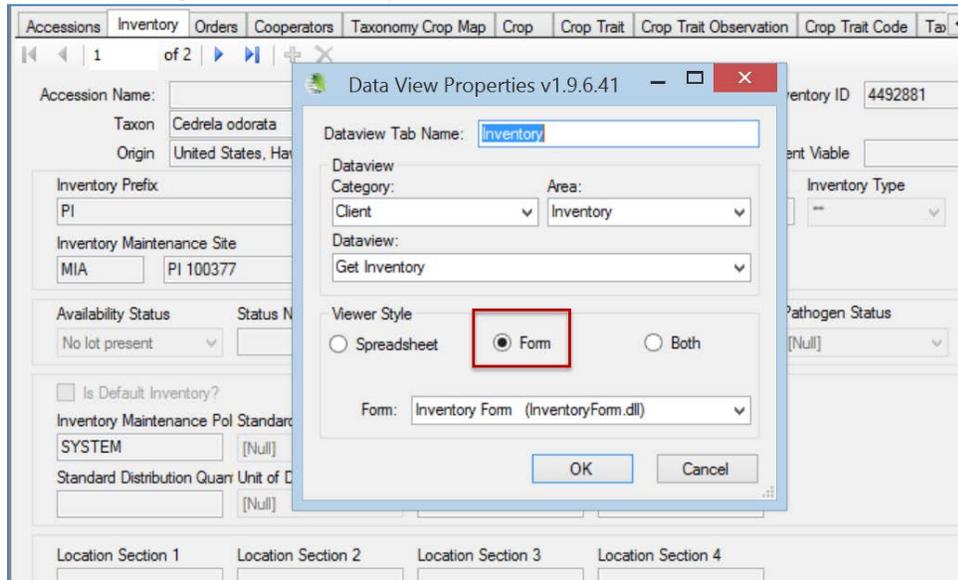


As mentioned in the [Required Fields](#) section, when adding a new inventory record, there are certain required fields that must be supplied with data.

Clonal sites will typically create one inventory record for each clone and assign each clone an inventory number. Clonal inventory will have a type that indicates what the material is: TC - Tissue Culture, IV - In-vitro, and CT – Cutting, etc. Managing clonal data is described in a later section, but basically all inventory is managed similarly.

Inventory Dataview Form

Besides in the grid, the Inventory dataview can be viewed as a form:



The **Edit** button is on the main CT window – not on the form.

What Determines Accession Availability?



Users sometimes confuse two issues: an accession *being displayed on the Public Website* and *whether or not the accession will be available* for germplasm requests. There was a schema change (server 1.8) in which the Accession field **Is Web Visible?** was added. The Public Website uses that flag field to display, or not display, the accession on the Public Website.

The issue of whether an accession is *available* is a bit more complex and is described below.

“Add to Cart,” “Not Available,” and “Contact Site” Indicators

In the GRIN-Global Public Website, germplasm requestors can search for germplasm in the system. The Public Website is designed to show germplasm accessions and observations related to the accessions. On the Public Website, the accessions will be listed with either “Contact Site,” “Add to Cart,” or “Not Available” indicators.

Actions...							
Select: All, None, Inverse, Highlighted Options: Show <input type="text" value="All"/> items << < 1 - 3 > of 3 >> Export...							
Group By:							
<input type="checkbox"/>	<input type="text" value="Plant ID"/>	Plant Name	Taxonomy	Origin	Material	Maintained By	Availability
<input type="checkbox"/>	PI 195939	9884	Euphorbia candelabrum	Ethiopia	Plant Seed	NCZ	Contact Site
<input type="checkbox"/>	PI 500000	Purplestraw	Triticum aestivum subsp. aestivum	United States	Seed	NSGC	Add to Cart
<input type="checkbox"/>	PI 100377		Cedrelea odorata	United States, Hawaii		MIA	Not Available

An accession is considered available when it has an inventory record with two fields set with a value of “Y” – the fields are: **Is Default Inventory?** and **Is Available?** (fieldnames with a question mark as part of the name are “flags” – they can have a value of either **Y** or **N**).

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

(The germplasm requestor doesn’t see these fields on the Public Website – in the Curator Tool, the genebank personnel responsible for the inventory edits the inventory records. In order for the germplasm to be listed on the Public Website as available, both fields must be selected (Value = “Y”).

In the Curator Tool, in **Edit** mode, selecting these fields (checking the box) inputs a “Y” value in the field; an unchecked box contains an “N.”

Accessions	Inventory	Inventory Action	Orders	Cooperators	Inventory Maintenance Policy	Get Inventory Viability	Source Descriptor	Source De
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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Available
rei	SD	MAR 102102 rei	MAR-RIBES	DBMU	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No value specified

Summary of Fields Determining Accession Web Visibility and also Availability

Condition	Dataview / Field	Value	Result
Historic accessions, never available	Accession / Status	INACTIVE	Accession listed as Not Available
Accession is an active accession in the genebank's collection	Accession / Status	ACTIVE	Can be listed as Available , or Not Available depending on other conditions (below)
Accession is displayed on the PW	Accession / Is Web Visible?	Y N	Accession will be displayed Accession will not be displayed
Inventory is Available	Inventory / Is Available?	Y N	Listed as Available Listed as Not Available
Preferred inventory lot for distribution (since this is the "preferred lot," only one inventory lot should be marked with a "Y.")	Inventory / Is Default Inventory?	Y	preferred lot (automatically selected by the Order Wizard by default)
<p>When the value in the Distribution Critical Amount field is less than the value in the Quantity On Hand field, a trigger will force the Is Available? field to "N." When the critical amount is greater than the quantity on hand, the trigger forces the Is Available? field to "Y."</p> <p>(This trigger may be enabled or disabled by the GG Admin for the organization.</p> <p>The trigger also works with Is Auto Deducted? (When is_autodeducted) is set to "Y" the Availability Status (availability_status_code) value is set to LOW when the qty on hand goes below the critical distribution qty. (The trigger ignores any other status codes -- the assumption is you are handling the availability manually.)</p>	Accession / Quantity On Hand < Distribution Critical Amount		Not Available
The Taxonomic Species record for the Accession has one of the following values in the species' Restriction field:	Taxonomic Species / Restriction NOXIOUS RARE WEED		Contact Site

Condition	Dataview / Field	Value	Result

Actions... ▾

Select: All, None, Inverse, Highlighted Options: Show **All** ▾ items << < 1 - 3 ▾ of 3 >> Export...

Group By:	Plant Name	Taxonomy	Origin	Material	Maintained By	Availability
<input type="checkbox"/> Plant ID ▾	9884	Euphorbia candelabrum	Ethiopia	Plant Seed	NCZ	Contact Site
<input type="checkbox"/> PI 195939	Purplestraw	Triticum aestivum subsp. aestivum	United States	Seed	NSGC	Add to Cart
<input type="checkbox"/> PI 500000		Cedrelea odorata	United States, Hawaii		MIA	Not Available
<input type="checkbox"/> PI 100377						



When it can, the Order Wizard automatically highlights inventory to fill the order. As mentioned, the inventory must have both fields (**Is Default Inventory?** and **Is Available?**) set to “Y.” What happens when there are potentially multiple inventory lots that could fill the order? The database software uses its internal rules to highlight one of the possible inventory choices. A user can easily override that choice and manually select another inventory lot from the list. In the Order Wizard’s Inventory Picker window, the user can select a different row in the grid, or input information in the three boxes at the top: (**Accession Number**, **Accession Name**, or **Taxonomy**).

Inventory Picker

Accession Number:

Accession Name:

Taxonomy:

Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Site	Inventory Maintenance Policy	Is Default Inventory?	Is Available?	Availability Status	Status Not
MAR	102102	rei	**	DBMU	SYSTEM	N	N	No value specified	
▶ MAR	102102	rei	SD	DBMU	MAR-RIBES	Y	Y	Available	
MAR	102102	rei2	SD	DBMU	MAR-RIBES	N	N	No value specified	

Inventory Dataview Fields

Overview

The following graphic shows a partial list of the fields that comprise the **get_inventory** “Inventory” dataview:

Inventory ID	Quantity On Hand	Backup Inventory
Inventory Prefix	Quantity On Hand Units	Hundred Seed Weight
Inventory Number	Standard Distribution Form	Pollination Method
Inventory Suffix	Standard Distribution Quantity	Pollination Vector
Inventory Type	Unit of Distribution	Preservation Method
Accession	Distribution Critical Amount	Regeneration Method
Inventory Maintenance Policy	Replenishment Critical Amount	Plant Sex
Inventory Maintenance Site	Pathogen Status	Propagation Date Format
Is Default Inventory?	Location Section 1	Propagation Date
Is Auto Deducted?	Location Section 2	Note
Is Available?	Location Section 3	Name
Availability Status	Location Section 4	Taxon
Status Note	Latitude	Origin
Availability Start Date	Longitude	Percent Viable
Availability End Date	Rootstock	Tested Date
Web Availability Note	Parent Inventory	Inventory

Remember that a dataview can display fields from multiple, related tables. As you edit records in a dataview, there may be some fields which are not editable – in edit mode these fields will be displayed with a gray background color.

For example, in the Inventory dataview, the field **Inventory Maintenance Site** cannot be edited – the field is determined by the **Inventory Maintenance Policy** field. (This is described in more detail in the [Inventory Maintenance Policy](#) section.) All of the other inventory dataview fields are explained in the [Inventory Dataview Fields \(Details\)](#) section

Although the **Inventory** dataview has many fields, only a few are required. (Records can be saved only if their required fields are filled.) In Edit mode it is easy to determine what fields are required since they are displayed with a violet color. The colors provide a visual clue: required fields are violet, fields that cannot be edited in the current dataview are gray, and fields that allow editing, but which are not required, are white.

Required Fields

- Inventory Prefix, Number, Suffix, and Type must be a unique combination
- Accession ID
- Inventory Maintenance Policy
- Availability Status

Inventory Prefix, Number, Suffix, and Inventory Type

The Prefix is required. Also, each inventory record must have a unique key – that is, the combination of the **Inventory Prefix, Number, Suffix, and Inventory Type** must be unique in the database. Sites create their own naming conventions to satisfy their operational needs. Note that the Inventory Name (Prefix, Number, and Suffix) does not need to match the Accession Name (and usually doesn't).

*Examples of Inventory Names (from National Plant Germplasm System (NPGS) Sites**

Accession	Inventory
PI 597892	PI 597892 91ncai01 SD – the suffix, 91ncai01 is used by this site in a very site-specific manner. Without explaining all of the details, the first two digits in the suffix represent the year the material was received or grown or bulk created; the last two digits, “01,” indicate that this is the first increase lot of the year 1991 The two letters are the germplasm form code – SD is the code used by NPGS for seed.
GMAL 274	GMAL 274 .a SG – the G is for Geneva, MAL for Malus. The 274 was a number assigned in a numeric order as the new variety came in. Suffixes with an .a or .b were germinated from an original seed lot. A .01 or .02 etc., indicates a clone (a tree number). The two letters are the code for the germplasm form type– SG is seedling.
PI 554670	CVAC 799 .000 SD and CVAC 799.001 PL – the site has two inventory forms for this accession, seed (SD) and plant (PL).

* Refer to the [Inventory Suffix](#) section in the Appendix for an elaborate example of using the suffix to provide additional heritage details about the inventory.

Inventory Type

The **Inventory Type** is a dropdown field that gets its data from the code values stored in the **GERMPLASM_FORM** code group. In the case of a required field with a dropdown or a lookup window, you must select one of the entries. This ensures data integrity and prevents typos and other misspellings.

Inventory dataview (partial)							Inventory Type (dropdown)
Accessions	Inventory	Orders	Accession Action	Accession Inventory Name	Accession Inventory Group		
Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	
1023067	DACT	41		CT	PI 667908	ARCHIVE	
4001383	PI	667908		--	PI 667908	SYSTEM	
2205458	DACT	41		PL	PI 667908	ARCHIVE	
2266819	DACT	41	0000A	PL	PI 667908	Hardy Kiwifruit	
2266786	DACT	41	0000B	PL	PI 667908	Hardy Kiwifruit	
2266514	DACT	41	0000C	PL	PI 667908	Hardy Kiwifruit	
2593324	DACT	41	0000F	IV	PI 667908	Hardy Kiwifruit	
2729711	DACT	41	0000G	IV	PI 667908	Hardy Kiwifruit	

BD
BL
CA
CL
CM
CT
DN
ER
FU
FU
PF
PL
PO
PR
RH
RN
RT
SC



Using the GG Admin Tool, the GG administrator can add or edit the **GERMPLASM_FORM** code values to meet the needs of the organization. (The U.S. NPGS used two-letter codes in their GRIN system so the codes as shown here are a carry-over; however, an organization implementing GRIN-Global most likely will use more descriptive codes.)

Accession ID

Since every inventory record has a parent accession record, an accession ID must be selected from the accession lookup list:

Site	Orders	Order Request Item	Accessions	Accession Inventory Attach	Inventory	Cooperators	Crop	Crop Trait Observation
Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	
1046743	PI	537000	.01	PL	PI 537000	Malus	GEN	
1046744	PI	537000	.02	PL	PI 537000	Malus	GEN	
2207057	NSSL	366612	51	BD	PI 537000	CRYD	NSSL	
2451162					PI 537000	Malus	GEN	
2451164					PI 537000	Malus	GEN	
2626982					PI 537000	Malus	GEN	
2626983					PI 537000	Malus	GEN	
4431936					PI 537000	SYSTEM	GEN	
-9					PI 537000		-1	

Lookup Picker v1.8.10.2

HINT: For big lists, use the text filter to shorten the list search.

Filter -> PI 537

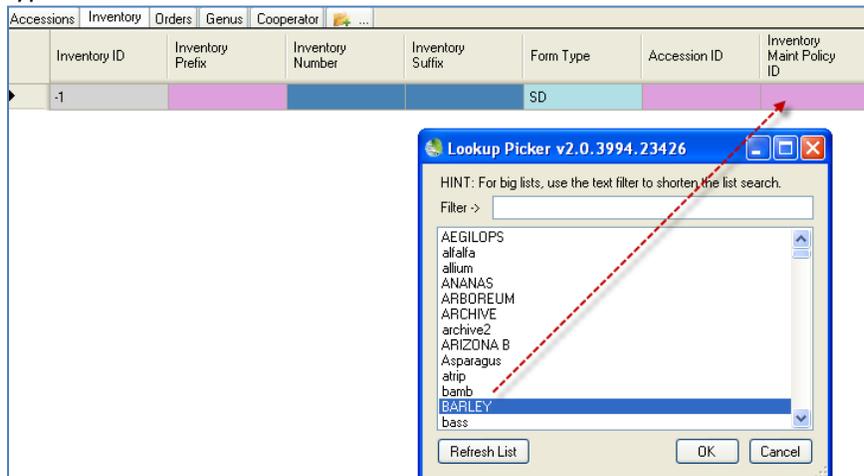
- PI 537
- PI 5370
- PI 53700
- PI 537000
- PI 537001
- PI 537002
- PI 537003
- PI 537004
- PI 537005
- PI 537006
- PI 537007
- PI 537008
- PI 537009

Refresh List OK Cancel

Inventory Maintenance Policy

When creating a new inventory record, the **Inventory Maintenance Policy** field is a required field. Since it is a required field, the inventory maintenance policy must be created before the inventory record can be created.

Inventory maintenance policies are created and used by the sites responsible for maintaining the germplasm. A site typically will have many policies, used for applying to various taxa or germplasm types.



Inventory Maintenance Policies can be shared across the organization, but remember that when a new inventory record is created, an Inventory Maintenance Policy is applied to the new record.



The owner of the **Inventory Maintenance Policy** record determines the owner of the inventory record. Therefore it is important that a site use the appropriate Inventory Maintenance Policy. (If an organization has only one site set up, this is a non-issue.)

The security permissions should be established when needed. Since the creator of an inventory record will not necessarily be the owner (unless he happens to be the owner of the applied Inventory Maintenance Policy), that person will not be able to modify the same inventory record he created – unless a permission policy is specifically established giving him permission to update the record(s). (Refer to the [Curator Tool User Guide Security](#) section for details on changing permissions.)

Purpose of the Inventory Maintenance Policies

Basically, an inventory maintenance policy determines how inventory will be processed for incoming germplasm orders that will use that inventory. The policy indicates the germplasm form to be distributed and other parameters, such as the quantity to be distributed. The policy sets defaults for a number of inventory columns that would be tedious to remember when entering individual inventories:

- the standard amount of germplasm to be distributed (the default units and type – e.g. 50 grams of seed)
- critical replenishment and distribution levels
- the Web Availability Note: the maintenance policy will insert this note on every new Inventory record – the note can be manually overridden
- whether the inventory will be automatically deducted when an order is filled
- the read-only **Inventory Maintenance Site** field. This field is populated when the inventory record is saved – it is the site of the curator specified by the **Inventory Maintenance Policy**.

The following fields can be defined when creating or editing an Inventory Maintenance Policy record:

Maintenance Name	Unit of Distribution
Form Type	Distribution Critical Amount
Unit of Quantity On Hand	Replenishment Critical Amount
Web Availability Note	Regeneration Method
Is Auto Deducted?	Curator
Distribution Default Form	Note
Standard Distribution Quantity	

When an **Inventory Maintenance Policy** is selected for a new inventory record, these fields will fill in the respective fields when the new inventory record is saved.

The top screenshot shows the 'Inventory Maintenance Policy' data view with the following data:

Maintenance Name	Form Type	Unit of Quantity On Hand	Web Availability Note	Is Auto Deducted?	Distribution Default Form	Standard Distribution Quantity	Unit of Distribution	Distribution Critical Amount	Replenishment Critical Amount	Regeneration Method	Curator
SYSTEM	SD	count		N	SD	50	count	550	550		
COLD	SD	count		Y	SD	100	count	1000	2500		
NC7-sun.cults	SD	count		Y	SD						

The bottom screenshot shows the 'Inventory' data view with the following data:

Inventory Maintenance Site	Is Distributable?	Is Auto Deducted?	Quantity On Hand	Quantity On Hand Units	Standard Distribution Form	Standard Distribution Quantity	Unit of Distribution	Distribution Critical Amount	Replenishment Critical Amount	Pathogen Status
SYS	N	N								
SYS	N	Y	441	count	SD	0	count	1000	2500	
SYS	N	Y	2217	count	SD	25	count	550	550	
SYS	Y	Y	29089	count	SD	100	count	1000	2500	
SYS	N	Y	1082	count	SD	0	count	1000	2500	



If an existing **Inventory Maintenance Policy** is changed later, this change is not applied to existing inventory records which use that policy. In other words, existing inventory records will not have their fields overlaid by new contents in the related **Inventory Maintenance Policy**. A change in a policy affects only *new* inventory records created *after* the policy was changed.

Impact on Orders

The **Inventory Maintenance Policy** is especially useful when orders are filled. The Order Wizard applies the fields in the policy for the inventory that is assigned to the order. When processing orders, genbank personnel can always override the defaults specified by the policy “rule.” For example, a policy can be established to indicate “each order for Maize accessions will receive 50 seeds” or, alternatively by weight (“each order will receive 5 grams of seeds”). If the curator or order filler decides that the order will get 100 seeds or 10 grams, he can override the default.

Also, the Curator specified by the Policy will receive an email when a web order has been submitted that is requesting inventory based on that policy.

Inventory Maintenance Policy records are added in the Curator Tool via the Inventory Maintenance Policy dataview. (Alternatively, it is possible for a GRIN-Global administrators to use the Admin Tool’s Import Wizard to bulk load an organization’s Inventory Maintenance Policies (#10 on the Wizard dropdown, but general use of the AT Import Wizard is recommended only for test databases.)

An organization can create as many maintenance policy rules as needed for its unique situation, and assign each inventory maintenance policy a **Maintenance Name** in the **Inventory Maintenance Policy** data view. Sites can copy an existing policy, modify it to suit their specific needs and then save the policy under a new name.

Inventory Maint Policy ID	Maintenance Name	Form Type	Unit of Quantity On Hand	Web Availability Note	Is Auto Deducted?	Distribution Default Form
-1		[Null]	[Null]		<input type="checkbox"/>	[Null]



The **Inventory Maintenance Policy** determines the owner of the Inventory record – the cooperator in the **inventory_maint_policy.owned_by** field becomes the owner of any **Inventory** records that are created with that policy. (This is one reason why each site should establish their own policies.)



Use a consistent naming convention when naming your policies. For example, begin with a prefix, such as your site’s code (examples: NC7-daucus, NC7-portulaca, NC7-quinoa...) One big advantage then is you can search for all of your policies by specifying the prefix in your search criteria:

Search Now! Limit: 500

Find: Default inventory_maint_policy

Matching: Any Word All Words List of Items

@inventory_maint_policy.maintenance_name LIKE 'nc7%'

Inventory Maint Policy ID	Maintenance Name	Form Type	Unit of Quantity On Hand	Web Availability Note
199	NC7-mellotus	SD	count	
200	NC7-null	SD	packet	
201	NC7-perilla	SD	count	
202	NC7-quinoa	SD	count	
203	NC7-sun.cults	SD	count	

Availability Status

The **Availability Status** field obtains its values from the **INVENTORY_AVAILABILITY_STATUS** Code Group. By searching this field, you can look for specific inventory situations, such as low inventory, young plants

not available, etc.

Is Available?	Availability Status	Status Note	Availability Start Date
<input type="checkbox"/>	Removed from collection		
<input type="checkbox"/>	Removed from collection		
<input type="checkbox"/>	Low inventory	BASE	
<input type="checkbox"/>	Removed from collection		
<input type="checkbox"/>	Removed from collection		
<input checked="" type="checkbox"/>	Available		
<input type="checkbox"/>	Removed from collection		
<input type="checkbox"/>	No lot present		
<input type="checkbox"/>	Added to the distribution sample		
	Added to the distribution sample		
	No definition code Avai		
	Available to send		
	In-Vitro backup plant		
	Backup sample BKUP code		
	No definition code CHEC		
	Accession discontinued code CL		
	Accession discontinued code CL		



A trigger exists for the Availability Status field. Also, in the Search Tool, **Availability Status** codes makes it easier to search for a particular group of records, based on a common status.

Inventory Fields Before and After the Order is Filled

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

Fields	Value Before	Action	Value After
		Order is Filled (standard quantity is shipped)	
Quantity on Hand	80		70
Distribution Critical Quantity	75		75
Is Auto Deducted?	Y		Y
Standard Distribution Quantity	10		10
Availability Status	Available		Low
Is Available?	Y		N

Inventory Maintenance Site

When adding a new inventory record, the **Inventory Maintenance Site** is read-only (indicated by its gray color). The site is determined by the site of the owner of the **Inventory Maintenance Policy** record.

Is Default Inventory?

This is a TRUE/FALSE flag indicating that this inventory sample is (or is not) the preferred lot for distribution. Genebanks typically use this field to indicate that this inventory should be distributed *first* whenever the accession has multiple inventory lots available for distribution.

Is Auto Deducted?

This TRUE/FALSE flag indicates whether the **Quantity On Hand** amount is debited when the order item for this sample is shipped. Also, when set to "TRUE," this field controls the **Is Available?** field (see **Is Available?** below).

[Note: this feature was not implemented in GG 1.0.7]

Is Available?

This is a TRUE/FALSE flag indicating whether the inventory is available for distribution. When the **Is Auto Deducted?** field is set to "Y" and the quantity on hand is greater than the critical amount, a trigger will force this **Is Available?** field to "Y." When the **Quantity On Hand** is less than the **Critical Amount**, the **Is Available?** field is set to "N," that is, the inventory record's is marked as unavailable.

For information about other inventory fields, refer to the [online data dictionary](#).

Availability Status

The **Availability Status** field is a required field that was described earlier in this document. (See [Availability Status](#).)

Status Note

Use this field to store general remarks and comments on the inventory's availability status.

Availability Start and End Date

These fields can be used to designate the time period when the inventory is available. Not typically used with seed inventories, but more so with cuttings and plants.

Fields Common to Inventory Maintenance Policy and Inventory

Refer also to the [diagram](#) discussed earlier.

Web Availability Note

The Inventory Maintenance Policy will insert this note on every new inventory record; however, the note can be manually overridden. Use this note to display on the web information about the accession's availability. For example, curators may include seasonal availability information.

Quantity On Hand

The amount of germplasm on hand for an inventory sample – the total amount of germplasm stored in the genebank. For example, this may be the number of seeds in cold storage or number on in-vitro cultures.

Quantity On Hand Units

The units used for the quantity on hand. Must be one of the UNIT_OF_QUANTITY Code Group values in the Code Value table. Examples: counts, cuttings, grams, packets.

Standard Distribution Form

The default form for distributions of this inventory sample. Must be one of the GERMPASM_FORM Code Group values in the Code Value table. Examples: Budwood (BD), Cutting (CU), DNA (DN), Seed (SD), Tuber (TU).

Standard Distribution Quantity

The default distribution quantity for this sample. This field may have been populated by the related Inventory Maintenance Policy (if the policy has a default distribution quantity). Otherwise, the field can be manually entered in the Inventory record.

Unit of Distribution

Examples: count, cuttings, grams, packets. The typical (default) unit by which orders are filled. Must be one of the UNIT_OF_QUANTITY Code Group values in the Code Value table.

Distribution Critical Amount

The “Quantity On Hand” should be greater than this quantity; if not, the germplasm should not be distributed until inventory is replenished.

Replenishment Critical Amount

If the “Quantity On Hand” is less than the Replenishment Critical Amount, then the accession needs to be regenerated. This inventory record field may be populated by the related Inventory Maintenance Policy or manually entered.

Other Inventory Fields

Pathogen Status

The inventory sample’s pathogen status. The value must be one of the PATHOGEN_STATUS Code Group values in the Code Value table. Examples: FREE, INFECTED, TESTED.



Only the GG administrator can edit or add codes to any of the Code Groups. She uses the GG Admin Tool to do so.

Locations Section 1...4

Four fields can be used to specify the location of an inventory sample. The four location fields can be used to reference the seed storage location such as [Room] [Row] [Rack] [Storage type]. When storing clonal germplasm, the locations may be used to refer to [Orchard] [Block] [Row] [Tree]. Any of the columns can be used or kept blank.

Latitude and Longitude

Can be used to tag the location of trees in orchards or can also be used for ex-situ samples.

Rootstock

The grafted rootstock used to propagate the inventory.

Parent Inventory

The inventory key field linking this current inventory sample to its parent inventory. For a complete description, refer to the [Regenerating Inventory](#) section.

Backup Inventory

The inventory key field linking this current inventory sample to a backup of the inventory at a secondary site.

Hundred Seed Weight

The weight of 100 seeds from the inventory sample.

Pollination Method

The pollination method used to regenerate the inventory. Must be one of the INVENTORY_POLLINATION_METHOD Code Group values in the Code Value table.

Pollination Vector

The pollination vector used during the regeneration of the inventory. Must be one of the INVENTORY_POLLINATION_VECTOR Code Group values in the Code Value table.

Preservation Method

This field links to a method in the method table.

Regeneration Method

This field links to a method in the method table.

Plant Sex

Must be one of the INVENTORY_SEX_CODE Code Group values in the Code Value table.

Propagation Date

The date you take cuttings (or plant seed if you wish to use it for that purpose).

Propagation Date Format

The date format. Must be one of the DATE_FORMAT Code Group values in the Code Value table. Examples: MM/DD/YYYY, MM/YYYY, PRE YYYY.

Note

General remarks about the inventory.

Name

The plant name ("top name") assigned to the accession whose plant_name_rank has the lowest value.

Taxon

The internal species identifier which indicates the taxonomy of the accession.

Origin

(Read-only) The geography key field showing where the accession was collected, developed or donated. Links to the accession_source table.

Percent Viable

This is a calculated field for the last viability testing record. You can go to the rule in the viability table to find out how it was done when a rule is indicated.

Tested Date

Date of the viability test.

Inventory

This field combines the four (potential) components of the Inventory key field into one field. This is useful for the bulk adding of child records under a parent inventory. For example, when adding accession action records, you need to include the Inventory field (the combined four fields (Inventory –Prefix, –Number, –Suffix, and –Type)).

Inventory Dataviews in the Accession_Inventory Area

Names

Since names can be assigned to either individual inventory lots or to the accession in general, the “names” dataview is stored under the **Accession/Inventory** area. When defining a name, the user associates the name with an inventory record. Notice in the following screen, the Accession field is grayed out and is therefore a read-only field:

Site	Accessions	Accession Inventory Name	Name Group	Order Summary	Inventory	Accession Inventory Group Map	Accession Quarantine	Accession Inventory Group	Order Gra	
	Accession Inventory Name ID	Accession	Inventory		Category		Name	Name Rank	Name Group	Coop
	-1				[Null]					

When the inventory record is the system inventory record (the type code is **), then the name is associated with the accession, not a specific inventory lot. In the following example, two names have both been applied at the accession level. In this example, the “PlainV” name (with the lowest **Name Rank** field) is considered the top name:

Site	Accessions	Accession Inventory Name	Name Group	Order Summary	Inventory	Accession Inventory Group Map	Accession Quarantine	Accession Inventory Group	
	Accession Inventory Name ID	Accession	Inventory		Category		Name	Name Rank	Name Gro
	1845939	MR 201531 REI	MR 201531 REI **		Site identifier		MR 201531 REI	1080	
	1845940	MR 201531 REI	MR 201531 REI **		CGIAR International Center Identifier		PlainV	1	

Refer to the **Accession Names** section in the [Accession and Passport Data](#) guide for a detailed explanation of names, including the topics of “top name” and name ranking.

Name Groups

To create a **Name Group**, use the **get_name_group** dataview (currently in the **Accession** area); add records (supply a **Group Name**):

Get Cooperator	Get Accession IPR	Get Geography	Citation	Code Value	Get Name Group	Accession Inventory Group	Accessio
	Name Group ID	Group Name	Note		URL		Cre
	134	MAB	Man and the Biosphere Programme - Unesco				8/10/
	-2						8/2/2

The only required field is the **Group Name**.

How to Associate an Accession with a Name Group

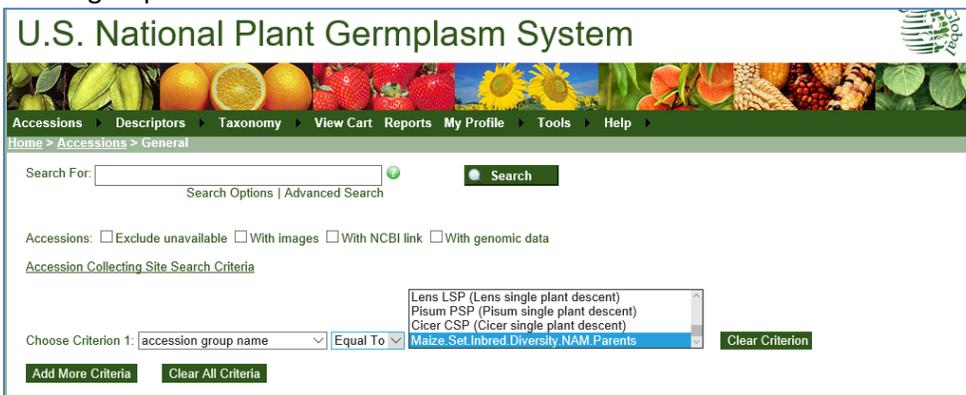
Use the Accession Wizard (**Names** tab) or use the `get_accession_inv_name` dataview. (You must use the dataview if the **Name Group** pertains to physical inventory (not the system inventory record).



Site	Accessions	Get Accession Inventory Name	Get Accession Inventory Group Map	Inventory	Accession Source Cooperator	Accession Source	Accession Action	Inventory Action	Orders
	Accession Inventory Name ID	Accession	Inventory	Category	Name	Name Rank	Name Group	Cooperator	Is Web Visible?
	1811931	PI 216572	PI 216572 **	Institute identifier	Dekker 1868	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	1811932	PI 221960	PI 221960 **	Institute identifier	Dekker 1852	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	1811943	PI 408810	PI 408810 **	Institute identifier	Dekker 1859	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	1811944	PI 442550	PI 442550 **	Institute identifier	Dekker 1864	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	1811945	PI 442553	PI 442553 **	Institute identifier	Dekker 1875	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	1811946	PI 464290	PI 464290 **	Institute identifier	Dekker 1874	1040	DEKKER	Dekker, Jack, lo...	<input checked="" type="checkbox"/>
	-26			[Null]					<input checked="" type="checkbox"/>

Accession Inventory Groups

Dataview displays the inventory group names used to aggregate accession and inventory records into groups -- optional, but a useful method for searching and working with accessions grouped for a specific purpose. Under Advanced Search, the accession groups can be found on the Public Website by searching for the group.



Create Accession Inventory Groups

Use the `get_accession_inventory_group` dataview; add records (supply a **Group Name**; indicate if Web Visible or not):

Accession Inventory Group ID	Group Name	Is Web Visible?	Note
-1		<input type="checkbox"/>	

Accession Inventory Group Map

Dataview which accesses the GG `accession_inv_group_map` table which makes it possible to have many-to-many relationships between accessions and inventory records with the groups.

How to Associate Accessions with Accession Inventory Group

Use the **Accession Inventory Group Map** dataview; add records:

Accession Inventory Group Map ID	Inventory	Accession Inventory Group	Note	Created Date	Created By
690724	DVIT 8190 0000A PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690725	DVIT 8190 0000B PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690735	DVIT 8195 0000B PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690736	DVIT 8196 0000A PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690737	DVIT 8196 0000B PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690738	DVIT 8197 0000A PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
690739	DVIT 8197 0000B PL	Grapes from FPS 2013 MAR		8/1/2016 8:32 PM	Reisinger, Martin ...
-393				8/2/2016 11:40 ...	Reisinger, Martin ...

Uses `inventory_lookup` and the `accession_inv_group_lookup`

As you can see from the above discussion about groups, there are two groups that are similar:

`get_accession_inventory_group` “Accession Inventory Group” and `get_name_group` “Name Group.” The following table compares them:

	Accession Inventory Group	Name Group
Dataview Title	Get Accession Inventory Group	Get Name Group
Dataview Name	<code>get_accession_inventory_group</code>	<code>get_name_group</code>
Database Area	Accession / Inventory	Accession
Associate records by...	using the <code>accession_inv_group_map</code> table	completing the Name Group field in the Accession_Inv Name records;
Create the Name by...	using the <code>get_accession_inventory_group</code>	using the <code>get_name_group</code> dataview; add records (supply a

	Accession Inventory Group	Name Group
	dataview; add records (supply a Group Name ; indicate if Web Visible or not)	Group Name
Group is available for Web Searches	Yes; using the Advanced Search Criterion: "accession group name"	No
Recommended Uses:	<ul style="list-style-type: none"> set up groups of accessions which can be found on the PW as a group (and ordered) 	<ul style="list-style-type: none"> Name Group groups plant names. An accession inventory name can belong to just one group, so the group usually refers to the source of the name or identifier

Annotations

Dataview displays fields from the **accession_annotation** table (verifications, official taxonomic name changes, re-identifications and received as) related to the taxonomic names for each accession.

Attach(ments)

The get_accession-inventory_attach dataview links images and/or documents to inventory. There are two codes for the Link Categories: **Image attachment** and **URL link**. All image attachments display as thumbprints on the upper right corner of the detail page; attachments with the URL link category will display at the bottom of the details page under the heading "**Other information about accession.**"

Review the following example:

Accessions	Get Accession IPR	Inventory	Accession Inventory Attach	Crop Trait	Crop Trait Lang	Crop Trait Observation	Crop Trait Code	Crop Trait Cod
Accession Inventory ID	Accession	Inventory	Image Virtual Path			Thumbnail Virtual Path	Sort Order	Category
9	Ames 30177	Ames 30177 09ncao01 SD	http://www.ars-grin.gov/09ncao01_SD_SD_MS_2009-12-17_01.jpg			http://www...		Image attachment
0	Ames 30177	Ames 30177 **	http://www.ars.usda.gov/Ames-Trip.pdf					URL link

Image attachment

Ames 30177		Status:	Not Available
<u>Staphylea trifolia L.</u>		Amt Distributed:	
		Type Distributed:	
			
		(Not available to order)	
Collected from:	Wisconsin United States		
Maintained by:	North Central Regional PI Station		
NPGS received:	05-Oct-2009		
Backup location:			
Life form:	Shrub		
Pedigree:			
Improvement status:	Wild material		
Reproductive uniformity:			
Form received:	Seed		

URL link

Other information about accession
<ul style="list-style-type: none">• 2009 NCRPIS Germplasm Reconnaissance and Collection Trip Report - Wisconsin and Illinois Provided by: Carstens, Jeff, USDA, ARS. On: 01/15/2010



When adding an attachment with the URL link, be sure to input a Title for the attachment. Otherwise, a link is produced on the detail page, but is invisible.

Image attachments are dragged into the CT from Windows Explorer; this technique is fully described in the CT User Guide. URL links are inputted or copied directly into the **Image Virtual Path** cell.

Voucher

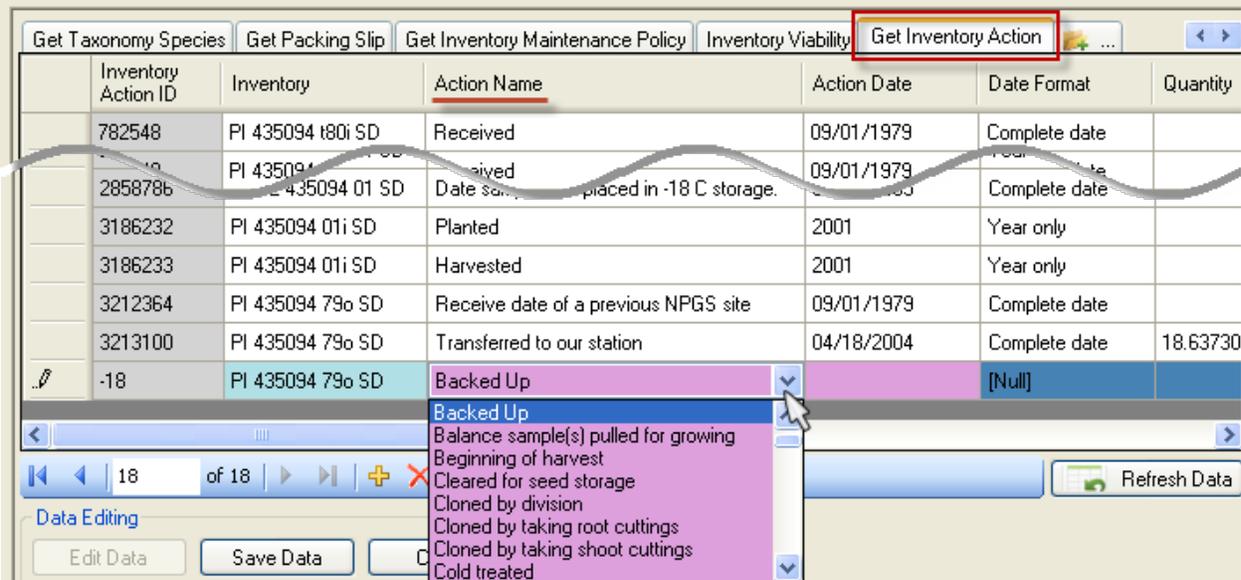
Dataview accesses the table of herbarium vouchers for accessions or inventory samples. A voucher is a herbarium specimen used to document a taxonomy. The voucher record holds the information on that herbarium specimen -- what accession/lot it applies to, location of the specimen, etc.

(A herbarium is a collection of plant specimens (vouchers) arranged systematically...) A herbarium specimen is used to represent as many parts of the plant as possible including leaves, bark, flowers and fruits (seeds). (A note for NPGS Users: The accession voucher table only holds herbarium samples now so there is no need for a voucher type. The other vouchers in GRIN (images, links) are handled in the inventory attachment table.)

Inventory Actions

The **inventory_action** dataview refers to the actions performed on the inventory while it is at a repository (genebank). Actions can be used to indicate the initial receipt of the material, verification, transfer, back-up, regeneration, repackaging, etc. The inventory action records provide a history and a means for tracking any activities regarding the inventory lot. In some cases, the inventory action record may hold partial information about an event before the final results are obtained, such as a germination test or pathogen test. The actions are very helpful in documenting the workflow.

The dataview uses **INVENTORY_ACTION** codes which the GG administrator can edit or add as needed to meet an organization's practices. The Codes' **Titles** display in the dropdown for the Action Name:



The screenshot shows a web application interface with a dataview titled "Get Inventory Action". The table below is a representation of the data shown in the screenshot.

Inventory Action ID	Inventory	Action Name	Action Date	Date Format	Quantity
782548	PI 435094 t80i SD	Received	09/01/1979	Complete date	
285878b	PI 435094 01 SD	Date sample placed in -18 C storage.	09/01/1979	Complete date	
3186232	PI 435094 01i SD	Planted	2001	Year only	
3186233	PI 435094 01i SD	Harvested	2001	Year only	
3212364	PI 435094 79o SD	Receive date of a previous NPGS site	09/01/1979	Complete date	
3213100	PI 435094 79o SD	Transferred to our station	04/18/2004	Complete date	18.63730
-18	PI 435094 79o SD	Backed Up		[Null]	

The dropdown menu for the "Action Name" column in the last row is open, showing the following options:

- Backed Up
- Balance sample(s) pulled for growing
- Beginning of harvest
- Cleared for seed storage
- Cloned by division
- Cloned by taking root cuttings
- Cloned by taking shoot cuttings
- Cold treated

Ideally an organization will review and agree on a set of inventory action codes and edit the default set provided when GRIN-Global is installed. (As with all codes stored in the GG code groups, the GG administrator handles the actual editing and inputting.)

Examples of Inventory Actions

Inventory	Action Name	Action Date
PI 435094 79o SD	Receive date of a previous NPGS site	09/01/1979
PI 435094 79o SD	Inventory seed counts on this date	03/24/2000
PI 435094 79o SD	Grams on hand at this date	03/24/2000
PI 435094 79o SD	Transferred to our station	04/18/2004

Inventory	Action Name	Action Date
Ames 19293 92ncai01 SD	Harvested	10/8/1992 1:37 AM
Ames 19293 92ncai01 SD	Stored by storage or curatorial staff	9/23/1994 5:05 PM
Ames 19293 92ncai01 SD	Pulled for planting	5/11/1998 4:40 PM
Ames 19293 92ncai01 SD	Image obtained with scanner	5/18/1998 5:45 AM
Ames 19293 92ncai01 SD	Sample bulked with another to a new lot	3/21/2000 1:28 PM

Inventory Action ID	Inventory	Action Name	Action Date	Date Format	Quantity	Units	Form
3361852	PI 503568 08ncai01 SD	Planted	05/16/2008	Complete date	120.00000	count	SD
3384867	PI 503568 08ncai01 SD	Count of plants in regeneration plot	06/20/2008	Complete date	107.00000	count	PL
3411962	PI 503568 08ncai01 SD	Count of plants in regeneration plot	07/03/2008	Complete date	91.00000	count	PL
3423705	PI 503568 08ncai01 SD	Harvested	10/16/2008	Complete date	1.00000	packet	SD
3558597	PI 503568 08ncai01 SD	Image obtained with scanner	09/02/2009	Complete date	4.00000	count	ER
3561134	PI 503568 08ncai01 SD	Image obtained with scanner	09/15/2009	Complete date			SD
3564379	PI 503568 08ncai01 SD	Number sampled in a balanced sample	09/09/2009	Complete date	13.00000	count	ER
3564380	PI 503568 08ncai01 SD	Number Sampled Unequally	09/11/2009	Complete date	13.00000	count	ER
3564381	PI 503568 08ncai01 SD	Cleared for seed storage	09/25/2009	Complete date			
3604212	PI 503568 08ncai01 SD	Stored by storage or curatorial staff	12/21/2009	Complete date	1435.00000	count	SD
3604213	PI 503568 08ncai01 SD	Date lot made available	12/21/2009	Complete date	1435.00000	count	SD
3605112	PI 503568 08ncai01 SD	Date distribution increase from germ.	12/24/2009	Complete date	1435.00000	count	SD



Besides the inventory actions dataview, there is also an **accession_action** dataview which generally displays data pertaining to actions performed on an accession. Accession actions in GRIN (Classic) were created not only for actions done on an accession as a whole, but to keep information on how the accession was being handled, treated, documented, etc.

The **accession_action** data evolved from the inactivation process where there is a need to document that the accession died, include details, but not display the details to the public. In the NPGS, the use of accessions actions has also been used to document the passport review process which is difficult to do in one sitting, but can be done over time. The actions can be used to indicate what has and has not been reviewed.

Inventory Actions Fields

Fields

Inventory Action ID	Units
Inventory	Form
Action Name	Cooperator
Action Date	Method
Date Format	Note
Quantity	

Required Fields

- Inventory
- Action Name
- Action Date

Get Site	Accessions	Inventory	Inventory Maintenance Policy	Inventory Action	Cooperator	Accession Action	Web Order Request	Web Order Request			
	Inventory Action ID	Inventory	Action Name	Action Date	Date Format	Quantity	Units	Form	Cooperator	Method	Note
	1		[Null]		[Null]		[Null]	[Null]			

Refer to the online [dictionary](#) for complete field definitions.

Inventory Quality Status

The **Inventory Quality** dataview uses the pathogen tests table which stores the results of pathology tests for an inventory sample. These results can be either individual test results or summary results from a group of tests.

Fields

Inventory Quality Status ID	Completed Date
Inventory	Completed Date Format
Test Type	Required Replication Count
Contaminant	Started Count
Plant Part Tested	Completed Count
Test Result	Replicate
Test Results Score	Plate Or Assay Number
Test Results Score Type	Method
Started Date	Testing Cooperator
Started Date Format	Note

Required Fields

- Inventory
- Test Type (uses the **PATHOLOGY_TEST_TYPE** Code Group)
- Contaminant (uses the **PATHOLOGY_TEST** Code Group)

Inventory Action	Cooperator	Accession Action	Inventory Quality Status	Web Order Request	Web Order Request Item	Orders	Order Request Item	Cooperator
Inventory Quality Status ID	Inventory	Test Type	Contaminant	Plant Part Tested	Test Result	Test Results Score	Test Results Score	Test Results Score
-1		[Null]	[Null]	[Null]	[Null]			[Null]

There are five dropdowns used by the **Inventory Quality** dataview. These dropdowns use codes stored in the Code Groups (maintained/edited by the GG administrator for the organization):

- PATHOLOGY_TEST_TYPE
- PATHOLOGY_TEST
- GERMPLOSM_FORM
- PATHOLOGY_TEST_RESULT
- PATHOLOGY_TEST_SCORE_TYPE

If any pathology-test related codes are not in the database, contact the GG administrator to include them.

Viability Testing

Viability

Viability testing is typically done when:

- a new seed sample arrives at a genebank (and the sample has enough seed to be germinated)
- newly regenerated seed samples are being prepared for storage
- periodically to assure viability of seed lots (“maintenance testing”)

Viability Dataviews

The **Inventory Viability** dataview uses the table of seed germination results and other viability tests. There are three related dataviews in the Curator Tool: **Inventory Viability**, **Viability Rule**, and **Viability Data**.



Eventually the **Viability** dataview will aggregate the data stored in the **Viability Data** dataview, but at the present time the two dataviews are unrelated. (A trigger and a wizard are being created.)

For the storage germination test, a germination order is prepared when all the lots in a particular crop are ready for storage. This is usually done once a year after the material has been cleaned and is ready for storage (i.e. all the cucumber that were grown in 2014 will be germinated all at the same time – after which they are ready for storage).

For the maintenance germination tests, a germination order is usually prepared after reviewing a particular collection (such as maize) and checking which lots need testing (in the case of maize, it is every ten years).

Viability Rule Dataview

The **Inventory Viability Rule** describes the germination test conditions including the temperature range, the moisture, lighting, etc. (Note to GRIN users – in GRIN, this was the **Environment** name.)

Inventory Viability Rule ID	Name	Requirements	Temperature Range	Substrat
492358	NC7.GERMS.MAIZE.STANDARD...	200 SEEDS, 4 REPS WITH 50 SEED/REP. PAPER TOWELS AND WATER IN TUBS WITH NO HOLES ON BOTTOM. 20/30C TEMP. 12/12h NIGHT/DAY. COUNTS ON DAYS 7, 10 AND 14. THIS EVALUATION DOES NOT COUNT ABNORMALS UNTIL THE VERY LAST COUNT OF THE TEST. BECAUSE OF INBREEDING DEPRESSION MORE RELAXED PARAMATERS WILL BE USED TO CLASSIFY SEEDLINGS AS NORMAL.		
494065	NC7.GERMS.MAIZE.INBREDS	Seeds are placed in folded paper towels moistened with tap water - paper towels are 'squeegeed' to remove excess water prior to seed placement. The paper towel units are placed in plastic tubs covered with clear plastic wrap to help maintain moisture. These are kept overnight at room temperature and then put in geminators with the temperature set at a constant 25 C with light for 12 hours followed by darkness for 12 hours per 24 hour cycle. Replication and sample size: 4 reps of 50 seed each for a total of 200 seeds. Counts are done 7, 10, and 14 days after start of test. Abnormals are not scored until the last count of the test. Because of inbreeding depression in inbred lines, more relaxed parameters are used to classify seedlings as normal.		
495534				

Inventory Viability Dataview

Refer to the GG online [dictionary](#) for descriptions of each field (or when viewing the dataview, roll the mouse over the heading to display the column description).

Taxonomy Author	Source Descriptor	Cooperator - List Users at a Site	Order Request Attach	Inventory Viability Rule	Inventory Viability	Percent Normal	Percent Abnormal	Percent Dormant	Percent Viable	Vigor Rating	Sample Count
	1118258	NC7.GERMS.MAIZ...	Ames 15929 03n...	mm/dd/yyyy	03/03/2004	92	0	0	92		200
	1766132	NC7.GERMS.MAIZ...	Ames 15929 03n...	mm/dd/yyyy	02/08/2012	94	1	0	94		200

Pathology Testing

The pathology information goes in the **Inventory Quality Status** dataview – the dataview also holds the GEO (Genetically Engineered Organism (“GMO”) data.

Accessions	Accession Inventory Name	Name Group	Order Summary	Inventory	Inventory Quality Status	Accession Inventory Group Map	Accession Quarantine	Accession In
Inventory Quality Status ID	Inventory	Test Type	Contaminant	Plant Part Tested	Test Result	Started Date	Method	Note
68674	Ames 15...	Field Observation	Clavibacter michiganensis subsp. nebrask		Negative test result	09/03/2003		Inspection performed by C
90458	Ames 15...	Field Observation	Cochliobolus heterostrophus(Drechs.)Drec		Negative test result	09/03/2003		Inspection performed by C
130741	Ames 15...	Field Observation	Wheat streak mosaic virus (WSMV)		Negative test result	09/03/2003		Inspection performed by C
67166	Ames 15...	Field Observation	Erwinia stewartii		Positive test result	09/03/2003		Approx. 50% plants infect ~15% diseased leaf area. Inspection performed by C
73403	Ames 15...	Field Observation	Sclerophthora macrospora (Sacc.)Thirumal		Negative test result	09/03/2003		Inspection performed by C
69586	Ames 15...	Elisa test	Erwinia stewartii	15...	Negative test result	06/29/2004		2 sets of 100 kemels wen

In the above example, two highlighted records are for the same inventory lot. The first record shows that the field observation was positive for Stewart’s Wilt, but then the ELISA lab test was performed and demonstrated that the lot was clear and suitable for exportation.

Regenerating Inventory

In planning for seed regeneration, site manager/curators consider population size, method of pollination, compatibility factors, presence of seed-borne pathogens or pests, susceptibility to indigenous pests, and risks of gene flow or other factors that complicate efforts to maintain germplasm true-to-type.

There are multiple steps in GRIN-Global to be followed when a genebank regenerates their inventory. The first step of course is to determine what inventory is low.

Search for Low Inventory

Search for your inventory maintenance polices and low amounts of germplasm:

Example:

```
@inventory_maint_policy.maintenance_name LIKE 'MAR%' AND
@inventory.availability_status_code = 'LOW' AND
@inventory.form_code_type = 'SD'
```

GRIN-Global Search v1.9.6.19

Basic Query **** Under Construction ****

Search Now! Limit: 1000

Find: Default accession

Matching: Any Word All Words List of Items

@inventory_maint_policy.maintenance_name LIKE 'MAR%'

2 Add To Query Clear Query

Accessions Inventory **Inventory Maintenance Policy** Name Group Accession Inventory Name Show All Columns

	MAR*				
Inventory Maint Policy ID	Maintenance Name	1 Form Type	Unit of Quantity On Hand	Web Availability Note	Is Auto Deducted?

Showing rows: 0 of 0 | Connected to: <https://npgsweb.ars-grin.gov/GRINGlobal/GUI.aspx>

GRIN-Global Search v1.9.6.19

Basic Query **** Under Construction ****

Search Now! **5** Limit: 1000

Find: Default accession

Matching: Any Word All Words List of Items

@inventory_maint_policy.maintenance_name LIKE 'MAR%'
AND
@inventory.availability_status_code = 'LOW'
AND
@inventory.form_type_code = 'SD'

Add To Query Clear Query

Accessions **Inventory** Inventory Maintenance Policy Name Group Accession Inventory Name Orders Cooperators Source Descript Show All Columns

	SD								
									Low inventory
Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Distributable?	Is Auto Deducted?	Is Available?	Availability Status	3	

Showing rows: 0 of 0 | Connected to: <https://npgsweb.ars-grin.gov/GRINGlobal/GUI.aspx>

Results of the Query:

The screenshot shows the GRIN-Global Search interface. The search query is: `@inventory_maint_policy.maintenance_name LIKE 'MAR%'`
`AND`
`@inventory_availability_status_code = 'LOW'`
`AND`
`@inventory_form_type_code = 'SD'`

The results table is as follows:

Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site
4917816	mar	42143	rei	SD	mar 42143 mar	MAR-ELDERBERRY	DBMU
4917822	mar	42149	rei	SD	mar 42149 mar	MAR-ELDERBERRY	DBMU
4920452	mar	50701	rei2	SD	mar 42144 mar	MAR-ELDERBERRY	DBMU
4922553	mar	42101	rei	SD	mar 42101 rei	MAR-ELDERBERRY	DBMU

Add Low Inventory Items to the Order Wizard

Drag the search results to a spreadsheet. Use whatever criteria you consider necessary and prioritize the inventory which you intend to increase. One way to prioritize is to add a **Priority** column in your spreadsheet and then use a scale to manually rate the priority.

The screenshot shows the GRIN-Global Order Wizard interface. The search results table is as follows:

Site	Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Distributable?	Is Auto Deducted?	Is Available?	Availability Status
	4922553	mar	42101	rei	SD	mar 42101 rei	MAR-ELDERBE...	DBMU	Y	Y	N	Low inventory
	4917816	mar	42143	rei	SD	mar 42143 mar	MAR-ELDERBE...	DBMU	Y	Y	N	Low inventory
	4917822	mar	42149	rei	SD	mar 42149 mar	MAR-ELDERBE...	DBMU	Y	Y	N	Low inventory
	4920452	mar	50701	rei2	SD	mar 42144 mar	MAR-ELDERBE...	DBMU	Y	Y	N	Low inventory

Create Replenishment Orders

To create a new replenishment order, you can start a new order: drag inventory records from the spreadsheet into the Order Wizard; use the New Order (the + button); indicate a recipient; and change the **Order Type** to **Replenishment/regrow**:

Order Request Item ID	Order Number	Item Number	Accession	Inventory	Site	Requested Name	Requested Taxon	Geography
-1	-1	1	mar 42144 mar	mar 50701 rei2 SD	DBMU	MR144	Ocimum spp.	
-2	-1	2	mar 42149 mar	mar 42149 rei SD	DBMU		Ocimum spp.	
-3	-1	3	mar 42143 mar	mar 42143 rei SD	DBMU		Ocimum spp.	
-4	-1	4	mar 42101 rei	mar 42101 rei SD	DBMU		Sambucus nigra	United States, M...

Select an appropriate Order List from the **Print** dropdown:

- Order-Packing by Accession.rpt
- Order-Packing by Inventory with One
- Order-Packing by Inventory.rpt
- Order-Packing General.rpt
- Order-Packing Inventory by Accession
- Order-Packing Picking List by Inventory
- Order-Packing Picking List by Plant
- Order-Packing NSGC.rpt
- 3x3_Packet_Label.rpt

Click the **Shipped All Remaining Items...** button. When prompted, you can add the order to a list in the CT.

Create New Inventory Records

To plan for the new physical inventory, you will want to create inventory records in GG. After the germplasm has been grown and harvested, you can update these records with the quantity on hand, the storage location, etc.

Steps:

Drag into Excel the original inventory records that were used to generate the order request Items. Since you are using the old records as the basis for making new records, you will need to clear the **Inventory ID** (otherwise you would be updating the original records).

Also, clear the **Location** and the **Suffix** fields and assign the new inventory a new suffix name corresponding with your site's naming conventions. ([Examples](#)) The **Availability Status** of these new records should be "Planted for Regeneration" (if that truly reflects the status).

Delete any columns that you do not intend to drag into the CT (or simply rearrange the spreadsheet columns). Remember that when you drag and drop, the CT matches columns by their mutual headings (Excel and the CT), and does not care about the column order.

Inventory that results from regeneration efforts needs to reflect its parent inventory.



Since you are using the original Inventory records as a basis for creating new inventory records, in Excel rename the **Inventory** field to **Parent Inventory**. (Scroll to the right to see this **Inventory** field.)

AP	AQ	AR	AS	AT	AU	AV	AW	AX
ic Note	Name	Taxon	Origin	Percent Vi	Tested Date	Inventory	Created Da	Created B
Default As	MAR 1021	Ribes americanum				MAR 102102 rei SD	#####	Reisinger,

Rename this field
**Parent
Inventory**

After successfully adding the new inventory records in the CT, for each accession you should have the original inventory record and a new one modeled after the original.

Get Genetic Observation	Accession Source	Inventory	Inventory Maintenance Policy	Inventory Action	Orders	Order Request Item	Cooperators	Crop	Citation	A	
Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Distributable?	Is Auto Deducted	Is Available	Parent Inventory
28155...	PI	503568	08ncab01	SD	PI 503568	NC7-maize.pop	NC7	Y	Y	Y	PI 503568 86ncab01 SD

At this point, you can use these new inventory records to manage and input data such as **Propagation Dates, Regeneration Methods**, etc.

Create Inventory Action records to document your activities and tasks relevant to the handling of the inventory. (Refer to the [Inventory Actions](#) section for details.)

After the regeneration process is completed, update the new inventory records with their respective quantities and so on.

Appendix: Schema Change (v1.5)

Starting with GG Release 1.5., the schema takes advantage of the fact that every accession always has at least one associated inventory record. In 1.5, the inventory and accession *name* tables were merged into one table. (In 1.0, there were two tables: **accession_name** and **inventory_name**.) Beginning with 1.5, the two name tables have been merged. A “Name” record can now be associated with either the system generated inventory record, applying to the accession in general, or with a specific inventory record. An accession with multiple inventory lots can have unique names associated with individual lots.

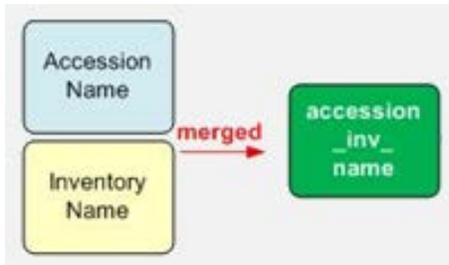


Table names that incorporate both accession and inventory as part of their name such as **accession_inv_name** can relate to either an accession by its system-generated inventory record or to real, physical inventory records

Appendix: Inventory Naming Conventions

inventory suffix

Organizations will need to create their internal naming standards for naming inventory. (This is also true for naming accessions.) The table below is primarily focused on seeds; below the table is a second example with clonal names.

The example and table below illustrates how one GG site uses the inventory suffix in a sophisticated way to be consistent in naming their inventory.

Example inventory: **AMES 10848 1990ncai01**
 (prefix) (number) (suffix)

Suffix

Character Position	Denotes	Valid Codes	Code Meaning
1 - 4	year the material received or grown or bulk created		
		1990	
5 – 6	abbreviation of the site		
		nc	North Central
7	information about the source of the seed lot		
		a	sample was increased (or bulked) in Ames or the sample is the first sample received when the accession first appeared as an Ames number
		n	sample received from NE-9, Geneva, NY
		s	sample received from S-9, Griffin, GA
		w	sample was received from W-6, Pullman, WA
		f	sample received from NCGRP (formerly NSSL), Fort Collins, CO
		p	sample increased or bulked at the PIO office or any outlying station connected with the Beltsville, MD office
		e	sample was received from somewhere other than one of the above mentioned possibilities (“elsewhere”)
		u	source of the seed is unknown
8	contains information on the type of seed lot		
		o	sample is original for the accession

Character Position	Denotes	Valid Codes	Code Meaning
		i	sample is an increase or material that arrived later
		b	sample is a bulk of similar increases or originals
		x	sample is being grown as a check variety
		u	sample is of unknown origin
9 – 10	in lots maintained as seeds, these two characters denote the lots for that accession for a given year		
	Examples		
	1990ncai01		seed was grown in 1990
	2001ncao01		seed received as original in 2001
	1990ncai01		first increase lot for the year 1990
	1990ncai02		the second lot increased in the year 1990
	1990ncab01		first bulk made for that accession in 1990
	1990ncao01		first original – the accession was received in 1990
	1990ncao02		second original received in 1990
9 – 10	When original samples are split for distribution. For example, the original lot is maintained in the freezer. Characters 9 and 10 will be set to 51 to denote that split lot.		
	Example		
	1990ncao01		original lot
	1990ncao51		distribution part of original lot 1990ncao01
	1990ncao02		original lot
	1990ncao52		distribution part of original lot 1990ncao02
9	For lots that are not seeds		
		c	sample came in as and must be maintained as clonal material
		m	sample represents a genetically mixed sample
		u	genetic variability of the sample is unknown
	Example		
	1988nceim2		second lot of tubers from the accession received in 1988

Clonal Example

The following (partial) inventory data illustrates inventory names used for a clonal accession that has multiple inventory records:

Site	Accessions	Accession Inventory Name		Inventory	Accession Inventory Group		NE9 Site Inventory	NC7 Site Inventory	Web Order Request	Inventc
	Inventory ID	Inventory Prefix	Inventory Number	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Parent Inventory	
	1023067	DACT	41		CT	PI 667908	ARCHIVE	DAV		
	4001383	PI	667908		**	PI 667908	SYSTEM	DAV		
	2205458	DACT	41		PL	PI 667908	ARCHIVE	DAV	DACT 41 0000A PL	
	2266819	DACT	41	0000A	PL	PI 667908	Hardy Kiwifruit	DAV		
	2266786	DACT	41	0000B	PL	PI 667908	Hardy Kiwifruit	DAV	DACT 41 0000A PL	
	2266514	DACT	41	0000C	PL	PI 667908	Hardy Kiwifruit	DAV	DACT 41 0000A PL	
	2593324	DACT	41	0000F	IV	PI 667908	Hardy Kiwifruit	DAV	DACT 41 0000A PL	
	2729711	DACT	41	0000G	IV	PI 667908	Hardy Kiwifruit	DAV	DACT 41 0000A PL	

Appendix: Frequently Asked Questions (Inventory)

Question:

What are these Inventory records that have a double asterisk (**) for their type?

Answer:

See the explanation under [Virtual \(System-Generated\) Inventory](#)

Appendix: Document Change Notes

– August 2, 2016

- added more information about accession inventory groups and accession name groups

– January 22, 2016

- added a note regarding clonals need to have a Qty-on-hand inventory
- edited the table regarding what determines availability

– November 5, 2015

- added a note regarding changing permissions for creators of inventory records

– **September 28, 2015**

- added additional details for adding a new Inventory record

– **September 8, 2015**

- added details on the image attachments – specifically the affect of the two Category codes **Image attachment** and **URL link**

– **April 29, 2015**

- changed minor wording in the viability dataviews section

– **April 14, 2015**

- added note explaining that a change to an Inventory Maintenance Policy will not impact existing inventory records
- added Inventory Maintenance Policy to the Table of Contents
- added complete section on Accession / Inventory Names
- added text for the Viability and Inventory Quality Status sections

– **March 26, 2015**

- significant editing of the entire document
- added example of a site's naming convention for the suffix

– **March 13, 2015**

- added additional details on auto deduct

– **November 3, 2014**

- added additional details regarding the **Is Available?** trigger